**Development of Flipped Teaching Method in Fluid Mechanics Class utilizing OpenFOAM**

Kangbin Lei\*, a, Katsuhiro Narikiyoa

a National Institute of Technology (KOSEN), Hiroshima College, Hiroshima, Japan

\*E-Mail lei@hiroshima-cmt.ac.jp

**Abstract**

**Fluid mechanics class is a specialized basic subject in engineering education that is difficult to learn for technical college students and to earn the class credits, the study of students on fluid mechanics is easily limited to taking only the form of partial differential equations into account, and there is a problem in the quality of education that students are not able to understand and apply their knowledge of fluid mechanics very well.**

**In the flipped classroom, students prepare for new learning content by watching video lessons at home, and there is no lecture in the classroom. On the contrary, the teacher gives individualized instruction to each student on assignments that would traditionally be considered homework, and students work on them in collaboration with other students.**

**Since significant learning results can be expected from active and self-directed learning through active learning in flipped classrooms, it is assumed that flipped classrooms will gradually spread through experimental efforts, especially since it is considered to be a learning method compatible with online learning in the post-COVID-19 era.**

**The purpose of this study is to introduce OpenFOAM that is a free software for fluid analysis into the flipped classroom, which has been attracting attention in the field of education, in response to the question of quality assurance in fluid mechanics classes in technical college education, and to find out how the simulation results of fluid phenomena visualized by students themselves can be connected to theoretical knowledge of fluid mechanics. From this educational practice in technical college, we aim to develop a remote flipped learning method to draw students' interests and make them feel "interested and want to know more" by introducing the OpenFOAM into fluid mechanics class.**

**In this paper, we introduce a practical case study of a fluid simulation theme using OpenFOAM at Hiroshima College, in which students were asked to simulate fluid dynamics on their own by trial and error, following the operation manual of OpenFOAM, even though they know less about theoretical knowledge of fluid mechanics.**

**Keywords:** *Fluid mechanics, Flipped classroom, Active Learning, OpenFOAM.*

**Introduction**

Of the four major mechanics subjects (fluid mechanics, material mechanics, thermodynamics, and machinery dynamics) related to mechanical engineering, it is often said that fluid mechanics is the subject with the highest hurdles for students. In particular, it can be said that it is very difficult for technical college students, who have graduated from secondary education and receive a five-year integrated engineering education from the age of 15, to understand the partial differential equations of fluid dynamics.

This is probably due to the following reasons. In junior high school before entering technical colleges, the concepts of force and motion, as well as static fluids such as gas and buoyancy, are emphasized as science content. Mechanics of materials and dynamics of machines are subjects that students are familiar with as an extension of mechanics of mass points and rigid bodies, and thermodynamics itself is learned in detail in upper-grade physics. On the other hand, in matters related to fluid dynamics, pressure, buoyancy, and air resistance are one of the various forces that are learned in ``basic physics'', which is the elementary content of physics, but more detailed content is covered. The ``Physics'' you learn does not go beyond this. In addition, water and air, which fluid dynamics is concerned with, are not bodies with a fixed shape that appear in general mechanics, but they move and transform with velocity and acceleration. It can be inferred that the point of how to handle such motion of an object mechanically is also a big hurdle for beginners.

Furthermore, in material mechanics and thermodynamics, it is possible to obtain results that do not deviate greatly from the knowledge obtained from daily experience, even without knowing the details of the subject. In contrast, there are many phenomena in fluid flow phenomena that are opposite to common knowledge (assumption), and while this is an interesting aspect of fluid mechanics, it is also the reason why students have a sense of dislike for the subject.

In particular, the governing equations of fluid mechanics, unlike those in other fields such as material mechanics, thermodynamics, and machinery dynamics, use the so-called "Eulerian" method of observing the space through which the fluid passes, rather than the familiar "Lagrangian" method of tracking and observing the fluid in motion in time (which is where the partial differential equations come in), so it is quite difficult to understand the physical meaning of these partial differential equations.

In the end, the students of technical colleges tend to neglect the fluid mechanics class as a specialized basic subject in engineering education. In addition, to earn course credits, the study of fluid mechanics is limited to taking into account only the form of partial differential equations, and there is the problem of the quality of education in which students are not able to understand and apply their knowledge of fluid mechanics very well.

**Objective**

The purpose of this study is to answer the question of guaranteeing the quality of the fluid mechanics classes in technical college education, by using OpenFOAM, a free software for fluid analysis, to link the simulation visualization results of fluid phenomena obtained by technical college students themselves to the theoretical knowledge of the thermal fluid mechanics class content. The purpose of this study is to practice engineering education which draws out the interest and motivation of technical college students and makes them feel that it is interesting and they want to know more about it.

In this paper, we introduce a case study of simulation research of fluid dynamics using OpenFOAM in graduation research of Hiroshima College of National Institute of Technology (KOSEN), in which students of the technical college were asked to perform simulations of thermo-fluid dynamics by trial and error, following the operation manual of OpenFOAM and other software on their own.

**What is OpenFOAM?**

OpenFOAM stands for Open Source Field Operation And Manipulation. This is an open-source software version of the commercial code FOAM (Field Operation And Manipulation) developed and sold by OpenCFD (currently ESI) in the UK. OpenFOAM is a set of physical field calculation codes developed in the object-oriented language C++ and can be used in the field of continuum mechanics such as computational fluid dynamics (CFD), solid stress analysis, and financial engineering.

Computational Fluid Dynamics is becoming an essential tool in various engineering fields. However, it is expensive to suddenly introduce commercially available fluid dynamics analysis software. Therefore, OpenFOAM, open-source software that can be easily used by people in universities and companies, has been attracting attention in recent years. OpenFOAM can be introduced free of charge and has the advantage of being able to perform large-scale analysis regardless of the number of licenses.

However, since OpenFOAM is free software, there is an operation manual but no official support. In addition, there are no default values for various calculations, and it is necessary to think about the initial values to be set by oneself the operation is performed by CUI (command-based), which is a high hurdle for beginners.

ダイアグラム

自動的に生成された説明Figure 1 shows the features of OpenFOAM.

Figure 1 shows the features of OpenFOAM. Firstly, since commercial CFD requires high maintenance costs, you can take advantage of the benefits of open source to reduce costs. Secondarily, high-accuracy and state-of-the-art solvers proven in universities and research institutes can be used. Thirdly, It's open source, so you can validate computational algorithms and embed solvers for new physics models. Fourthly, You can use HPC and cluster parallel computing by OpenMPI for free. Fifthly, OpenFOAM is getting more attention, so you can use OpenFOAM on supercomputers at a reasonable cost. Lastly, more and more organizations and researchers are supporting and customizing OpenFOAM since 2004.

**Simulation of thermal fluid in a boiler furnace**

As a special graduation research theme1) of the Advanced Course of Maritime System Engineering at Hiroshima College of National Institute of Technology, "Simulation of thermal fluid in a boiler furnace by OpenFOAM" was carried out in 2018. In this study, we visualized the thermal fluid and temperature distribution in the boiler furnace by computational simulation and identified the causes of adverse effects such as heat concentration in the piping inside the boiler and adhesion of coal ash to the heat transfer surface. We aim to improve the efficiency of the system and improve points for long-term safe driving.

1. Governing equations and computational algorithms

In OpenFOAM, when dealing with temperature, it is generally treated as a compressible fluid. Only compressible solvers can handle thermophysical properties. Fluid and heat transfer equations are described by differential equations. Governing equations include the following.

・ Equation of motion (Navier-Stokes equation)

・ Continuity formula (conservation of mass formula)

・Energy equation (energy conservation formula)

　The equation of motion and the equation of continuity describe the motion of the fluid, and the energy equation describes the phenomenon of heat transfer.

　In a compressible fluid, it is necessary to use the equation of state to obtain the density. When the fluid is gas, the ideal gas (perfect gas) equation of state is often used. It is also necessary to consider buoyancy and turbulence models depending on the flow field conditions.

The algorithm that simultaneously calculates the fluid equation of motion and the equation of continuity uses the pressure-velocity coupled method.

There are SIMPLE methods, the PISO method, the PIMPLE method, etc. for the pressure-velocity coupling method, but the OpenFOAM steady-state analysis solver uses the SIMPLE method as the pressure-velocity coupling method. The SIMPLE method is calculated according to the procedure shown in Figure 2.

ダイアグラム

自動的に生成された説明

Figure 2 SIMPLE method calculation procedure

As shown in Figure 2, the calculation procedure is as follows.

(1) Give the initial and boundary conditions of the flow field.

(2) Solve the equation of motion (N・S equation) to obtain a tentative velocity.

(3) Solve the pressure equation derived from the continuity equation by the SIMPLE method, or the pressure equation from which the time differential term is omitted, and obtain the pressure.

(4) Calculate the corrected velocities from the equation of motion and update the velocities.

(5) Repeat the above calculation of pressure and update of velocity for a specified number of times.

(6) Repeat the above procedure until the calculation residual of the continuity equation becomes small.

Repeat the above procedure for the required time steps.

1. Analysis model and calculation results

Based on the drawing data (Figure. 3) provided by the electric power company, the boiler furnace model to be analyzed is 10m wide (15m wide at the top of the boiler), 20m deep, and 60m high radiative reheat variable pressure once-through boiler. Assuming a furnace, a model with a simple shape was created using FreeCAD (Figure. 4).

ダイアグラム

自動的に生成された説明

Figure 3 Drawing data provided by the electric power company

Figure 5 shows the computational mesh. The dimensions of the model are width: 16 mm (from the upper part of the boiler to the inlet on the right side), depth: 20 mm, and height: 60 mm. The division number of blockMesh is 36×44×124 (196416). The computational grid number is 145065. This boiler model has 16 inlets (burners) on one side, with a total of 32 installed facing each other. Twelve thick U-shaped pipes were installed above the boiler.

コンピューターのスクリーンショット

自動的に生成された説明

Figure 4 Creation of furnace model with FreeCAD

コンピューターのスクリーンショット

自動的に生成された説明 グラフィカル ユーザー インターフェイス

自動的に生成された説明

Figure 5 Creation of furnace mesh (overall view and sectional view)

Regarding the setting of calculation conditions, the right inlet is in1, the left inlet is in2, the upper left outlet is out, and the fluid is air. The setting conditions are as follows.

・Initial conditions: Inflow velocity: 0m/s

The pressure inside the furnace: 101325Pa (standard atmospheric pressure)

The temperature inside the furnace: 293K

・Boundary conditions: Inlet in1 velocity: 1m/s, temperature: 1500K

Inlet in2 speed: 1m/s, temperature: 1500K

Outlet out pressure: standard atmospheric pressure

Wall: Velocity is a non-slip condition, the temperature is wall insulation

グラフィカル ユーザー インターフェイス, アプリケーション

自動的に生成された説明 グラフィカル ユーザー インターフェイス, アプリケーション

自動的に生成された説明 グラフィカル ユーザー インターフェイス, アプリケーション, Word

自動的に生成された説明

Figure 6 Velocity, pressure, and temperature in the furnace (cross-section)

In this study, the calculation conditions of the flow in the boiler furnace are different from the actual ones as a preliminary calculation. For example, calculation conditions that take into consideration the shape of the pipes and the circulation of boiler water on the walls and inside the pipes are not set. In addition, the only fluid in the boiler furnace is air.

Figure 6 shows the calculation results of the flow velocity, pressure, and temperature distribution of the thermal fluid in the furnace. From the calculation results, it can be seen that the velocity is high and the pressure is low where the cross-sectional area of the flow path is small due to the constriction of the pipes and upper part of the boiler. Since the calculation was performed on a notebook computer, the calculation time was short and the accuracy was not sufficient, but it is considered that a reasonable calculation result was obtained.

**Simulation of the flow around the car body**

We had students work on “The fluid simulation around the car body” as a graduation research2) of the Department of Maritime Technology of Hiroshima College in 2019.

Since the governing equations and calculation algorithm for this calculation are almost the same as those described above, only the analysis model and calculation results are introduced below.

In this research, we wanted to approximate the actual shape of a passenger car, so we downloaded the STL file of the car body and used the one with the tires retrofitted. Also, I tried not to make a gap in the body model. The model dimensions are 4.6m in length, 1.8m in width, and 1.3m in height. Solidworks was used to create the model.

Here Xsim3) was used to create the mesh. Xsim is a web-based preprocessor for OpenFOAM that allows you to copy the case directory needed for calculations in the tutorial and change the values and calculation conditions. By using this, you can easily create a case file.

![グラフ

低い精度で自動的に生成された説明](data:image/jpeg;base64,/9j/4AAQSkZJRgABAQEAYABgAAD/4SqiRXhpZgAATU0AKgAAAAgABgALAAIAAAAmAAAIYgESAAMAAAABAAEAAAExAAIAAAAmAAAIiAEyAAIAAAAUAAAIrodpAAQAAAABAAAIwuocAAcAAAgMAAAAVgAAEUYc6gAAAAgAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAFdpbmRvd3MgUGhvdG8gRWRpdG9yIDEwLjAuMTAwMTEuMTYzODQAV2luZG93cyBQaG90byBFZGl0b3IgMTAuMC4xMDAxMS4xNjM4NAAyMDIwOjAxOjIwIDExOjUyOjA1AAAGkAMAAgAAABQAABEckAQAAgAAABQAABEwkpEAAgAAAAM5MAAAkpIAAgAAAAM5MAAAoAEAAwAAAAEAAQAA6hwABwAACAwAAAkQAAAAABzqAAAACAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAMjAyMDowMToyMCAxMTo1MDoxNQAyMDIwOjAxOjIwIDExOjUwOjE1AAAAAAYBAwADAAAAAQAGAAABGgAFAAAAAQAAEZQBGwAFAAAAAQAAEZwBKAADAAAAAQACAAACAQAEAAAAAQAAEaQCAgAEAAAAAQAAGPYAAAAAAAAAYAAAAAEAAABgAAAAAf/Y/9sAQwAIBgYHBgUIBwcHCQkICgwUDQwLCwwZEhMPFB0aHx4dGhwcICQuJyAiLCMcHCg3KSwwMTQ0NB8nOT04MjwuMzQy/9sAQwEJCQkMCwwYDQ0YMiEcITIyMjIyMjIyMjIyMjIyMjIyMjIyMjIyMjIyMjIyMjIyMjIyMjIyMjIyMjIyMjIyMjIy/8AAEQgAugEAAwEhAAIRAQMRAf/EAB8AAAEFAQEBAQEBAAAAAAAAAAABAgMEBQYHCAkKC//EALUQAAIBAwMCBAMFBQQEAAABfQECAwAEEQUSITFBBhNRYQcicRQygZGhCCNCscEVUtHwJDNicoIJChYXGBkaJSYnKCkqNDU2Nzg5OkNERUZHSElKU1RVVldYWVpjZGVmZ2hpanN0dXZ3eHl6g4SFhoeIiYqSk5SVlpeYmZqio6Slpqeoqaqys7S1tre4ubrCw8TFxsfIycrS09TV1tfY2drh4uPk5ebn6Onq8fLz9PX29/j5+v/EAB8BAAMBAQEBAQEBAQEAAAAAAAABAgMEBQYHCAkKC//EALURAAIBAgQEAwQHBQQEAAECdwABAgMRBAUhMQYSQVEHYXETIjKBCBRCkaGxwQkjM1LwFWJy0QoWJDThJfEXGBkaJicoKSo1Njc4OTpDREVGR0hJSlNUVVZXWFlaY2RlZmdoaWpzdHV2d3h5eoKDhIWGh4iJipKTlJWWl5iZmqKjpKWmp6ipqrKztLW2t7i5usLDxMXGx8jJytLT1NXW19jZ2uLj5OXm5+jp6vLz9PX29/j5+v/aAAwDAQACEQMRAD8Axbi/vEuZVS7nVVcgASEADNRf2jff8/tx/wB/W/xr0p1qnM/eZlZB/aN9/wA/tx/39b/Gj+0b7/n9uP8Av63+NT7er/Mx2Qf2jff8/tx/39b/ABo/tG+/5/bj/v63+NHt6v8AMwsg/tG+/wCf24/7+t/jR/aN9/z+3H/f1v8AGj29X+ZhZB/aN9/z+3H/AH9b/Gj+0b7/AJ/bj/v63+NHt6v8zCyD+0b7/n9uP+/rf40f2jff8/tx/wB/W/xo9vV/mYWQf2jff8/tx/39b/Gj+0b7/n9uP+/rf40e3q/zMLIP7Rvv+f24/wC/rf40f2jff8/tx/39b/Gj29X+ZhZB/aN9/wA/tx/39b/Gj+0b7/n9uP8Av63+NHt6v8zCyD+0b7/n9uP+/rf40f2jff8AP7cf9/W/xo9vV/mYWQf2jff8/tx/39b/ABo/tG+/5/bj/v63+NHt6v8AMwsg/tG+/wCf24/7+t/jR/aN9/z+3H/f1v8AGj29X+ZhZB/aN9/z+3H/AH9b/Gj+0b7/AJ/bj/v63+NHt6v8zCyD+0b7/n9uP+/rf40f2jff8/lx/wB/W/xo9vV/mYWQf2jff8/lx/39b/Gj+0b7/n8uP+/rf40e3q/zMLIP7Rvv+fy4/wC/rf40f2jff8/lx/39b/Gj29X+ZhZDLr/j8m/66N/OoaifxMEFFSAUUAFFABRQAUUAFFABRQAUUAFFABRQAUUAFFABRQAUUAFFAya6/wCPyb/ro386hqp/ExIKKkAooAKKACigAooAKKACigAooAKKACigAooAKKACigAooAKKBk11/wAfk3/XRv51DVT+JiQUVIBRQAUUAFFABRQAUUAFFABRQAUUAFFABRQAUUAFFABRQAUUDJrr/j8m/wCujfzqGqn8TEgoqQCigAooAKKACigAooAKKACigAooAKKACigAooAKKACigAooGTXX/H5N/wBdG/nUNVP4mJBRUgFFABRQAUUAFFABRQAUUAFFABRQAUUAFFABRQAUUAFFABRQMmuv+Pyb/ro386hqp/ExIKKkAooAKKACigAooAKKACigAqJ7iGMkNIuR1A5P5VUYOTsgKsmpMMiK0lY5wN+EBOM9/YZPpTvPumHCxJwG5yep4HbkgE49MetdsMGt5sVyOKS7kfLTZwVIVIvYk5znjoOoOfSlEczjCPM6qNwcvt3ccZ6dc5/DPsd1QpR6BqROb2AqYZmlJC5jlAxk5zyOmMf3vrVmz1BLljFIpinHVG4z7jPWscRhly88OgJlyivPGFFABRQAUUDJrr/j8m/66N/OoaqfxMSCipAKKACigAooAKKACigAqu11udo7eJ55BwQg4B9zWlKk6jsgHDT7mc/6VKyqeRHCSuV784z+HHWrEVtDaIYxHHGxOQpGDzgA46kE5G7Hr6V6EVGCtEBTaGQfOqyxSL97HynPToSCD2P4DFN8pxsTD+ZgMSBkk8YPX8/TPpV3AYsYiA8suIVQLtzwuO+e+M/y9TSrG3m7iVaRxlQF3LgZzn8SfTOcdTmncBxgBXeEYtwGUr94dOR0wfp68A5FZ95pcc2DHtjaPgOuAytjPOO3Oe3GDTjOwmhtrfMkv2S8dPPBwGHGfYjsa0a83EUvZz02ew0FFYAFFABRQMmuv+Pyb/ro386hqp/ExIKKkAooAKKACigAooAKZJKkW3ceWOFUclj6CnGLk7IBYLWW7w1wGiUruEWD2OOSO/HQfrWhDbpD5UcahIlX5x0HpjGP/rfXoPQilCPKgJGiAmCgFQFHSMYJGOQcdRyBxggkjIwaVlBClACZFwTnaPu4K89Mgng9Nw6daLjEMQkkWMt94FRnC/M23nn/APVyc9BQ1u20kxqqgE4THA6/kGz74PpTuA1rdkkWRFBffuxjow6jr39/8aiVFICoQVLCSM5zwQMj69vw7jg1e4h0QO0TYyAuckZDIeNv5ehzxkHpmzDZMTJHLkjaqhVJG/PKggjIYE45wMY75pOVgIrjS7S4VYZFhYK23IBBI243Y3depGFBJXGD0GPA5Waa3ZtxiIwc54Izj8OlZVrzp69AJ6K4QCigAooGTXX/AB+Tf9dG/nUNVP4mJBRUgFFABRQAUUAFFAEQkaZilvtOCFaRvuKT6/5/EVbsrHysySmRjKiksR95gSduPy49+a7aUOSN3uwNBEUlVyykAMvOQPYkjpznH+BqUKQpMoKxjgZQjy24G0+nIAx+H0dxi8FxFhonz8rSrwT6H26kdMgcHAzTkDMXIEillKMvO1gM5Unv97p75AGRQAwxhVbafnIKhkBBXg4wT0IBx279jipPLDFY9uN3Qj0Oen4jH1yDyKdwFt9PkUxRMxQZ+dd3EfK4DEkYAzn1Hcdqe1pG7wPtcsVJ2tGSX+8QSoOQPfgHBGKTmA53t0gkLyxpDtAmyVA3MOu30POB1J2+gzm/2vAMJakSkEkqW2Lk5yRkdMYzg5ODjAxhJN7gO8maZmdosknITbkBiRgAKowx/DovYVgXMsh8RYZsxtAVX5cZII/XHH4VW8ZegmWqK4ACigAooGTXX/H5N/10b+dQ1U/iYkFFSAUUAFFABRQBG8yq/lrl5T0jXkmnRWb3ibbqYwZBPlRH5gB1ySOcZ6D9eK6qNL7cgNKCBU2bIgkZUDYflKEMMZPt+PB9eksYZ1BIKO6gMBzsIHH4nPQZH3uR1O0mMnijLIwIKoXwwzjB9fX2PuKarfvJPkbzGxvAC7R6leM8ZzjGOeONwEbgSxsrtGkzK6n5A69PxGMn16d+PQOWNvMBmiJiY4TPzenR+eD1xk9TnqSUBKIi8HmrHLlyGQjGT1wRu4JIx9fYHmYhU6sscOMlUyC3OAcgZYYAyeB2B44Tl0AybzXLaLCxBZHB3Ku3IQZHzEcj9WPXPOKw5davJI2Q7I0J+6Bkt06k/ePU568e3GsIaaiuUy8l1IGk+eYnKlDtOTk/QDLL/kV1FjZW9hEWJ4JCmQvsABXqDyQBjGcZ69QaKjt7oIzb7xLZRbvLEk0mMAqTjGPm+9nkhiCQBjt2NYLagt3qsU4jEW1gu0cDaQB0Hcnn/POkYNQd+wmzaoryxhRQAUUDJrr/AI/Jv+ujfzqGqn8TEgoqQCigAooGV57ny2Cqu4kHHPX2HB5/A09dOluHDzXUsUY+8sMgBzxknPbrx+prvo0owjzS3Yi9bWyQj5YikZDbgCc59x27dfQ9jirELyIqOrRbXAzkcsccH3AyfrnjFaS1Akjt8IynaFzuVj94YIH6jv8AUdM08uwJLIvTZIAMHPQ89ByB0xgjvnAzdmMkztmXYBuZdu0ELvX8j/8ArNChXdW2kYQsjsc7R6HH4g+oPccVOyAsLGQnyjblvmjdchiOw/HP9M4zVh/9cTk725ykpYtz1BUc5z15688HNQ2Mz7/VobO4lSOJZ7wHZgR7SzHIO5txJz0ODzxyOAOcubye5LGSdjHI+7BbAduOeg5wV6+h+laQjZXZLKZKkbGbCnlmCkY/MehI/D8k8suCznaowFGOuf8ADc35VtqBpWDW0DPM7ME5x84U4PP/AAEEYGfbv0rL1fWbjV3VdzrAMYRmJyeRk/gMUoxvK7BmaiABsnkLnJH+yelWLaJp7uJQNwRtxOegAA/wrScrRbJOgoryCgooAKKBk11/x+Tf9dG/nUNVP4mJBRUgFFABUE5mlDwWqlpiOcEfLnvz39K0pQ5ppMC5aaOlmI/lDbgCZscvg889eCD07e2QLjqZJY4FLGRcMMk/OD79uv1+bjvXe5czuAoxlmRMbEOBnAJ689iDnP4+oIqTZ95lzvxktjggZ6Z6Hrz+f3cVLGPAZlIXcWA+QN16Akf5J5/Sb5nKSLkvkh1Pcev+f/1wwEiSPylkO7y1OcrjIPOeMcjPuOf1sgssrsMFcD7xO1uuSSRgccjnOR2yKhgSWoWR440mO0/fAIk4I44UEkdfQ844PNYupa2hg8m2KksMSPuO0Ant0BJORnGOnvRGLcgMJt8nJ4HUuBjavHp7bT9R65ynkM53uFXI6HnjnPT6t+Q7VvsIQmKIFsNJg5Yk43dc9O33u/cVDNc7iSwHOR647HP/AI8fqR2qkmxFK5u5JgIuArHJIzznB6Z5xnvURJAXpgdxx2JP8/0rRJJWABgbQOrAjAJ67Rj+f6Vu6fbLbLukXLOcuBxx6VzYqdoW7gjcW+04RlTpuWMRTPmd88N064qIXNisbAWR3kgqxkzjr2x7j8q8/UoBcWG0hrJiSc5EuPX/AOt+VVZmjeUtDGY0OMKWzjj1o1AjopgTXX/H5N/10b+dQ1U/iYkFFSAUUAQ3E3kxZHLsQiD3PStCyswkQjHltKSVdt3JJIPJ6YIAHvtHpXXQVo8wFiGP5t4BBQYyRgkdv5kH6mpEJ8rMwVQ5I4+UcdMjqvU/T5sdK2Yx2NwClWYJxycc8n8weo7kkD5sYdFGfOZd4LEkhDxz0bH97BwO2OOueE3YAVQw8vKYV8ADPAPOT25J/qec1YRfPZf3oExcHnjLDJB5+6c+vTHUEEiWBIoWZ4/LG1S+CGPBPrjHtgj3zwFIM0SKgjZE5YlgA5cZwAAGA6ZI5B4IGTgDOb7DMPVNZM8X2W3d2XfhiWO1vbnrznJ6cnjuMVEkKAj5VPAJITnsfbsfbHbrWsEorUlkcsscYZnfzCvy8DOevHuBgj8vpVaW7Qbl+YnPJXHIHP8AMZ//AF8apNgUpLtd4B5UHAB7jIHP4D+dEFrd3u1guEGPmfj/APX3P41cmqceaRJqW+kQQhTITK45yeB+VEukxvIGWV0X+JeDntXF9alzXHYtQ2sUByi/Mf4icmpq55zc3djLEUsQtikluXw+TIrYOPTof85rail8Lf8ACMzJJbXY1g7vKfcSg54zyB09qzdykmznaKokKKBk11/x+Tf9dG/nUNVP4mJBRUgFFAGbqsoilsy2dpkPA7nBxW/Yri3jhLHMzEJtzuDcnHqCM4wO4GBxXfBfuo2DqXI3byY50RXLdVXHU8Eenfr+XOKeQIzh3yOqEthdoA789vb5eR0FAxTG0bcb84wMg4JJ9OnAz09Bj5hyowzjAwGJAwMcA8cdMgHJx90HuG4L9QJdzNjfuYAAhsEFQTtBzyOoHXr/ALxwZEt2M4WNioVTsjEe8oATkEDGAF9Oc8ADGRL0AkEm2NlD4VFwweUZAxnnAO3IAx7cc5xXO6trKylo4WYD+J3zlvoCeM8jH0+hmEbsGzCfUET5UOB3IUZA4/nwf/14qlLfySDLHJ4yc9B/nNdUYE3KxuW8wDf93HA7YI5qa3066uQPl8qMgfM3X8quc401di3Na20q3tjuK+Y/q3+FXq8urVlUd2UkFFZgFFAE8cUzWsjp/q9wVuOSe1J/Z1wYTc+W3lr1JNcuJnTio87tqjSGYwwV3JL3vd+8horqMwooGTXX/H5N/wBdG/nUNVP4mJBRUgFFAGXryH+z1mAz5Mivj2zWxpVwtzb26k7t+GB9MdPxHbIORu4zwe+nrRT8w6mxt3h33YJU7dwP7tsEgH25P8+OomjQqVhYbXUYU78sD9QfwB5znPoKm+gxwRwCogbLDlUU9MbuOx6Dj8euCHC3zkPMsZKhzjOQD908cg7SccZHJIGSKXMBIgt1PyeUJAQxLfMUBwqlVGQMg42knjLYAIqtfazpen2Mn2iSMuJQjW0DBnYDHQDIAXnBJJOKnllJgcXqXiW7vcxgiGAE4QDBAJ6frnj61kPKzksxJ43cce4/lXbCmokt3GHcRgDlicLjJ7j/AAq/DpVxOd0h8tTnluuOe3496VSrGmriNS3sLe3wVXc453NyatV5lSpKbuykFFQAUUAFFAEg8r7PITu80EbFHQjv/Sqp1O7ScWawzeQ3Vs/KM/pW1HCUcRf2skrK6v3RlVpxnbmVyaisTUKKBk11/wAfk3/XRv51DVT+JiQUVIBRQBHcRLPbyRMMh1KmsDQL020/kTEAx7kAJwBzzn2/yOvPoYT3qcoie53dmDNAjbDIoyrMxJ2jOQST3B/P5foL2EjjzvVuGYNKuNsYB5JBI4DL8uO4A4GDjJ62LJNy2uWLx7lGNsg3jjAwck46gk4PXb7DCvPEsWnMY4YUkuEOGL7mXcODkH0xz/e4yPlFOEXJibsc/e63qOoGTzpsI/3htGMZ/nnn8/pWeyGNWJbB6lRxk56f411RSjoiRiRvcSERxsST820dO3NXodHkkJa5kxk8hTnP+Hepq1lT06hY0oLWG3GIowD69z+NTV50pOTuxhRUgFFABRQAUUDLMRC2cm+33qzqPNzgr7D61pxXXh4eH5YZLC4OqHPlzbsqOeM/MO3+zXDjKWKqKP1eVrNN+nVFwt1VzDoruMwooGTXX/H5N/10b+dQ1U/iYkFFSAUUAFc1q0JsdUS6T5Ipj8xA6Hv/AI12YGVqnL3QmdJpmrwrar5pRSOep5PbOM+v5+wp91r5jOy1KxYcbXBb5Tknjrjac9uck81bp+8O5SvtamnhSzty6xhcHcMcY7cDjB/Mn8MlYwp7semG/TP1rSEVFWQtx2cAdvQ9vr/Mf/rp6Q+e6xgHDfmo9fr/AICm3yq4GxBbxW8eyJcDqfepK8yUnJ3YwopAFFABRQAUUAFFAFiOOZrN2Vx5e8Apnkn1xVhdPv2017kQA2y53PuHH4Zz+ldGHq1Kd+Tqio5qsA9fte7t3M+iuckKKBk11/x+Tf8AXRv51DVT+JiQUVIBRQAVBeWkd7avBJ0YcH0PrVQk4SUl0AwIlubJngkd0YDqpPzD/D+VOLESb1cnPfHJH09v8PSvUbjJ8y2Ygjjugy+ZbzHPX5WPH1qbAyFJPH3j0+v+f5Um4391gOSCWY/Iu4eu7C/TP+eRWpa2v2dMsQ0h6sBj8BXNXqK3KhliiuMAooAKKACigAooAKKAHrs2MG4YkYPoO9aMcNv/AGPI51IrKM4tweG59K0ppO93YmcIztzK5l0VmUFFAya6/wCPyb/ro386hqp/ExIt6a6x6hFujD7soAT0LDAP4E5/Cq80zTzNK+NzHJx0rBJqo3crfQVo0+zRzJKH3FlZcfdIqOtE7q4Si4uzCimSMkijlGJEVgPUUkcEUX+rjVfoKrnla1wJKaURjllUn3FSm1sA6igAooAKKACigAooAKKACigZaSRxprp5AMRkBMuOQcdM05dn2Fv9DdjziXnArOcZO3KzSmr30uU6K0MgooGTXX/H5N/10b+dQ1U/iYkKDgg+lSeW9xOPLG5pW4Hue1YyXvXKVRw2IqKsQUUxBRQAUUAFFABRQAUUAFFABRQAUUAFFAy2ItliJVukO5gTDkZyMjJFTpqF6ulvbK0Yt2zkbRnrTjFyNqNSUL8pm0UjAKKBk11/x+Tf9dG/nUNVP4mJBUkU8kDEoV56hlBH61nKKkrMmUVJWZHRVFBRQAUUAFFABRQAUUAFFABRQAUUAFFABRQBNm3Magq4fAywGecn39MVpR2mkNokk7X8gvhnZCRgHnj/ADmsaspxtyI1pqLvzGPRWxkFFAya6/4/Jv8Aro386hqp/ExBRUgFFABRQAUUAFFABRQAUUAFFABRQAUUAFFABRQAUUAFFABRQBNdf8fk/wD10b+dQ11TS5mSFFRyoAoo5UAUUcqAKKOVAFFHKgCijlQBRRyoAoo5UAUUcqAKKOVAFFHKgCijlQBRRyoAoo5UAUU+VAf/2f/hMehodHRwOi8vbnMuYWRvYmUuY29tL3hhcC8xLjAvADw/eHBhY2tldCBiZWdpbj0n77u/JyBpZD0nVzVNME1wQ2VoaUh6cmVTek5UY3prYzlkJz8+DQo8eDp4bXBtZXRhIHhtbG5zOng9ImFkb2JlOm5zOm1ldGEvIj48cmRmOlJERiB4bWxuczpyZGY9Imh0dHA6Ly93d3cudzMub3JnLzE5OTkvMDIvMjItcmRmLXN5bnRheC1ucyMiPjxyZGY6RGVzY3JpcHRpb24gcmRmOmFib3V0PSJ1dWlkOmZhZjViZGQ1LWJhM2QtMTFkYS1hZDMxLWQzM2Q3NTE4MmYxYiIgeG1sbnM6eG1wPSJodHRwOi8vbnMuYWRvYmUuY29tL3hhcC8xLjAvIj48eG1wOkNyZWF0b3JUb29sPldpbmRvd3MgUGhvdG8gRWRpdG9yIDEwLjAuMTAwMTEuMTYzODQ8L3htcDpDcmVhdG9yVG9vbD48eG1wOkNyZWF0ZURhdGU+MjAyMC0wMS0yMFQxMTo1MDoxNS45MDM8L3htcDpDcmVhdGVEYXRlPjwvcmRmOkRlc2NyaXB0aW9uPjwvcmRmOlJERj48L3g6eG1wbWV0YT4NCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIDw/eHBhY2tldCBlbmQ9J3cnPz7/2wBDAAMCAgMCAgMDAwMEAwMEBQgFBQQEBQoHBwYIDAoMDAsKCwsNDhIQDQ4RDgsLEBYQERMUFRUVDA8XGBYUGBIUFRT/2wBDAQMEBAUEBQkFBQkUDQsNFBQUFBQUFBQUFBQUFBQUFBQUFBQUFBQUFBQUFBQUFBQUFBQUFBQUFBQUFBQUFBQUFBT/wAARCAHqAqMDASIAAhEBAxEB/8QAHwAAAQUBAQEBAQEAAAAAAAAAAAECAwQFBgcICQoL/8QAtRAAAgEDAwIEAwUFBAQAAAF9AQIDAAQRBRIhMUEGE1FhByJxFDKBkaEII0KxwRVS0fAkM2JyggkKFhcYGRolJicoKSo0NTY3ODk6Q0RFRkdISUpTVFVWV1hZWmNkZWZnaGlqc3R1dnd4eXqDhIWGh4iJipKTlJWWl5iZmqKjpKWmp6ipqrKztLW2t7i5usLDxMXGx8jJytLT1NXW19jZ2uHi4+Tl5ufo6erx8vP09fb3+Pn6/8QAHwEAAwEBAQEBAQEBAQAAAAAAAAECAwQFBgcICQoL/8QAtREAAgECBAQDBAcFBAQAAQJ3AAECAxEEBSExBhJBUQdhcRMiMoEIFEKRobHBCSMzUvAVYnLRChYkNOEl8RcYGRomJygpKjU2Nzg5OkNERUZHSElKU1RVVldYWVpjZGVmZ2hpanN0dXZ3eHl6goOEhYaHiImKkpOUlZaXmJmaoqOkpaanqKmqsrO0tba3uLm6wsPExcbHyMnK0tPU1dbX2Nna4uPk5ebn6Onq8vP09fb3+Pn6/9oADAMBAAIRAxEAPwDlNU+Jni/w/p/hWx0vxVrWm2UXhfQjHbWeozRRoW0u1LFVVgASWJJHc1Q/4XL4/wD+h58Sf+De4/8Ai6yvFn/Mtf8AYr6B/wCmq0rDr6vFr/aJ+v6nHzOx2P8AwuTx/wD9Dz4k/wDBvcf/ABdH/C5PH/8A0PPiT/wb3H/xdcdRXIVc7H/hcnj/AP6HnxJ/4N7j/wCLo/4XJ4//AOh58Sdc/wDIXuP/AIuuOooC52P/AAuTx/8A9Dz4k/8ABvcf/F0f8Lk8f/8AQ8+JP/Bvcf8AxdcdRQFzsf8AhcvxA/6HnxJ/4N7j/wCLo/4XL4//AOh58Sf+De4/+LrjqKVkO7Ox/wCFy+P/APoefEn/AIN7j/4uj/hcvj//AKHnxJ0x/wAhe4/+LrjqKLBdnY/8Ll8f/wDQ8+JP/Bvcf/F0f8Ll8f8A/Q8+JP8Awb3H/wAXXHUUWEdj/wALk8f/APQ8+JP/AAb3H/xdH/C5PH//AEPPiT/wb3H/AMXXHUUAdj/wuXx//wBDz4k/8G9x/wDF0f8AC5fH/wD0PPiT/wAG9x/8XXHUUx8zOx/4XL4//wCh58Sf+De4/wDi6P8Ahcnj/n/iufEnIx/yF7j/AOLrjqKBHY/8Ll8f/wDQ8+JP/Bvcf/F0f8Ll8f8A/Q8+JP8Awb3H/wAXXHUUeYXZ2P8AwuTx/wD9Dz4k/wDBvcf/ABdH/C5PH/8A0PPiT/wb3H/xdcdRQO7Ox/4XJ4//AOh58Sf+De4/+Lo/4XJ4/wD+h58Sf+De4/8Ai646ikHM+52P/C5fH/8A0PPiT/wb3H/xdH/C5fH/AP0PPiT/AMG9x/8AF1x1FArs7H/hcvj/AP6HnxJ/4N7j/wCLo/4XJ4//AOh58Sf+De4/+LrjqKY+Z9zsf+FyeP8A/oefEn/g3uP/AIuj/hcnj/8A6HnxJ/4N7j/4uuOooDmfc7H/AIXJ4/8A+h58Sf8Ag3uP/i6P+FyeP/8AoefEn/g3uP8A4uuOooJOx/4XL4//AOh58Sf+De4/+Lo/4XL4/wD+h58Sf+De4/8Ai646ikVzM7H/AIXJ4/8A+h58Sf8Ag3uP/i6P+Fy+P/8AoefEn/g3uP8A4uuOoosSdj/wuXx//wBDz4k/8G9x/wDF0f8AC5fH/wD0PPiT/wAG9x/8XXHUUxnY/wDC5fH/AP0PPiT/AMG9x/8AF0f8Lk8f/wDQ8+JP/Bvcf/F1x1FAXZ2P/C5PH/8A0PPiT/wb3H/xdH/C5PH/AP0PPiT/AMG9x/8AF1x1FA+ZnY/8Lk8f/wDQ8+JP/Bvcf/F0f8Ll8f8A/Q8+JP8Awb3H/wAXXHUUg5mdj/wuTx//ANDz4k/8G9x/8XR/wuTx/wD9Dz4k/wDBvcf/ABdcdRTEdj/wuTx//wBDz4k/8G9x/wDF0f8AC5PH/wD0PPiT/wAG9x/8XXHUUBc7H/hcnj//AKHnxJ/4N7j/AOLo/wCFyeP/APoefEn/AIN7j/4uuOooC52P/C5PH/8A0PPiT/wb3H/xdH/C5PH/AP0PPiT/AMG9x/8AF1x1FAXOx/4XJ4//AOh58Sf+De4/+Lo/4XJ4/wD+h58Sf+De4/8Ai646igLnY/8AC5PH/wD0PPiT/wAG9x/8XR/wuTx//wBDz4k/8G9x/wDF1x1FAXOx/wCFyeP/APoefEn/AIN7j/4uj/hcnj//AKHnxJ/4N7j/AOLrjqKAudj/AMLk8f8A/Q8+JP8Awb3H/wAXR/wuTx//ANDz4k/8G9x/8XXHUUBc7H/hcnj/AP6HnxJ/4N7j/wCLo/4XJ4//AOh58Sf+De4/+LrjqKAudj/wuTx//wBDz4k/8G9x/wDF0f8AC5PH/wD0PPiT/wAG9x/8XXHUUBc7H/hcnj//AKHnxJ/4N7j/AOLo/wCFyeP/APoefEn/AIN7j/4uuOooC52P/C5PH/8A0PPiT/wb3H/xdH/C5PH/AP0PPiT/AMG9x/8AF1x1FAXOx/4XL8QB08deJR9NXuBj/wAfo/4XL4//AOh48Sf+Da4/+LrjqKQHY/8AC5fH/wD0PHiT/wAG1x/8XQfjL8QG4PjnxIwznB1e4OD6/f8Ac/nXHUUAdj/wuXx//wBDx4k/8G1x/wDF0f8AC5fH/wD0PHiT/wAG1x/8XXHUUCOx/wCFzfEDkDxz4lAJyQNXuBk5zn7/AK/0o/4XL4//AOh48Sf+Da4/+LrjqKYzsf8Ahcvj/wD6HjxJ/wCDa4/+Lo/4XL8QP+h58S9Mf8he46Yxj7/ufzrjqKAOx/4XL4//AOh48Sf+Da4/+Lo/4XJ4/wAAf8Jz4kIxjnV7j/4uuOopAdh/wuTx9z/xXHiTnr/xNrjnnPPz80v/AAuXx/8A9Dx4k/8ABtcf/F1x1FMDr2+NXxDU4Hj3xOox0XWbkD/0OiuMb71FYtK5HLHsdB4s/wCZa/7FfQP/AE1WlYdbniz/AJlr/sV9A/8ATVaVh16WL/3ifr+odGFFFFcZQUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUARt96ihvvUVk9wOg8Wf8y1/2K+gf+mq0rDrc8Wf8y1/2K+gf+mq0rDr0cX/ALxP1/UnowooorjKCiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigCNvvUUN96isnuB0Hiz/AJlr/sV9A/8ATVaVh1ueLP8AmWv+xX0D/wBNVpWHXo4v/eJ+v6k9GFFFFcZQUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUARt96ihvvUVk9wOg8Wf8y1/2K+gf+mq0rDrc8Wf8y1/2K+gf+mq0rDr0cX/vE/X9SejCiiiuMoKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKAI2+9RQ33qKye4HQeLP+Za/wCxX0D/ANNVpWHW54s/5lr/ALFfQP8A01WlYdeji/8AeJ+v6k9GFFFFcZQUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUARt96ihvvUVk9wOg8Wf8AMtf9ivoH/pqtKw63PFn/ADLX/Yr6B/6arSsOvRxf+8T9f1J6MKKKK4ygooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAjb71FDfeorJ7gdB4s/5lr/sV9A/9NVpWHW54s/5lr/sV9A/9NVpWHXo4v8A3ifr+pPRhRRRXGUFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFAEbfeoob71FZPcDoPFn/Mtf8AYr6B/wCmq0rDrc8Wf8y1/wBivoH/AKarSsOvRxf+8T9f1J6MKKKK4ygooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiilH3sd+mMZOfwoASiory9t9Phaa6njtoVClnmdVC5bHJJHXgD3rkta+LXhzRnMa3T6hMpUMlmgdeQGDBywUgr2BJBYDqDXVRwtfE/wY3DmOypR97HfpjGTn8K81/4WZr2r62uhaP4XddXukSSxhvpfLluFaNZY9kR2l3kjIMaIxZ2lQIHLKGxbrXPGfiTxbrnh+w1O20l7VpInt9cns9DdFjcRsr/AGqUbJskExiVmB39QpI9mnkOJlf2jjC3eX+VzPntseydcBQWYnACjP8AL/GqGoeINL0udIrzUbOylYbhHc3CoxUkgEZxkZB/LpwTXA2PwzvNe8YaL4em1e78U3JtrfU47eP7TfWmpROZHEn2Ym3vo49rWu6OOF5vIM10mYxGHd4C0vwl4g1bxZetYaPDFZgxixgjmvNKurcKpWdIpbqPVIY42gaeSa386VYnbfFHGrRS9Mcmoxu51W7K+i/z6voretg5n2OivPif4Xsbh4ZNXjZl6mGN5V9gGVdp46kHjn0wMOT45aAszpHb6hMFcoHjhUB+oyMvnnggYz6gdKPFWkWngrwdH4a8WzakbbTdRW2isru8WeXTnkiImaLTLhLO8t1cO9+jqwgcm0huFd1Zo7XxAuZPFOrP4b8ZRWfhiWytBrWofZ45Rf6cWW4mmtmXW5I7meeSW4jfyILvym3PIkUsjl17qWWYGLu4tp7vm287W/ALyLV14u8QvrVjpem+DrrVNTvZLiGLR7e6jfVUkgOJkmsY/MmgZSH+WRQWVC64UNitca94q1Txbo2k+GX8P+IrfWpjHZTaO1xqEiqijzXlto1F3GqfM3z2ysyxs0YkXDHQudU0iTxpJNrukXsOif8ACL28mmzawySWi6SpLhLOz1WVJyXj2QhLS+EiSC6kt5pUKINCbXNP1i48K3/jhby/1zVtAtYGvPEUrS4smljXzJLfVmAk8+Z5gtxYahBsi3TqLfZKhI4XDwdlSvp/XX0/y1QzJ0+68R6/dXenWuv+G0kg0+fVpdVsbW71CzisFKBLgm0FxNExLOzR3FvF5aom/DSBRlwab43uNP1lk8QXDXuk2Et/O9rpMeoadL5Kh544b6yFxGzJHPZOWcRxr5ziR4tqebFe6nrfh7S9J1a/1P8A4SXxv4uureQ6/rM08UlhstYHtsXd5aRSQTx/abaYTwXpi8tYxIjRMu/oLrwbNpfjf4f6NPea1oWneGt94X1q/k0yC1mUwSmGG21Cey+y3bF7aW4SC9kGboSROAqiulUaNLeMV8k9t383p57oLM57R9e8fa7JLa+HrfQ/F88KnyY9KmEt7foJJI/Nhs/MW4fPkvIyiFWSPDsqIysbmmfErU7rR7jWbrwXrUWhwwxzyalawtNCiyStCjM5VVCtLHIitk7mRlAyCR08N02q6Pp+q+MtBbw3b2Vrf6Z/ZGup9rUWlq0CSx2CaoscnlxeU9u1vDqf2mKWaV4BEoeN/MdS0TQpPCuhajBoOmS2a6Ol5f8A2W31e21KWNby0tpJjLIZ7QM0onjSVMw4MgaNZTFECOFwmIdqtG2tlb9Wmld/gRqtj1DRfFGk+IlzpuoQXTYZjGrfvAoOMlPvL68gVqV4DqXg1/Dv2Of/AISXwzp3k2FxLZalperSXUmpFHyoMcJkltpZFlVUWaO3UCP59rh66XwD8ZBcLFZeIZP38kmxL9YwE56CTAAHOBkDGGyehrycbkTpwdbCS5kunVf5/wBaFRqfzI9ZopccAngHo2MgjJOR6jBHI4pK+U1i+WSNAoooqQCiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKAI2+9RQ33qKye4HQeLP+Za/7FfQP/TVaVh1ueLP+Za/7FfQP/TVaVh16OL/AN4n6/qT0YUUUVxlBRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRVPVtYstDs2utQuorS3XcN8hxlsE7R6ngjaBu9quFOdR2jG78gvbcuUyaeO3heaV0jijDM7s4CqoBJLZxjAA64615/efFKXU/3XhyzivLq4k+zWMUrtJPeXAkiUxxW8YLncswZWfy1ba4Us67DnWvwwvvH+h3+pa34vsWurdp0WdZ3ntrM2wBuEMUUTG4UxbJDNYfaViVQZlRJRMnv0Mnk1zYmShHtvInmfQ2dc+M3h7SQ6W0smpTgugW3X5Ay/wB52wCpJADLngdDkEx3Fn8QfFl7qNvF9h8MaXp6P/aE4lN69vbrAJvtcqWyTT/ZWXaVuo4vJxKmZOQ1dnouj6B4D1jWEsPEN5pEGi6np0UcMfmRT6VeOoil23D3doALiMeXM32q2mHl3G+whWBXtNTRtNEfi+3s/wCxtZH/AAjep392INSuvs8/hvdGsnnRWuYfLsJS3necLHTfJkkt/wDTIPL81PVjRwlD+FC+m8t9r7Oy/P59Sze5yUXgfStIZNQvL2KdRPCU1XVfsmqy2RuA0ccavPcHSNRtdyzR71lhuFkjuJTHGlrIldHovhfXvBtulpq99b6M9vYeXLNqcL2uptp0EkJnR4zGl3eWVxHbTnFxp19Dbwxwxt9y58nb0nWDpdxp0FrrFroetT6XZva2HhSUy6jMsUwSW3trwXMEl/A5iS2jhi1a6kHlsq26OEWx5610WDxLdJYeG/D39q3tobnV7GB7GK5Nn9tlWGO6+xQ2kq3Vq677pjLplrKkK2aLNj7Msle0nU0l/X9f1fqzG0LR08I+FvEVvoUM/hG0jlR9ek8VeZq1rpkym3S3s9QitobiG4VjcTsi3NhbNDcAoJXkgdKx5fC9z4X+F91YaBov9sfaBDpmr+Iomgm0m1vZDGQ11cu93YNsS7ENvdQT2k0Jkm8xV3fN2VvqGq6Vb6Rrusw3niCHSsXFhonhTU21i18MQW0Jinngnzd/uEiltHaOPULOaN2ib90q2s66TSf2Ld6Hr11rJ0qSztdPsLaTSdX89NIWSQxtBbXlxIFe0kNsYQtvrSvEovpD5am6t4dfbTi+6evz7d9PX7+q5TDDafqng3T/AAzpzQyeD7Oa40Btb1W1hWKO6EbGYW899PeafFK/mC5DWl5Z+aLedeC1rJVme5ttV8J+FtMWez8NeGLi6afRtJvJp0sbuNZWl+0QJqc97pnmR7oHkjF3bOG+22cm4zK1Hh5RoukwaLrOh2fgpdaDqzaDbeTZrYuzMttcX9xNatc296tvdusv9q3MLIGVIlaOJ4rWvyXek+J4LnXbaDw94qeaeW2sZ5W0JbtlG+Jr17lNMvJoZLmzNzFePeXEkRihSZXnfe+V25cr7t/8H+vv1QzlPEFxe+E/h1ceLNKt7Oy8NXO210jTdS0m5vbGYmVZIfJW6Go2R8uNryVo/tEU8Nxd3yFiqbZNHT/DEupeH9e0jw/cWdjdat5MWv3+lW8tzpcV8628cNt5OmTajDNHLJcztAxtrbZcD9xJG0JgTTWz1Dw1e/23rOpf8JJYafdfbtZ8Wa7brPeXUywmayjtLuQ2ki3EMUNo/k2mqyiRJ0e3M0Xmg1viH8MbvV/D+mWOuXk8OnzSxSQ+JtXYxR3000ryObe8vLcQ7vJW7uZYBqhtJp7rzLeUgMp0jUTtDm3ert/Xb8b+Qyzo89tDo93p3heez8Q+GbIW5l0WKeeQazNI8Hkf6JaTyJNMpWxhjuLnTYoJ5pGW8iW4QRullZjQdX1OXw5Jea744i8s3Wi+EF/saZrnb9kle1jguLSaO4hSHUGCnS2MX2mUzrcROkzIs2reLLV9f1jxLfeL4Lj7bqukf2yH1i08PQxxz757hDa6v+4WKexEsDTRzxyNF5q4SG5FfUNQh1XUbnwr5UOqWEmntc3tzbXL6vZ6Do1qTHCqyR3GsrCvlG4IcRLLaTXYKymFir52aej/AK6/l06/ICz4L1q/svF7eEvD+s/2K9peSQeIZdIvV0C6uruSKbAtUjjsbqf/AEiWRBbNZ3UlqbeMQpcJK1tLZk0nVJodL0zwzcQ+F9B1+See60+a8hsJtXt3ecwKILdNNu9QsrozYWOO0maOLCWrGRpbVMbR9F/4WNZXvhqSz/4Q/V9Y1SWS+0LRV8q51Czspdv2e9tLGVvKnj3OBs0ckmLzsGP7Q66P23UPDN9/Z9rpf27xFfXf26fwHdTrpP8AZ5MHlFILICzie/ktrq1gMLadcw3PzlPOVprdXOPvc0bX/rXtvfXbRd7AZvii3m+D5a6M154CvmMel6Mt1LLYvAq+ZbpqU0dtFp160kcf2yRLw2l0siXfkyASJIGgEa6D4m0OTU5ofC3xKmsDZNJYw22gLpryASySPAG0k2lzDbTfI8rXMN40uxXwpCdF4VsNE+HWnabb65pM9pofh6G+WXXLj9xLezYRL4afDe3GnLcsStxBNDPZ3bo0EEMhuYpI44q7x3ngnR72EW1ppun3Qn07UJDcXOiw+I77c0UttJCZNIU2EdzeTq22Oea18grIwtjGtONT79v6/wAvPpa4rGD4o0TxBpfhrU7tLLU28CTRWVw8er6hIukajCbRhNJo7atYriVLeO3hgYF7qONG8v7Uhdo+G+L0NpqVnca7e6pea/JLtsNMSXxDpcn9jmOeYvZraWzyma0VVIhliS1i+ZWWLY6IfTh4fk8E6lp63FxDZ3djJcJo8NlaJp2mX1qpZ9Oe+1dP7K81XbTzcwXiTzecYd4jjZCk1TxVop8A2OueIH0z+27yz0sXtzqmo6b9vj1Ce+mWKC8c3el3UR3G1eSQ/bHhlknk+yXADSK3Vhqzp1IqCu/u9P0u9tbbEuN9zyvwx40v/hxrz6Br11BfWalFaayv4b9IAyAqYpoZGR0wQGVWO0j1BU+x6bqVrrFjFeWU63FtMu6ORR+h9D/eHUVws3h3wvq2h2s0d5FeaIZLeWXSmuPDulajHNJDbQ28I1ASvNJCsc2ZpTbqvmwyNLFG7TSQeeaL4j1v4W3NopksLy01C3jvDawX0V0FRzkbvJdvJmwCDG+11yN6g4qMZltLMo89C0ai6dH8t7/gZ80on0NRWd4e8QWXijS47+wk8yFhhx/FGwx8jD1GRn1yMcEGtGvgZwlTk4TVpI3T5gooorMAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKAI2+9RQ33qKye4HQeLP+Za/7FfQP/TVaVh1ueLP+Za/7FfQP/TVaVh16OL/AN4n6/qT0YUUUVxlBRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUHjv2zntQrt8qAKivLy30+2kuLqeO2gj4aWZwqA5xy31x0B+8KwdU8UzySanY+HbJ9f1WwsLnULpLfaYbKGAZllnbd8oXBA6bm2rwWUGDwv8NYfiN4q8P3uu3g8SW8iy6laabb3Mgiv7NZAPsO2xhupob1A8M8sMYlcW8+5mgMO5vbw2Wua9pXdo/j9367E37GTqHjTxF4h8m38I+H7uZbw+XaajdQlUuJD54VIMgLJI5t5RGud0jRsixsw21NoHwhXxBZnVNevLHxfc3UlylsbPxHFA17CkSzRpY7lLi7eTbGLTyZpNt2gmhtCYpH9J8I2sel6KdVv57zwnFd6nPearNc6uNTsbm6Z7Yy2kiSFTc2V4stplmnjtdk9s9xf3TGGOHVhs9E8aX3ibSdcivbvR1WPTLmztbyCWXSbKC3E63lpNGIZJdOm8mGWN5haabavewyCGZFPl+9GpTwq5aEOXz3f3/wCX6oXL3ILLRr66isNM0+Kfw3Y3EsU01tqZtb60IV5Cvh67cxSNJeW8aqtvbzQahcDEDpDaETRCxDqVxDeW0OpDWNc/t/VJ4ri61XToJozOIJPL0nUI/NuvtE6BxJD9rmvbyCSzjjWwO9ftFebQNC1jQ7rUG0C3uIrvw5Z63qsd3p95Hd6hpUUMhS5jto76LESPZBjCslnaQ/uo4lvybGQWGsbyPxYPD6T6PfeKPGGLBV0vTbkw67oMUeyO2WSIWbnaiQeXNapY6fPFbyGWeTa4i5nJT0f9f1/XloOZtXttXjn+2eJvDYtrSzuri++122mNokeyDOjXCboJ4IHJJQSXmm2sj7ntYAEgWWjNoVh4VuNE1bWIzo3hjR9UuZ4db1HxA0sOmG5lkEM1hbQwQefaXPlTTxjT7KJspHJHfwmORbabSdL8NahDpeg6dpM2s6Nqthaz6LHdWE93FqGnwOrTWs8saOn22OOe8Vzpdg89vJO0jXLEXjtb8agX2rXemWs97Y2+k3Uy6nfy6fokzaJqzLGLw3kguY4mt7yF47fdfX1wZnhuIpknl2PHPN7yjt57abdPu/z2A5288R6Rpvh3UrvSfCQ1rVtIA8MztPappVroF8ySWsdxLcXKzXU1hseOAW+qzRROquvllFaKz1dasdIvtX0Lw5qutZmvdVFxpng/UJbldOghtxdtFqWmPDp0enTR3bxrGkKafcmfzxtYSTSBOh+3Gx1zR9XfVb2xsNNur6OPUF1rzotDiislimayiSI3d7aTWkkd5/xK4LGKOO8i/fIsMb2fP+HtO0/w1cX+m6X4cXSda0L7HZeILXQdJe7g0tmkee+t7yaO8W3n0ydI4YpH1HUJXj8i4UW8KN+4XNFrS+n/AA2r8na+mt/S4JdeFfF3iTXJdG8Q6nfJ4ltPs19d6f4fsprjUdNnur43C63ZQ7bq5tsjNzc28cemH5rePaDIqseG4JtIn8Sa5prDSZJf7Q1a8vvC2qS6jeXENtNazzTrdWspKxmBStxZ3GtE+ZdLKiiQ2yy2dSutD8G+CF0/xhaTyfDrR5Y18iwP2+6iVZ1OnXdoL57bTrpb1re9k8+2sJGe3SQylmuJpBX8UaXrMC20nju51rSNeXSrPxLPpNw9tpl5bzT3bTXOp2LtJqN3BIHS4muI7W1tR5duzyJFtSGR3lJJPRf1/WvTrrcZV03w3pmi+Eb4WIt9H0A2OnnU10dILkRi5vGjuYZNSjks459PnmzbqH1W5ZY4ZC6eZGzWWNYx/wBnrp+mavotn4Lt9VtTaPJpUBtY4rM7ClrLeCbTYLq0vRZXrJNNe3heJVVJPOEk0nWSeG7HRfG093J5/hrU9F1q6vte1DTBdW+oRQS263EGqzbJLzWDbPbu32mF5rRBJdwRhopEmmqtZaJOj6laau39ladpoi0bxJaeGopHbQIIbQ/aYdRuLNb28vdLKiOERy39vuaF4gsS2waClUd21v8A1t+f3LrqGLH4al0mxn8S2mlzeHm0uJL3+y9yW8bm5v2FtNeajZ2+lwvZSXaWksE0N3KsP2fdHGyb/IrSeGYfES3WpJHovjnSftUVnrfiHVLOKO0Cw+WsiXN8ltaxJfyS3Mlx5yatsmCLC885MLzdJ4Viu/FWrWGpT6jfav4lt9UUzaxoV/D5thdzCCKCxfULRLm5ubeX7YbeCS41S2WX7PJCz2xt1c4mn6Laa9NY38+neH9ftreew8PXml2Fst9FpwdIGkhe8toNVuJ4ZgsFpaXIuo545GeOJEWN1W1K7dnt/Xr89PnpcE1DQ5fF0A8UWupeINXj1OVLo+KLbS47q/sZFcNY2UU0Ed/Kl751zAF8/UYZmSFbefyV+zzMabr2l+LNPtNPvIJtc0WyjGrxqt5DeW3hzTY13Q/upDrdzFCy2qGeJI4fKaYRXBmiaHa7Vm+y+PJoTpWm+Jdf1DWv7KuU1q60ybXL2/FzPapYeVey6w0AjPlCO5byEaGBlkaV3gkG14+k+x+LNV0K7W98UPfD+2IvDt/qAF/dXv2iBkjMer3ckv2iCJbe1t3fTBNe27zoINrCQHNqk9n/AF/T/wCCSc54sa+0/wC2aD4t8YWemP8AZLYa4s7XVlbNZKfKgsoLK5leZI8NdXCbdJ3WszxSRRpaukq6Ec1zo9japqWmDwJ4ouvN1QeH9R8jw5Hdx208osUu/KvdJQbJJYpFljtpXaSNmSdgktrb7lnLeWPhXTNH1K/i07T7CXUYILnVN1jaC9z+/lsrK9utIs5YvOvNRge3kgnaHyzDKZYZokXF0LS4F0dodOhvRoWtWsdxHf6HoMavfWbsk9/JczWkWnxRWGbmO2ngfUJY7R0kjKuBDPbrnul3T/D+vn913RVttG1zS7i81e1SfTruSZYRrXhtv7K0vw+pRRAbi4hh0qylvltr+cxXYuZIZxKsQj2XEUg2v7Jn8UX58SeFbL7JrF7bfb4PEgmltZRYpBvu9Qt7iKC2jS4txfSJOL3VpcyxtDcPcOsUtQSW82oeGYNeszoGp+I7XT5NK8S6pYxJf21tBJaIb+41J9O025lZJ41li+1rqBlLTzsphH2mCGvqVxZ6L4ru9Rmn+1eMrfX4wjyzW03iK+v7W4uAmnojTazcwSRzwWUcEoSOKeJZI53fMDtm73v1/r8P68wM3wj4btr7RWbwzpl7p2lap588mj+C4JtVu9VtM2oMMiW4eWKBopEW6sJ9XDJJMsmFIiSXQ0OPSfiFqzweKJP+EmvYbqNtU1iOwTVoLB7pY4IbN7qyttQudQjIuXSAtqMUha32A2ssUEjbnxK0+1ufFUME95Hr9lfSvd2MU1r5epa9qFuJElgEWs3eo3towk06O1AFqBdyIttINghc4vxPhn1KxF34jls5EudVvtR0q81KWW1srG5tZ3N9O/8AasYedzcXiG6sLPT447loU8ra0MsA053Plu/i69n/AF/WjQGVdXN/4rttWW51P+17gbn1WHS9SXUNV1C6u4lja0s71LnVpY48PYWaXCRRR3KHyLmRXRFbD1/Q5fAOtPrEJm0xLeW5vYrvSLyPwxdzLDNqcd1BaXFxpNsWmia4ghlhiBY/cETLsSz9M+JHjSLXLeHxG003h/TbjT3VbTxJrUmvkWCySTG8s7TXL20N4t2YbP8AdG0lj2wxSI63MbQpV8J/D++sNauLHRkvlONPtrPSbVLmPTb63ivYYbC9kv7YaPbzzu6XdxZ3LzSC5BWPdFMqF3TxCpxvU+a2/L/Py0VmLlPm2O+Gg63Jqfgi5sbiGWzjnOgWovbuSKFIZWlad3gRWkhWEySyRlUzKTGAgdU9V8HeMLHxnpa3Vq2yZTtntSwLxNj17g4JB745xyB1OueA/Ek+m6zba5Y61ceH9Ntbh5b3WFvJ1k+zalGL+5mgg1uU+XLexSfbXtkmMSW9tOkatOpHlMnw313w3fadrqrfeHIntbqNLzWNPW2geCyu0tZJbyONQtqNu2N4Va5uXuYx8pa5gZuvFU8NmcO01s97+tt/R6rrcxtKJ6VRWT4f8Qx66lxFJbzadqlnK1vfaZdr5c9pKpKujK2DkMCAeM4OQpBWtavhqlOdKfJNGoUUUVkAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUARt96ihvvUVk9wOg8Wf8y1/2K+gf+mq0rDrc8Wf8y1/2K+gf+mq0rDr0cX/vE/X9SejCiiiuMoKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKXaWIAVjnoVGf061iSa5c61qV3ovhW0XXNbgtJ7ub/SIorWxiiB8yW6mkdEiRSOdzKRgA43KT0UqFWvK0V8+gXLmta5YeHbD7bqNwltbbtgY5YljnAUAHccAnAz09ATXI6Xdaj8SN11Le2Phjw1E9tmHWBMDqEc1w8CTO8ajyrRZYxHPOJVEQkIVpJDHG2p4Z8Hf2bqGs33i/WWj1eTQDqVvfRWhuNQ0ue13Nc2kcUE42XsL+TM0QaN44yJrh4VE9tN6poHhmw0zR/E1lqllpF14FudThuWtdWRrKwtWlaO3e8hnSKWJba7PkpDfpFG/F0Le3tInmnt/pqeHw2Chd+9PTXp6L8r/qRZyMj4f/AAr03RfB1rZ6jpcXhm6v74QWeq6pZTW+u6Nc+VLLbWhaK33texOJbiOOHZLeJ9kEklqjQW079MsxfaH4ci8RWWma/oxihudQ0PQ7bTJDpk8Uk23VYjFIlrNZoDco24RWEEl8DL9qnS73P8B+H4Ph/oMTaNaWd5qdwFtbiLTdIivLjxfo21ZbZlsUuIpS8kU1lNJZxPGRDDLLfed9ohjbpo9Ns9N8Z2TafqukaZq09tDcabfxpbJFDDbFXfZNLHCLu1kjtvtS3slnJaWa2ojs0kfykSqlX35Xe/X+tl19F8jSMSh8UptR0ezt5bnXLPV73WLkX8ur3c9lb2+vQiZmFpdNcxfZpk2PP9jvrtFjYaRi1tIwQ862+218Q3t3F4i0Xw9Pb67BeedfW2ifuJt0pSG4uLmTzI54ipK3d/C+ouZJWjtUMV4slW18M6Z4b+HN1YHTZtE0W1vl1y/B1eXS9T8H7lWa3HkujhJI7poYEv5kN9cQ+ettbyxCM1pXizarbq9is9xPdyR3iQ6TdR2cJhaULDrNuZYLwx3jx3Wnu4kM2rNLeR+WYkCLc5acvLC3z6/5Csx99JdR2/i1p4IfCs9prVnqGJpTMvh3VmkgFhqkzXKrtiuFfSWnuboPd7k1MLbjzZ2hpXejaTqS64P7B1N/Duj6xeeIPE+galBqN3fWV0lukrX0EFwVjZWt1Vlm1iQmdln8q0Q74Jd63kj1y4s9QbVodG1vQ4bu98P63qOvyWlhLY3iRh7m4kCKtnFML6JmiZ59VkkvbdpLmJVWZudsNOtbHTvD0cOnzeGr3w7Ndf2Jca1pwtYvB80gSSJ76C81G4hsIpLgmUT3Sz3E+51hjiMNoXhONr6p/wBf18387H6pot/fQ61b+IIJfG3iHxDDZal4jtdEg1HULfxFaRvcR2l/Z2kNxDPcKsiSbpHltLJU8jyYJc20jdJqyw6lp+gz3Xk6pFJLLoema013JPp13ZTBmOlJ5EBtbSV9OtpbM/2LFcyNcqqebEW2z83q/hu08W6La+Fp55tEjN/pt1pfhmfTBeXmg3jQpHFbz2VxfLLdKzC2svtmpqsKb4EhjFvchoNTUNY03Q4dW1HWbjTW8K65LcWuua4Nahljt1unYbVubZBe6jbXM9rPe/Z7BLOFZZbmKRwI51t0/e1T1/4b/hrd1bsBz1tqF9qeia4NH1Ge01q/l1KaWC8srXS2aa3hm36frNqt1tYFftNyLnVrqZpF0+5UwyiR/tFvQbxfFGg6IWms9Qg0O7t9G8M3zX15erp+qQ2MuywnvFgWNt0UbbF0a286aVLRvtCS+TcSdBY+ANW8P3WqeGYdAvba08L2seo6zHot3o9kdIiuJMw3RSW5eGwv7aC0kaO7Zr24ljuB5txbsUMNBfEN1488vXbu4HiOTXbTVbWCXS01SZ/EelAQi5sVZxDdXE6XDWkot7SKzsii3qiSNJLhYalLmV4r5/8ADd1qvmGxja1o8UamC0jl0U30NjpzeGAz2N9pcMtvsSw1AwRXWtX1kZfs9qyy/ZFZpLbyF8uSJoNOaTTvD2iS+Hy0OhaFb395b6bLJaQ29rpOpwwfYruxuokuLewkuZFS6kRr/ULwtaxLG8chucz5umta+A4vFOnRv4TksrC/CabY39rZWmm6wFt5hHpuq2KzqIGSQPMs2sXZuUa2AjhaY3C1t/Cm58X3ml+GfHuiXtn4Y8H2trZ6dZeLNc1Sb91FBa3EK2Ut3dWbWlvJAz+WtxDp3lv5k0IujPI4uInzcrlfRdej7f8AB9PUZzv+lz+FQSLPTtB0y1IGBD4iTTUv9U5/58NAktJLpTni4eKSI/dFt/odnXtIs3htptauLeSKzlntNOv/ABPeDUrPSJrt/s+mTWouktdPbS7j7PPN/o1jctHb2pZWQmP7N0NjqV3a3uha7beJbfwxLaahZQ6TqeqXbfYvDl21g3n6f/aN3B9iFrc2Kyyp/Z1m8HnT24BWCK185+kznw9q2lNpTw+CbmaW0tLXTrpbnR9RQfZEe98N3M7QXOqXrR2jWgtpY0SPzbqPymDxWVvU89lp6/5/1/TDC8UWovtW8PR6vD/wjdrDdf2e9v41h+1W+mKyFLcRf2vBb2djaXiaddyq1tYSSW/2YRqmJFtEd4g0e3Xw5oer+LtR1rXBYeZZXF/410+efUfDmqXixyWtlImtX0On3nySEyyRWwAhgWRhD5izRDf2D4X1hLC5/wBHu9RtbHQV0W/MmjTXFjcJB52kXFrbfbtc8zFvAkMk0vkkNsX/AEcJFd7Xg++1qy1vX9RsF1/SfGN3p/2O51bX4BZSmJ5pmistREa6lqkEr+bBFbE3FvLdRJCkbiWCFpm5OMU49NvP+v6vqBxOuaffav4aNrcWU2oaLZadZ6eYri81GfTvKt7UNZ2Oq6m1zpumpCrXEMkM1mjq5dH3yGQPdbuh2v8Ab62WkeFYd2pa4V13wtDpsH9k23iLyfOmhsZ/7Ph0238+zX7PPNK15L5E8AWAMZJYhYj8O2lnNocdzoemeHpriJtKsbbXEFrqFzBPGst/4fuSY7vUppobJraxtbhILZykzBCfNtkuMa8t9a0vxhHcy6UYLjxjdPDqVj4kS2n1K6tRHaz/AGGebVmvLhp7Ka4tI0t49PEl3FFDMglYxbNVJVI8qe2q9f6/y80FTwpp9v8A25Z3+gXsN5c6jFLop1Xwjp1nDqlrdNNcxLcQ2uiWUzWzW8KXdwVF4BfwxqVleNJbdbGjyWXi3XxrtstlqHjuC8sJrxdJv7XUdRnvIXtZEktbua71u8uY7dCWYW1tEskMU3mMxiEBW+t7211rxBonia1u9X8MTCO11C68W3NzI0lzOkAmke81x9Pgg1eCyVWtWitGYxSqrBgrOLej32oWsMUJudV1bw7dzf2hp/8AYUmpvo6QQyQTpeW0Nr/YtlaQ2zzIl3NJKXjukDmK3y7UpS15u/8AX9fh5Iw4Vls20b+2p7PTtC1D7DHb3+s6ZK2kSWwEcdlb6f8A2/cytJaIlzNJJdx2Mklo0zbVkglwejh0/wAY6cl/qdlpmtbrHS7e+1Lw34hfVZVjt286KCx1BJI9J06HSY2km/dxrKI/LmI32qzKmd4IjsfDUOoajZa1ZC9j/f69ceFJ7W2vLe2a8jSO/jj8PwyY0+K0tSbq1a9RTJIxHkytbTT9toHwmvbPw/Z6jJpV7p/i3wzqtrpGj61a6NpiRadqVwsP9nC8/tET38tpEupWaQvuMkcUSB7W3ltg0k1JxT1d2tvP/gf8BhynM+D/AArcX2oWPhrwVdX3iLwbr32vSbbTdM1KU2kiw2+Htb2PTxptnc6lIkM0rySX7q1tGeZ/9GefI8G3EXhXxV4g8NrZQF5L/wCzweG9I8y11CZtMExjCaforS3BurS6MjrLe6gouEVCZMoLm30NO8B6L4z1K/utU0aaCw0KGwXS7Gzg1HxNqN3Bua6OjWd7ewyWTtbxmCeNbe1dJ7Y4NwYGubiu6m0268X3WpQ2Gs+KL/wn/ZWn+T4rnig0HTtJ0nzLh9F1ZLezjguQLOYXyeS8Qgl2R3TSW8KxlJlUSUovb7td99n/AF12LMm8E6L4j8M6Ous3Wva4nhv/AEbxVHd+HzYWmoak6MLQa9bi7tplMc9t9gkvBNeQNF5141wpimRZOXtdJjvvDw8ZsPBms28N3qljpel6ldXnjOy1HXEWV7iyiS5uEa1+3SQpdwFUmnkaQb7jE0UEurf+CbX42eKNc8JWPhrwlaz6dFrF1aeEtL1ddQfT5LISaXc2UEUkUMOmrdyXMVzDMImxPCs0qy4RIb3i7xhpHjfxVF4h1H4ueHdItJpbLSdL8RRWdpbajc2cflX9hqFxHcs3mxRalmCeO2it1MiyPK0cdu0ceEX711u9/T8b/wBWHdnn9r4H0i2+H+iHRLXwNrWp6jf2VvaaXqXgOa3v7qK2Zk07Ud01x5n2bVJINPt5ZMLb7r0glZBMXt69Z6L4L+Gvj2ewkgvtF8J6LYeEp77wnOdMvHa5WP7XNd6ZKxjRruOWOymlk86aO4sRIICYysL7j4g+Ipvh7qPivxFb6vp15ef2xCPCi+HDPp9zpd1NCniJdkdx9rt5IbzzJjJcXUSny41TYHZY5hrEOrR6Vpeo67Z6x4i0if7HJHq8UVpqC+I9Vu3j1SCwu1j8uP7HdNa3fnQwTyISqrKI22nsXPb3ndX/AF20XbTtqI8c+Jtq/gL4iS6rH9vgka8urXxBodwCs+k2du0FvaPPAiNGqtFLBMskD+QTMYYEiSJQ/Vn72O/TGMHP41h/FzQtc1eO8t9X0W10rTrLTtXhn1pghsDPb3TuP7Pty2632y2cOlrIzufs5slZI98MbN8D31xe+GbWO+ikt9StN9ldwT7vNhmiJR1kBAZXJAbaQCuehqc0oqWHhW7af5fd167XMftG7RRRXy5YUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUARt96ihvvUVk9wOg8Wf8y1/2K+gf+mq0rDrc8Wf8y1/2K+gf+mq0rDr0cX/vE/X9SejCiiiuMoKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiilH3sd+mMZOfwoASq2pala6TYz3l5OtvbQjdJK2MAc9MkfMew59OpFZGseMIrPVI9I06D+1tck5FksohSOMKXaWWVwEijVFZ2Zmwqjcdq5YSeEfh/Hq3i+y/wCE8vd+oXG7S5NH1HQ7hYtKuJYBdCN4i6zB5IX8uALE0tzKs8cLRNHDeV7OGy6U4+1raL8fku3m/wASbnNWeraj8U9Wn0zTru48O6HiV4tYNuA1y0HlNcorSSxhdkUvmH5vkGx5mhhMk0XdfDbwfb6Xq+t6C3h7Sdb8M3c7xajaNDNPDaXCrGYniu0SWQWl7DJts7gwzXDF5YLcq0rXUnRQQv4b8eXlheeHLWCPTdUt9TvbXwrp9pbm0uI5pWttVhCyCHZZKJbCaOWZrS2m/eyNdNJIDYn0i5bxldalevpmjahZR2sb6dpdiYm1m68iSVJXt7yT7dFqaStMkMrMl5fCVTC9uvm3K+9zxhT9lTVo2+f9P+rIcYljR9P1Pw3r3iS28UabfanbSWtrY6stto9m+nXq2rFI7tYxJ9jWSyhlFrLG6mxtpYFmlleVYY5bV1omp/Dm4s5/D+pxXSTS/atPhgWJHu7IRskWmW98W+1yM8LXFpY3nlyXEyxSC2W1t1kkuLlxrw03UPCc0V5pt7qUss9l4fvLdYGa9ZT/AMS2wWRbQ2jtHmJQloVsrO6tvtExnkkjiOFY+HfD2ifC8iIw2XheW/k1qO+03VZ0l0PZKfLW3kiimgzHeQtbLqcx+03MUFzDbRTAQK/JzO95afr/AJWLNfxR4Zs213TdW02HR08O2JntbiVNOtYF067jZpmgNv5kJSC4iW9t5tLaYLbQv9qvWWSSVha0m+vvE3hG4utL1mW1t5NYm1TW9E07UdLuA0yxoby6F/EsaSXMMU39oC8lljtreZ7G3jjLIoiG8WaZ4G1rWo9Ym03Q/D9pD/ZuqabcW8tva6f9om8+0Y2IVZEtbyBjNLptqru32C2W7nHmXTieTTPEekePPDWl2WtaxqEq3TywPrGoHU7zVPImK3No7uzQXV7YvNaXFvtjW0tpje+Y7mCaU5pz0i19/Vf1212fq7mX4d8QnRvEk95a6hqRgi8PQ69Db/v7eDV7KQBL3WRcLaLLZ3UUcVwk1/NG9xdrMwtxAZbdV07qZLKOz1W21iOTTdJjN1Yayt1JDcadc6kzrFc3LSXVxJZaZdpqAlkaSZNSkbdKgSO3jENOZdHm8K2eteF7i7utC1PU7jXo7/S9PuLuSx1ON4Zf7QRtVuUMscEsSJd6hOFh2SxxxrbtcXbLtL4glabUraQT/wBi3cjJbaZKUulsBIkkdxqsC3UcyNpU8XkiXV545SzPfssCG9bbMt+aPTo9/wCv67IDLhnl0GxtbiGGz0G20Tzlb7bDLYXHhvUL6aSJ2RFki/szR55L0hWmX+0GhG5Y8W0M9vp+JfDF/qXh+S4vPD+fEulWsU1/pN1pqRQ3kASWfz/M1FLm2sYFNxd3AvdRDXlzMb+I+QyyR1k+IL260vxBBpba7YyvqBbU9NfydOl+3aMWuDqMEH2yLZPHHBNfSLquouhuMSiJCtzcSSM8O6gG8TaPe6HHDqw8UyXWt+FNUi0a3nGp3dsSslhHvgM5uYJZd41nUU3K0MjGLZJOZzllL3k9f6dvz/F9LgWtJn0/Xrbwxb2WnWerxeLLvydMu7K3Yr4qgtoVW8e4tntWXUL+Gaa4Y3Opi2hSW3t7hERHuVNe8hvtW8L6FrHhnxjqglvZbY6R4m1zUNRF7ebzLO+kXuoQQtNdM0cO1LPTmjjjn86KTdOkD3GvNodr8RPB9v4rsbS8t9F8W21jBdRRCbxDC11HKJrZmEkq3Ws3dmstw0sLI1qsSFSJX03yZciXxBAuoaz4zfUdM8S6vAlj/wAJfqdnqVkhvLMGNob6fUYoZorJo5IVt00+wUXhkgWVJrkpFIYjZu8dGtGvPz/4ffXZ6BFNY29nc6Fqywf2HZ6F9rn06C6sYo9T8H6hcSyziSewup4tL0u0knYtAl1JPcuvlJHKT5b2tvxhq+gWMmteIfEHhuIaDqcVva3d1qHi68W1t2guLtrG9dpluJ/EC3G3zYJZLJoEihiiAdY5tmto+kReIbqw0m2TR/E9uumWQ0vTv+EUih/tLT5pDnULXSDYhLN1Y3/l3N7O9vHNNIWjhg1BGqh4a1q1GpaZq0OuazNp15pcJ07xp4s8RT6fb3VvPcrNc6ZqOtllfz4o7aJootOXEMz3UcizrHcvJPNZ+9r+H+W719RkN1ZR6D4y1iXTvA/hKbxLDFGb3RdH8IPNrNlbCSf7DfaXptnJFNYM0bxzTyXV6k8TvHxEVtlmi8ePJ408P+NNWurxvH0zWt/qOoafYXdpdG/so1t/+Jqbzc+m2d/Z2rW9nIltay3Gd7rlbiKeLQF9p9rD4bs9csrLSPCurXU0Xhi41DQytpZ3TXccuo6NF4ZiknubvfdxeXKbiZY4ZgptxGUtzNmMt+y3l49jrN7HDqtxfT6lJZL4g1rwnr8N081ywuCtvpGnWi3UPnS4YPLCyO4RJVMD6qT/AK/r8PuYGrdWeo6Fa/2trcFlIlxa6hoz6+t6tnaeLdMaJGksdS1/VFWae4mCW4gntYFiaMSrA8cZdrR14o0G1FvL/wATm01O0v7CWL/kVU+IVtaxRxXcMy/vdSk1o6hKE2SbRKqTAY8+YPV1jQ7K+updf0XWIdA0u1kEd9f6TrSldCFzfTRQ38fiq6hubqaC8uBNlLOJI42nm+0mN1n82vdX/wDYOj+ILXX9Tsfh7faqI7jXfJX+w1u3iaA2esWx1B/7Zvbi0cNclAkKXMsMgRzKJDeZ9LL+v+D/AF2aCpfaDd2+pa1YTatPf6hqkt5cQaRp+bCXxNpgZIZll07TnfUb+5ST7egTUL2GQbGaVuL0RZ/gXRXm1LxH4Z0mWHRba80aSOfw7Dp9zNNftDuWKC80/QJGvLBYFupoJXv7q4kl8xC8bupEPX+MLG20ePWdA8T+Gzp/h26tY9Q1jwjZ2NxpOlC0a9aKy16DTNODXbJDBbzSXcN7NC2420ZYMlsq9JpPh+4+GOmxxSeEtb1TWbRYD4k0ue+g8Kaf4bilnaK21uGfS1SJPNiWYzyW6XUkUQlikuY0hkWanW9z8v8AgdL9/Xu1ZWZ5bZ293rEl/F52qJeaxDdXLeHZoDpN/rtulzJbXdtNpOmtJf6lNEyT7HvtQidy0rMTHHdSHcv9H1Cx1TUdG02+1o3/AImullv5NHsUN1d2dvdSLbaslnYwz6hBcWF9O0kjX90k8rWflyNJK8kVtoaRpvju88L3nh3Sbyx8PQz2ttpt3qPhXT7LSvDtzqUtzBHo+qRxPDJdSedI8+6+tLeGN5oLcROkdsZx1XjLxNqXg3X9e8P+FbTQPDWuR61pl3Hoa3k+r6kniBIQftE7HyXittSD2No960z7ln/fJHLd3HlTKpKU00v+Btr5fJfdoFmcZ428LuPFWp65Ck2u6do+n/2ndeKPDPh+OC+1HTIsFr+21LXL24mea2MjtHNYrMGQ2ifaF3Q+QngmTwkZvB/ibVvHXh688RWWtQ2jww6u/iq/k1S0S4s01dbebdPLDeyLaobW1QPsjspknj8j5etuJH06GfxFd6B4u8R6nH4lu9f8P3PiDUdMttOsp9Pk2ajb3UP2mGwhunkg1KT7RDBI6pM9yrSPHLty4/H2i6p4Osp9b8Z+EdF8FaNH/Ylj4ftL4yX+q+F7uKz+1Rw3Vx5LyRRBTHtSzF0W017cTeeZHY5m4KLf+fp169bfghmhZ2njj4jXegyWba0lrrWvvdw/2jqQ8O6fba5byzDU009rOF9QjjuLeDUYVW5WArumll864mUDB/4RDwj8ZLzU9A0vw/pukWPh+N7z+ybWysbjxNDpGoXkpvrRogJo7SWwuBNcJFHFJcLHLbwp5M0khl6B9N8SeIP7F8M6T4x1jwjoEGvQw3kmqacTNcXWZrrStWkivrdJYvMuLWxjmb5Iry8e6EaoxL3FTxH4el1Lwe/hnRvB8WmeEtOlvL/SNNuYk1Ytq+lRtaXun6fHIrRst0POeJ7iGSbzEvbk2zFkdM4tKXRS6eS216Xa/V6MLkHivVdb+IniPxd/bfxGl0nwhfw28R1r4a6IJ7G61aO6iOj3kaRzXN1IzbGieWMQL51glsJ5DEtR+H4xcapo2o6T8ONTtfCWpT3Wu6pBc6rcR3msyw2pTUdBljG6fVLhLr7TMn24IZRFcwoBBukJ488SeCNJ0M+H9Y+Itjp3hTQbW08H3sOh3scep67oM9pHLa3ZCszXAt2urYgxjZti1BgsiXJtl878UfF7wf4w086bq2g6jd2Wix2OpobueQ6PDq8N2YtUu5Ybi4aWaKXfbk28ym4l82U7YpLqSd+mnTlONlHy7fPpdvf0FdHYSXi+IvAJax0Twve/DPRNY0PRLu+8Ua1btH5lk9q1rdy/Zo7m33SW0qadPOkkpcNGSlvFC8VX/H/i461rlr/wjkN3ZabJqUN9pVxNbwztanU7yBmbety6tDFqsEV6HKuLtlMcJFqksjeU6xpXivxtcTPoxm1WG4iu7PQ4LWJbaaAwqJYnhtp2VbKCzunvYUmYvLHHcLEh5ikrX8O/Dmz8UTWPhmw1yKz1DxjeTQRxw3txbi60y706S/8A7Qlxtub9oZXkgUz/ALuTyjGyxPIzjVRox/eOe3TX5389PzESSSeNV8SanrcniLxDFr2rfZtOvr+Ce1S51CVL+30rV49NiVUht0Y/2eUuJRHNutogN4Mjx9Fq+rDT9emGq+DNKn8VeHbVbi90uxg8vQrGxt4Ba6g0xeP5o5bC9t5FEHmSBVsoZID9mHnZmk+HfDd54i0LRbvUIbTU47pp9Xm0+Dz4/BsIt5YtSghto8xaaLe+gtpE1FkT/j4WTdKkUrSU/GkulWPgfxHodn4su9bsIPtCN4mjuVnt9R1+Wxs9OhC6jdMYDFcWl3LLNblhLbtbz7ZfKSNjScakuW3Ts1o3b7v62A534oeLY7HwDqGkziWHWLTQI7G5ttZsWujPLIJF1O7khL+fZJPcJpVxDNcRxO8+x9i+bcyHyj4AX4k0fVbDysGGdJhJkZbzF24/Dy/1r2X4/apdeNdQ8Qiz8N6fZ2OpeJWTWPE2rK8lrol3b2P9mpY3kkcZw8YmjmSYEwrNcMiPIsTyHxX4L+Xp+t+INKktbmwv41hWWzu1YyJJGSk275BtIlYYQgFQwUliCa9GUISyqqre8mn+X9f5GEviPWaKKK+ENQooooAKKKKACiiigAooooAKKKKACiiigAooooAjb71FDfeorJ7gdB4s/wCZa/7FfQP/AE1WlYdbniz/AJlr/sV9A/8ATVaVh16OL/3ifr+pPRhRRRXGUFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFNmmjt4ZJppFiijDM7twqrzznt0HX1ribz4o2d5qiaXoS/b7lt7S3hilktraNFdpJn8tDIyRohkfYjfu1Yg+nXh8JVxX8JX89kHMdZqur2eg2bXWo3UVlAvBaZgpLfN8qjqxO3OFBOAR1xnitW1LxZ4yvrDSNAsn0ODVLyLTbK81L9w+ozywCWGKJWG4Bw8PzgYUXFu0jxrICex8L+Ak05LTxZ4kttQ1/+yrSe7upPtM6vY3VvFFIZLaKwbdJD5dzBMJFaKB/Ls5DfRfaHt07LSfhzpHg/S9V8LWFtZxWmsWsL6rAtzczWN7pTG6gtdUjkZNx8p/Pkmv544LOEeVPFaXBNuW+goYfD4TWS5pf+S/L031Is5bnI/wDCv4vANxpyaZDLpWmadq8ctn4hlme8srOeRIjpusrdywRKtsbtWgmlaGO3nghjMK3Etu0qdh4shj1Dxxoeh6/4M1DUNTv9IGmanHZq4tbiGS4humK26TPqEzW0rQ3zxMUv5zdPJP5CKI2f4mbUvD+i6fBDbaZrmurFb2muWdppcWl3euloQlzDdG6lF2l3dxXFysNw8Ru7nE5t4LdPNe60PBNrYXOheGvD9p4h07xTpVhGo0rVP7LhkkngErGe2htLXz5XLxv5l3YxxLcTQyxm7vIBILdOiVRyXtW+/r6/L/htmXYmWz0vUreyuJ9Rs1j0+1hjk+3QWVzZ+ILHy0WaLTmcSxN9nZpbl4VkXTrGe3t0aF0SS7puk6lN4+sr6xh8bXel2k7Sap4Z1rQdQkWWK1kmEcrLCwE7yRXcs9t5rQLfai90qCRIzcVR8OeO7O6vE06K4u7jRtat5EDWOt25j0m50+GIzwWsrw28cj28UrXsMnnRafbyXLPbxSPboJTUtJ1LTdA1rUIdaOg317cxDUdW0rUL2302wmmQW9rrVnLcMhSGaRrSKa8kM890jaiYSEikebn5eV2lo38/619f8rLuj2Okw6De+FNX08Wmm63qT6Lq2l2pSZLDWZlEg0y0MSm3fEst2bWEzmGykf7Rcs00kcMc+m634rj8Zalr+qvN/Z1jDeT3VxbS3qWur2fkiRdWsrk243SxJ5tvcX8McapaywR2abpbdC7xRp6XeuR3N/pOp6PqK+Hh4f1S0+eKy1tJ4jLHplnFHPE9qsIjgaCwXyru5W5SOdY1ae4qxZ6hqPjrVdTtVWztdfk1KPVfDXie106z1CbWZUUmOTe0rx6nfW4llt2SEx2NiGmk8xRDbqkaP3t77/1/w/37IsR6LN4EtdF0LTIdSGnwStNprWsGr6HFb2rOC9rOqzy31rHczG6EJKvNeXiQoE8m0hSaja6oNV+F3iCW8hmtfBVrHY6dPNfWlvE+kfZZBAI9WgunkZhZzxCa2061lkkkUqLkO93vlTweug6FYrp0djpth4RWSPU7cG+S1ttGvytuZLcXEpaRmCXFq513fKoilSKzETzwhp9O1C28K6pZu8lm2p2umXur381jFNJNe6bteOTVbfUksw0Culsq3F9jz7wXFw0SEJpyvDb3d3/XXz/D5DHaL4gvvDXijzdWuP7I0i3MreJpmVb64s7+Ke4nj1ZURZEmkkeLU5BZW5uLXT54pLh1LwyAWtW+H80M2nW66XqWpRRy3mlabZtHYzWd9eyLI82mXUUdqYp7mIWdmqSc2FmbRUbebArc1dJ8IWviFDrGmXutQ+IrPTZtQg1/S73UdHsJNHku7iSzMyzzItjo8QiVWt4iblvKeSFfLhE07rOTQNftY/DviDw1Zy22sfaBJaa3LJpN1ptvDEt4LDVJCZn0axT7LcT2ltblhLFDDloxHO85Jrnultv/AFf/AC007sDpfD8OoXWkwaA8vjG90fViZLPULyRZL+W/VyGilk8uN7jWIE8kRtJKLS1MDs2X0hpH5Dxla2Edx4hn8e6haS2mp2ltp+uWutXDabDqFzayKx1H7TDd7tTnge5uFfTLZljhNuYA+63s3nworqz8Ga5qq+INL0258Q6bDE+vsuoDQZ7/AEaOWH+zdQmEUG/Shb+XYBbC2IupXaIvE3lKJezkv7jwzBpWn+JUmuPFPh+xm1YJNBe6XNdaIHmhju7Z7RSugW0dqIpJYoY0ubhoTbvFkj7RLXJK619Ovp+G9uj72CpqF5qvgvxB4l8X+JzPZeMbLT5n8TWs15FZ33iG0gig8iaTVbOTy9NbdLYIljaBpXaS2E7yxzCZdHRb5YNc0LQtL02DRvFV5HPrXgXXNFS3FxfW80U/z6dos0/2XTLbypD5n2mRXuUg5Q3X7y31tWtf+Ec0u0l0qW+8M6W32nUdC1Lw7GZbXSnDXF08+nW8tysf2ESusUuoXMMUbJdOistper9k4fxteeH9a0Vru5/4R/RPh42s3DarqcN5Fr+labryQwpaXiYlFzrFzNbozyKVEJF3G08ckkF0ZIj++tdabfd5de1te3YCTUr5dJ0PVfEWpNBZfC7XdYuWtdaa+t/7L0vU0hfT5L2FY5Lm+11pUim3rMkMVwDJJNGFmdody80/UJLWS38S/u/FViLaLXy6rPe6DfzRtcy6nBPBaSWOgo800Mkl0vmGWCJ5wY7y3kVpNDk13w5418ceIdag1RPGVvYwr4ykt5rSK/OmxQzSR39xfWySxWEU6iKNrG0DXipax3EckjR5mu6jcaBpK2kOlWX9i6vZXP8AaOg3mnXckOmNYy3cV3dWOhWV3GI9Tu2lUmJhBJCzvbTLNbgW1rDMpO/I/vX9X0699Ha+7Of8J3V7ofkw67cHVdev/sWn6pqd7cXUWj+LrVPOjiubV5JlvPEE6C83SQLi2ngX7PHH/wAejtJ4c8P3Oof8I14UvbVvGU0emWD6Hqeo6fDqEuv+H0LRW5i0hIpbfTfKW7aSC91FwxlJSVlimuEh6P8AsnwJcfEay0r+2vGuhau1pIvg5tJSxl8QX0nkXdle28WI5G0u1RYy0cE32JIJprslYhbgW+I3h3w3r2iaVYX4h8V+Ldchj8QW/hPTluJLPR/GEMMJWx1CDfKzNdwxOsz38m5fseoS74zPKY0pJu1v6/rfW2/ZBck8MWPiyTxWLvQdQ8Q674hsIkXwtf3WpJq2srPN5j3unX1zqcgsLC+SGARywW0BuIlmRiZ44p/N2Y/CemeAbC2nju/9KXS5tQ8M6f4SjvrfV9f8meRLvw9c3kbf2jN9hj+x28eRbmPCvNbyrZuiOv8AxJdeI/EB8D+FdLm0HTdQ1m4GgaX4bcquia1bxSRTWl7eqsKadC0cM0sttYtLPIJbp45zFMon5iOy0rSdTivD4ol0PVviRo1r4x8N+H/DenyTXcN5HasPKvrq3in1N1eORt91BJG0xbU2IjLnzJXNJ2vby/q/m/vA2dC+J1j4fn0+D4V+G4PDk1rLN4w0yyh0hdT1e9stQjU3FjPYaTK+yERz20sT3U1qreRYQlD5DXC3NG0OTwZdQeL5dHh8Q6Z4F8JnW/DeneMdSS8n1LTkSIeZA9u0tpaXNqbGNhNaRyCSO9tRMY5ZGmrZjHiTUrDRrbwFYQ+CPDnnX+ueEdHmt4G1KDUohKt7pgcyfZLKaYT3gSCZLsxj7W7CH7OsMfHahfeCvBuuwahYX2r/ABe1mHU7LxzoVv5B1K8S3vG3X8X2KNVSzIW5W+Rilrvllts7zbVCabaXz6v59vvdtX0Ajvta8Sz2smmaZbf2n4X0f7PoOpW2mg6dp8/hG6hKxfadQuI3ku7SGUzQRXttACtvbXs5dPtQYW/tQ8L+IrX4cFvB2g+MNZtIPCfifUl1s/bbvWPs63tjrqI1uryyRl2ZJS0ckt3crGZMwxT1m+OvHFr4d0eVtcu4rbwzZRu1j4R0aIXup6j4V1N45J4xeJIbaG2UxuhEUS+StlDCl0qyxzyeY6p8YtVjg8Q+HPDHh3TNAGsW+oeFvEGr6pmefVIxDLLb395NFi3S7jheczyLPI8jSSs0bCONB2UqE6ivy23/AM7+fok+muguY9YvLVdN167Ov6zq3jL4makIbxLC6TMGn+KtMdPsx+zwRpHDDfR2wMc0qRObO2lPnATOY2a98R/HnhHULnx/4attDtNEudD1DxJ4W0fUIJbvdp121ve6m1zKs0RhdZoreQRqsw33/lq7RRFofnax+I2tab4BeC28RpaaJq/k+IJ7O3tLTQ7We9tJIWnhtzDAJEkAhtERodimTzmLk7lNaOwt7fxAu9nu7m61eeG7vNS0yWd78Pbm7kRrLi6nVJGhJaeSQqyxSK3zPjs+p8l5T1Wulnr6bW7LrZPqRzHqnjiSTTrXUNE1a+t/H+haPdQ+G5rOyknsbC2tT5As7XyLQ/arya0nk3bJriVVQlVJnmkaLgr/AOLPjGHw3DpsGt6homkWSxaj9h8M6ZDazQSQyNa6hcWUccfmWEZRZWZy9uryPdfu8TOqcr4f1KWCx0+/0y5t45rO00lpLqaRJhaM5a0lkeQZhtPk2IUeOVmQQuyb0dlv3moWV1ozDU0042klhqsKajHMY1ndJI4pJlZv+QldMIoZlfESswzkOv7rojT9nJQqJNdvNLVW2+fbTcm7Zh/aNH0/R9St7CbT7ZP7P1u1ZbBmtkbEyNFE97JzeIF2bFjAYgorfIz13dl4dttU8STaXM80EZ1J9MGm6fBHHfR2t5ZIAILSTMVhDNcPFGJHUOftCrK8bK5fT0H+zG8dXtsYdYhvZNZiEs8TxJq97HNYwRxwuNweCCaZk+dhGsby26jY2TB6H8P/AIX+JF0nTNE0Sx8P+CNR1Cyt9GdruI3M58Q6YpurYSwwbRC8m2e5WZjcpJFFASnzqj51cUox10du6e+u3ktt7hGJmaV4Ng0Hw3rvizxJet4U1KzsjryjS9bm87V5bKaO11PTZ7+RBcRxmWO1iREmYebdeYjXAVRH1U3iD4e+G9JTwzZaN4f0rw1rEMcLXniFItLs9d0HUbsR2d41v5kV1Pc2MsfE0hGbe2uJzMj3UUg2bDxN4M0/T5tX8H6vbz3fiDT49S0Lxp4p1lYIfC2tShpruKa5z5FvNKzJM9jbIzTO9ws6pbFAmfafFjw3oap4s+BWhQXmqX0zXWlzalb3E+qahqP2eeXVNJuhCr31+qpNZ3ILsYUnOXuwsUMR8tzqVLuza6dF0/q789NjUzo/E1t4M0PVPCvwz8QzeKNch1mJ5NQ8K6LZNZWutSwwQ6XeWVzBDBZWVtdH/R7mOVpWyJYFWUSSXB0bHUJ/AVj4E03W7HxANU8Sa1NZ3Eej6xYXKzJY38sdhYwrdCCOG503Uri1Cw2kS2bxxyyfvYtyx19J8WaB4V0uXWPHNhqOqataXbalpeiR28NtN/wjsPnBoIbeC8nGlT6bdXF40Lyuk6eULSKVd0kcXn114y0XwT4g8RDUNL0TxL4u1C7h0m48Qa7q09xFp0tlE0qrPqFwsrXq3cL/AGS6hhW1UrA8RSNZUatVTdTRR+ff56LR6/huK67mJq3hvxf4N+G+t3OralqGkaxqs2rxX/mfZrS0ubS006SxuIN1s00axwXoW1jhmQK3nWv2RrbfKa8r8C32mN8YNeXTZ7KXS2jnt7CS0tzaxTQpIixlInJdSYk3YcmT7xcsdzV2fiH4j6drWj+G9J0rQ7vS/DejRX7aha6PeNYDVo57CaSKRrOOZ44JY7VzD9omlnkmUkyC52SwVw2t6kdF8daBdTT2sl3a3s9hcvazoNNSLKkvaQbtyQOsz3IkxHCxuSIokWIhvpY06k6FSnU3lF2t5baK76fj93PI9iooor81NgooooAKKKKACiiigAooooAKKKKACiiigAooooAjb71FDfeorJ7gdB4s/wCZa/7FfQP/AE1WlYdbniz/AJlr/sV9A/8ATVaVh16OL/3ifr+pPRhRRRXGUFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFKPvY79MYyc/hVb+0I5NUttLgS4vtWuifI06wt5Lq5kwpclYolZiNqscgEAe/AuMHUdoICxRXM6l4o1S116PSY9BWzuXt/tiS69q1npltPBv2pNb3EkvlXCMc4aN9rKpZCw+Yecah8etUkmQ2Wm2dvERjy5naZy2TkgqV4xgYI685Ir26GS4ysvdSt6kylY9uxt4Jx7sQPXqO3QdT3rkrj4iWd1qkOkaBD/wAJBrNwSsFtayoElZV3BFckB3cZ2pHvZmwigsy5jsfhvrvxE0+wfXNbmifWZbuy0jStCsrme2lngWYSSGWGKRrmJTAH32aXa8BJHtjKkldYdNtprfSo7Gafw+t1JPp0GueIdDtLC00bVY3m+1WlyrStHaW06NKXs2uJVG+7b+zytxbbeull1Gi/3z5n2Wy+drvrt8mxXZgeH/Aus+ONP17Vr2fTvGEelwpcW2iaHNJPZ3EcqtFbrcbJbdkM8vlBIjcC7Drj7G6udnUWNsfAPgrUtPj06+vPDuk2sOt28javaeVqulv+98mZLuGS3bZLqFtKiSxeb+8s3j0+CW8nlHRvp8erf2bDdafrE+p6t9lg0iWRrC2u/DUuXtljiQx/2hAbXUY0ij2NY2MlxK8e21hx5rLOC81K00C4sIvsEcl1LN4YuNP1W5Zlv4oplvrO0Gl2EbfZFUgz/wBnWoinZ2c6hvREbqda/u293sv633L5RLfxs+meK9bu476+SW1tLbxK95deILSVZdPlnSW1uZmltJZZfsqyW6wm++1XREkJhs4XnDWs/izwzaaXrkU0U82q3Ph3WBqtjp8OmDT7y+uruJmmttt5em9t7q4aKJ1nuDNeSM0b2MIW0ZpNtYptNn0h7SyvNBstO16fT9Ja6s5NPW2v3lvTqemRSwLItvBcINQjt49O+3XBlFrvuFaK3iHPfEn+zbTwlYeIJ7a9s9Nj1KE32opf2Wn6hpmoSyROZJJPstzNbXUb27yPFbvd38kTK97MpgijfCLvNezVun9f11sM1l8O219oM3hfUL+FrHSL2P8A4RbV9KiGlS2TiWSQadHIY7p7O8WWF5WgiWbUro3dp523ypgtSbT7C4XwzqOrIdIjg119Ln02BWnsdG1U5guNKSytLSZZYJ2W7P2GCSMyxKj3dy73lv5VvwvbWuieKpWuNLh0Br6/NjfyafchLbQPEJs1MlpZrYRRtGJIo5wYbG5mubloLGC4lhaWRHzfFGirN4jsNJ1O307UV1NpNH8QW97NAZrmM3Usqwgx6jNcNc21wYZn0+xd5rjMb3Ezz3QVVa8uVu3X8P6/DoUbt0sun+JPEmr6zFqWiXurxwW2tWcOsJeTXd5bBPM1G2vZGt4JLi1+0XEbQxqLSxaza4bb9nt45c5rG68ZaPFc63aQf8JL4ekv7xoLa7Kwa7pUsMkNzLFdXlw0z2VzbKqvqtxIiQpDbQ2qPJuzt2Mn/CU+H5obe5srjxBpdraWNvqiQfarbVrUossVt5enoftFpMLa5tX02zD28AtdRmlknkWN2TTfBr2/jLR9S0TStYXULO5n0+0vHtLSM3DxXe24sZQtosd1fWmyB7XBWwgNqdrGPT5ZZ45pW8/6/T52AbLHceMLHWdFtdQvNH1a0tL3VNF162voba50+ETPHcySvdJDc2NpbXJeC6uJE+235JkJaON41qjwrY3GqafDf6VDpk1jfLJcG28NXEcOmXElrE5siUtlT+zLiO5mxpQP2qaa4t1lkWa7mEEPiDWl1/QdE1/w2t5c6FqWpvqZvbOW61W4028tkiEOp20mqvCZ0he1tY7m6uEihigmjt4ijNcyP0OuJZ654futS07Q/tt1bC7gu7H+3LaO21PTo45mmiindpTFB5N7NdSatdLDcSi8HlOi6gixZfD7r05um1vVvr/WiAl8Uf27PYRaxdRw6f4hglSDVtO1jV7++kuLkhpFgUo9p9p1PcvnWVnbBYId0s8Ui/arZ1Vr6fx3p8Fva69MfEz6xJq+h3yafY30dzcqsYiu4GZ3TU79Y5DaytFLHZWQjkJEKWts8vL+EPFFt4Qn8nRYRZxWnhC2mtZoLWaB9V8PmTfPKl0lqs2nxwvFdSTTmIzXrTtJEkbNaCK/rFrb6eLG90HXLzTvDF9bJfadqdm8/h22sppSfLLoGiTTtBndTlMreXM0W5HuGWOSkoyi7Lpt/wAH/h/LuPfY5m+tbpplm0fSNM0iXTb+LRvCsksx1FvDXimONY30kGaL/T5ZUtrVRc3H7m1VQIZCIE39Te6LBrhv/FuiaDaadeRXI0HXtIsHmvr6G+gDyudPIiMt9r8IM0v9oMVjQOQGmCTzhLqUeLPC48S3Hhq8tL/QfDF/D4t8IzTf2bNLYm3jmezdoSZNMsIvs8X2WIKZLkPLvjWNri5kgsdHvfh/q8h1/Qof+EytdHku/Fek3cVtbDW9AhmeG3mme2MkVjZ28MNsslra+bJcspjkt2jUSybuXu76/wBefZXvtd+pJZsfib4u0H+z4bSMa9PoV19n0l/Dpi1W21exn8sXl/pjOqvqOuR+dP59wI/IQC58yNDKQ9LWNN8KeB9AtLzRbmz8J/DX+0o9WtNQTztQsfDmrqreReLLvY6xcyLE0bQW0rW1sYm81LjYZGva7p9vHcaZqXhua9bw7daZDc6VeaXps+mppl08kzm+2KM6LokyuYp3R4bmZbQsrTIJZ5NHwj4yt/BH2oNp97brNth1HSNFEdpq2ixnc92bKxZ4RpGjylLdzeTCK4C4eXLSwXEGbfL70em/9P7/AOmhjPDOpWfh3WfF9rq9rD4Ku7qS2PjXRtQuBfWkd1czKIr/AFe9jtESWKf7QHNlbTRQ5BR1WKe6a20/Bfw+uLHUNC07w0+peHfG2l2EGgzwapd3r6n4i0fer+YiTSn+xbB0EcjTIvmwTNJBGqywrHcRfD+yXR9DtLvwhFpp8S6dLc2enDTNWt7q3MLy6gum2emxiBo7kmM3LnUp1RonluGmkmWO8tlpS29lpmmyaNouja8kEMt1ZaWLy0um0uxljuvLfT9VvktGkvlkS2gsVtoJbiKYJDahS8MN3JzSd5tQdr7/AC/Ttd3t1vqOJlaX4X8TeFvCOhxaTYXmjaXcedP4F1yaM6la6PcyyG/fTLextYbifU4i9rkX1wpj2wLcQL+7jM1zXNOk8SeNLjwr4b0nxXoXiXVtQ1K2t9cu7BIdZ0bWxbpcETaoU8iCyuQ19eSW9gzMVd5EbZctbpqSr4wvNNj1TSvDWt6RZX92lzYePNQ/s9tR0HWLjUJXubSz05bltiXV1KloyTSLIvnSR3UkkcSiPe0DTfG3jW6hsjfnwR4f8YXe6W81GUazq6eLtLlLM7H5YERn08kKge3MOnAItqZ1QVKfKvaSaur7O9vVa6+XdbK92WE/4Q+JtM0+71TX/EHg3w34mv7iT7H4BsHn1HTfEFqDbzwtcmO7urq5eGC7R7u3MMbCzmZw32vLYUfhvwy2kad4d1CWxtNW8X2uoXEvgvwzaiK00/xJbNBBCkWlJOI7iBZLC5Mkl4z2hez8wPbpK++3Z+Gfh54s1keI3/tjwboupaWIPFvim41l7p4dYC2dzp8C6ndF5VjhAE6XMTR287CyAeXckRveE5NU8XWOn6Voui/8IfaeKFt7FtcvoXNqniLS7i5uJr23tDK11czyyWrMXvhA2LBDN55IgOT5rK97/d+V/wDN28xEqw+NPGF9a/8ACO6do/ws0XXVlj0q2U/arvTfFOlwvbGJGVPLt7d47OSFtizRyW1lIu2GS5KmvpfjDRLi1fRPhfp9xcf2pfprujarqhljjs9biZ/tqXOpssn21ZEQpm3luZJUa9TzIrcxmPyb4h/E631rRbiecTeLG8XRpdX95qWqx6Z4d0XXY444ZvLCjytUgi+z22yKUSptsyVkmMk+zmfFXxy1XxJa3t/A03hnRZruy8RQ2cNwtklm9xlbiNbmREuP3kdvcTb7FNxe6uQfNyc9EcHVqxV1p66LXr1fbp17hzo9C8b+N7Z9Ml1XxB4gmvLHUtKtfHeleGdN0zy7SSdzKb6N7eJp5LeK4tSIZPPlMDvfXcm2T5gvE3/xWu/DV1d2XhGZvDNh4f12a4tV3WQuNNtb5gktrPNGsltb2y3bSv5bLNIdkJKJ5IeuJufsWnapZ297O1x5mvXFvLca7p00wvGuIBcOn9nkC7uG81rUF53kO5LZlOHYJWjs720sdPijjlm1230UrDA6TarcRXmnzeVFst7fEduBMZlSZvMRhGdwzJNv9GnRhFWktP0//ZTv116GV2SQ6e+qafafaLqSDR7kanokF7FeT+Su6RUt0hdMz6gVgtlRFcCKRI4YgQ6lSz7VJdLZSfY5rG5vv7E1a3hjaN3R3njhH2GBGNvFGqQxqs0wDDiN8icESy31q2tX+uQ3lrdTQarb3Ut3FcRyXCwTwJak3OpxsyQLvkkzDGhZGBMRVFEi5LRp/YJstOitbeK70vU9PiWxumsotQkhdYIdksahtRnZWPDKInMpVQpEgPTG7Vl/XW3/AAQLzwtJNqNvLdX0NzN/a+k3UlvFDLP+8c3JFzPIRaqixqxeCKRCjcrhpGCVJ7kali/hiuLCK7u9L1HZdefcs/nh7UQO0qeffp5KSMsce1Cktwu5gFU3pZmTWllSF5Qb7TtU0zy9uLm3miWzja3scmCAR7WaOWY7kIgR92/JwppE/sC/lsWurSFNNnW2vZLly8aWF0ptyt04dArl490VoWXzIYcPGrELUY8tm/L8dX/wP6Qi/qF7cQ6dIRN+9s9J1GK2aSylmeFLW4MVrIluh32nlAzBLicmQM04JICk62n3cL68byO/iWwl1p7d76bVvskDJLYtcFJtShzhmnDSGC3/AHSShwxbdERXt4Vn8WHS4Uh1C9k1ho1sbywf/SFfT0dg2nzSrM2+aGJpJrhwivHFIGJLkdR4V0F7WTStY8WahYrrDaVaXWlfal/tLUb6+spndraEs8Xkzic28UluFJly6h/N8yQROpGMX00++/4qyCKN74M2XhHS28PwTeKreWXUtOt4JdN8F6fHLdRanYMzwtNbxJczTyCQzTC4QLCxtQGWRJFB7uHw3pl3dXOkeLdc8ReJ/GPirTIxe6RhpotK8TW0MYjhm06Dy7WWOURrIn2tRC8em7zI8cm9aGl6lf3mg6r4ou9f8QPfXxg8QaOnhfRGs4dQ1NLRYzb2gurOe4bdFHF++yEmimn/AHeyO4pvxc+Ky+D7DV08P+N7XxNq2txSeIdQhfTUkm0zVLEWX2VYoI5I2swojVmS7M2PsYRkkdnSTyZe1rVbQ3l66W/7d6de9jX4Ym9428QHU/E/iLxHrPgTRdD+IF/FbWUV1dhBF4R1SxikvLW4n1IIyXTSW/8ApDtEu1Vtra3nXbIXHj3xW/ar1n4na5e6na6m1hFrNpoZ/szR4vsuPs2ozzxwyTSA3MskTyH9/aKgLZJQY2nzXxd4q1Lxf4tmvrq7vb66vNZ+2RyXgaa4Ei2sTedG4R1TeY4iy28LIFWNd4i8onlLPZPpcEaPHP50Wmo4jnaRNwlcCORFDqznGQr+c+FyI1XKx+th8HCKVSpq1a3z3/S3prdsxlK+xe1/WtQktdQTUrwTtcrqzXC3Uqs0k7Toz+dudS8pKRON81w4wjBT8prN1ExSSanghHWK5bkxxvGEijh2sPlkRcmQBJDEjZQpFkeSZbSOeO389oGgSMW8sbxy+WsCT3fmqHeIqgBUIQjPAq5ZlUE7zcvIYbHS5c3axItrq4t5El22rnzACYpJYxEwZWZAtqgY5XJUOdnrR5Y+7Fdf+CZlHVLc3Ueo28Fvb3FrF9pvFmhi81diQrCzRskW0IzsSz+RGrNGv7zcoKz3U13Jpfiq3Ty42ktGe+muGcqUeeCaIrglFZltYyGDytKZQSW5aPQmh82z1G3glN20VrrDzWzw+Y+/z1zK8QYSRfIFcSXTyMGi+VCyxl2+KbeTVtdkvp0l1TUr3UFjadvJuEmWKG2eNolWJJCojaYs/kPEymEhXOHohP4W9P8Ah9PvX4gepeGtW/t3w/p9/uid57dJJBAwKh9o3KCCcDcSMEZGOa06x/Bsf/FL6bIWkZriH7WxlZmw8uZHALEthWbb8xLHHWtivzfE8qrSUdrm8QooornGFFFFABRRRQAUUUUAFFFFABRRRQAUUUUARt96ihvvUVk9wOg8Wf8AMtf9ivoH/pqtKw63PFn/ADLX/Yr6B/6arSsOvRxf+8T9f1J6MKKKK4ygooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACmTTR2sLzSyLHDGpZ3dgqooBJLEkAcDuQPU46yDGDk8YzuyAOuc8+gripPidbab4jW8YKNFsLX7Z9qldo5LpjcpAJbHDL5zRv5jYDoSsUxjlikiinTuweDqYyTjFaIG+UfrHiiO9k1K3N3LpukacZ7XXJUikTUrBggETi3dMspmIiOdo8wiOSS2EkUzJr+n+K/7QbR9W1C2HhpnkXV/DNrPLo9iFMrpBOW5MmZBFF9rvFaSK6jWK9C7R5nOaP4y/4TAiTRZ7zwpB4ds4przLfbje2ERe2AnMjRwyvHbz+UkUwCzG4mgV0R7a0HrXgjwBqGg6taaposK3Os2trHfWNzbLrN7qer+H5hJFC9vHCIrkyReR9nWRBpsQRER3lhvQU+09nRy+PKlZrS2/3v/K/TszON5GVpvw9utUbxDFrWl32qWNjcwNqmiyaDFpZsnf7NKl2Ylt1XTYxbhftMbTWaTi2cx30q5aPftJtH8BeF9Ps9R1ybRLWKGIxWV/Ja6c1uiGWK21q2eOzmSaS4wNk9lb3s0YSNv7QRC4fct9BtdP0jSdNjNjqenRXf9naPDcxaXNFqeno5eAQyuklpczwtfzpL9isdQuzcx3CCYLdIgSfxVqWl6vqv2K/sfFUsFq+t3kMz3zS614eZBc/bL61jmzc+VDIyQw6nqIzbiOM2yyTgyefKs6jaWq+7b8u//ARpymf4uurbVLrW49VuL7U/DV5qkeg+Noraec3MXlyMdNvXaaZWtvlnSPOq30uyZnia3IsURK+raBeaxf6GdY8RwWiXksekz6npUVrFJZatbNapZ3mkxJAbm6WW2/s+RY9OtrdHgewV7hissgTWtS8PeFb7StT1y5mkTRrE+HltNXljWTVvDlyRFayi4fdsiW3eWBpNHtbhn8i7kE5W5SWuiuLC0uB4o0+6E2vaTptg8fiqSwsglzqFmlu4e/ubSKMRx6hvglkT+1r95opVnkFqJHjiWeZw5Wv6/rRr5dmUTzWd1deB9Vs9Su76x8M6lqjW3jPSZLiE22nas+2wmnmvWtjDD5d5Fbrtmmv55ILlb5lWeMSnEj0vWNS0KfTPHHhvxZfpfRR6d4smtrS7tZZYbeR3sdblkuplkdQpuwZr97a2G+EiCUafIiaepeHLi016yiTwz4eDXlhqAi1HR7O81K88T2YiW2uLWx8yKIyKLV9O2pZQQ27Q/amt7qyi8wJm6bZ6TY+H7/Ur680zX57eJ31LVNQGk3EWpwJNAP7RuHiW7sorm1a5MZb/AImN/ONQkykYliK5RlaNk/66f1+GgFa88I6X/p41y7s9Pi8QaB/Zut/ZIl8ow2ofy9YtMl727tAbeK6jg0+2gs9iQo0qx202Oo0UJNp2qapLdQ65azaN/ZmpeFl1S306PX+DFa/ZbuzhaNZrlLFbddP03ejf2cqXFwzoY3gnm1rUNYjvNEub3U5JBHrUmmtbalfN4p0K5WXylnto0F7qv2eUT2qyX0lvbmGK1BULeMam0L+1tP1qxuI9e1LxHdSvJaWetQ6hd3uoanotzKpaA3dvN5+oXNjLHbXEkGllbeOOC7Rpy9wwClOVtd/6/G35LsI5/wAJrp2q2HhW9/t6bU4rzRv+EQmW4uYI5dX0pvs5hRooNT3o0G6POm2Ae5mMJExT7eldNZ6bq2vaBp8Otap9l8Z6IftWhzWV41tHPbqqLbSLLp00sNrBLb3tnbtpunJ9pnd7RzJtkWRdWwbUIV0/VvBt7jQmuWE0uiXix2WmSSGMS6YracZ4bKC9T7WqW9oJ7oXI02SWZ5pYVXE8O61o4tdKmg1GHQoLDWLubT45rq00aXw80jtFe6XfI9wv9kwzPNqTRiDz7ox+TICTp6xvDlKev9df6/4CRRUuLzxHp8Gq3MVreXAn3zaL4d8RwXdkttL5arPoE9t9pCRW9wMtbaVa+fJOPsJnLQxjezxfo+mQ2Wp+PPsHkeHr63sdF8TxPpdl5WhMs8aW1xcwfvDH9nkFt/xJ7cuxjtbY3koZ9j9Je+G7e90fTtQ0nQG0mykDzajEumaZYXOheYfKF/AIEnj0eOC5t1haWQy3vli7LqW01JFzdJ1C28A69e6zdeGv+EYsrvUns7nbok+iR6YXYWlrfWokTOh2N7CsUdxdtI88rpKkKK0HmIKel1uv6/4YCWHXNR8M+JYtJ1y3hheaO2sPGeiX91LI0GtXe6eG5lhtiX1CK5efUCulWzNbbXZ5RC00gjla41nwf4gA0xP+Eh1TS7oTGe/SbXp9QMThzaajLaSxi/1u1ZA8NqQIrWFJHMpwssdO88LjwHHNaRRfa9umPptpYy6YfDg1fQ5fPmuNLLXEjjToIvIu5/tl4oubrZKIpf3Rle7pl7YeIQnhSfX9YgbS9Ch1Xwp4k02NtIc6Plo1eGaeKRtIsrdY3jlml8y5u0EeJJF8uCUlZ3ktn/X9L9UwC4j0W/8AEVna6R8R9I0NNWuZvFlpM1lBr3k63E8MRcsreTd6pcR3AP2a1HlwDHlW8hkguFr2HiJNPkbTvE/mw+Htf8QSadruk/2fb6tDo+uyRl2aVre3KaxeXPls6IAYbOUxrJAfLhjGPY3bQ6tqSwX1p4fa38u1k0zUkOiz+GtS2ebJc2KBrd9L0W4M0EckxAup1cRkGaZXruJ9L1TxpYw61Yabpuq+JnsZfCs3h3QZYrFNb0lAjTWdmTJIljpYjkiuFu5R58/2hBG1sktsHUmoq1TXz0/r/ht9wOY1hLjS/E9/pN/aXmqahd3V3M9jNayaouq6XFOAbVmYSf2trdkXWNUka5s7YQZZg0Ukg39Dt4fFmjvpk3iiznGk3Sa/pXiCO9j1lLeeNo4ra5uPKkafUdbjZ4YHt0lazUT2+FfMMMhp2larr/hbQ9CsYtY1l4dChj8F+INHtX07UtVtLeCKNmsZJW26IisYhPPcCVrtbjEfyeREi6tpOhR+DLOPw9qesW+kXlrcX2k+J9P0R9PutEkYT3kzaXFLJEbTTWlmt1e5fCLHPDC9zIjiSyzlJaJ7/wBa/d0+W4GRp+q3fhnQ/EsHiyGbwpe6XJbat4r+z3puLbRPEM00T22t3SRx5uTcE+YljbmS2ja3jEgXzGe27DUdKbxdJq+q6fPDF4106w+zavb+L7qeS0+xulteXMuszOkbRWbhEaC0gWEAtN5kKo95b22frF14Z1KPQdalvYbXS9MmvrbVta0+e31iKz0+4t71ni0+CSK6+2CdrdpLm+aMzyL9o3bVW5gsuhbwl4v13x0+l+FLDQJPEPg+K31S2tfEmstJFp4v7medbbUI7aF2vLktBBdNI8wZZEtHVpmSWe6xnLl9/b8Pz/z2t13cTB0/Q/GOnzeHdO0vwXr1nq0mjpfaM9nLbWOqXWmwJb202k3rzXoewt184BI4mlkU3FtOzG6t5zNb03UPFnjTUY/D1mt5YQtcx3HhrwrJLJa6BoGrWFy8s1pcX726NfoGtyVt7QyouyZFWFLaG4jj02HWNH8G6Nq3hDS9Z0i8162m/wCER8T6olvcazcSSWfnWml+RbtLaw2MgaSVdyx28UcDhreGVY7ptD7Vb6gp07VPEJ+HXhfVv+J/4Xt1vZr3V59RiIt7u0aQeXPDcBmj+0WkDG6muLu5C3LEzKM3JyTkkn569+2r+7XfZCINL0PxR481qCz1O3i06TWNZuE0/Wprdf7H0bxHZyyvcTaVYpO8s7ObCRw10YRujuZAGF7Jbslhqng/XdQ1CHx3qs3ja88TQsuv+DrG+VDpXiAGCwa0a2t2XdC7iCKG4uT5cElpC63G+5EtUrPwdBJ4BsW8Z6rZ6VoXji1a4On6fp8zQWfiiKFNsd5bSTTz6jdM0EimGRxHJPZFZIZJ5gw5zVPjVolx4Z8a+Cfht4CuYZPFnhuZNR8O2tsmm2mhazsFreRl5VjEjrFNbiRY0VQ1unBNxJJE+Ryb5durXu26bvbpt2v11rmtuX77xV8NdDfTZPE99P4i8ca9pt3Dr1ppm7U9c0fxJbRKkt3Yr8y2Ls8bxqyFUJhsWixBE7jyT4mfGjxZ4+sdUuNb0+00bSNXtYtfuNJxKba91XT1gjuVltmBnlz5EUbRsY4YljdyJTF9ofFvrvVLP+1tasbKSaEWtj4ptfsZEV0bB7d7Z45rkbEtlFsk+yCBD5ZnxDhYjVrSdOh8K+KpbfUpLe31S31iexubHw/cyfb7m1u0W5h867LLM5+0vZwrKfKXJcO5EhA9WnQpUr6czX33326W07pmXNfYk1CPUNB8TG4mku7bWoNVt7ixtb5Le41GS3vALWRkERW0t182SeQuQQ8hh80cp5mToelul1BoWNTuNy6j4Znhtgt3qPkkiaOJruRvsiFIINnlRs2wb9o3yOYa+n6bBD4OWCwR511Dw9PY3UulR/2VYfbLdMRNJdPIsd2QHvTI0cjpIsefLITdTde8UfbtOXU1mk8J6ULrStajjtzJbRWnnILNox8sc1wBbQMy+QI12tOPMYxrv6Yxlskrd/wWm9m2/XuQKl9cajpMuqQmZnvNGtdYubewmlWCZbGXzpxNfThpmkG+NFaB2MT/ALtiBEGOtceFbvRbydvP07TvDNlrUkNxfLaRxaY0csKrInlJJ50ifadsUitceWuyMbSsbLFnXMb6peaX4b1KeW78p59DTSMKlxFaPCZoXgswA4Hlx2pWW6lcRScuuYzJWJNp/wDotxqLaPBNqttp2n6lcxWNwDNutHzdgzuE+xsitEht4BvQvAEG1WBvllfllpf56N2T6apLf7xl5bzTP+EbaQeIpJdW0fQLSW3FxEsrtcWrTlEtFVAjpDLE4afE48uRxvQB2OhOukReIjqpk1K+tLPWZPPlWNrK5t0e0bzPOvmMccJe4feLdZYlBuGDJvYIjLLQp7jVLJrR5Dp0WtXFq8lra3F9BefaLP7Y4aGMC4vRwieY7KjRRwviRXcq3+xW0XTrafULq4g1HTdFjnFnHDJqF5DLpVyVmJWMGGyUybokmMUqFFkdmy8gkLLva/66dvL5NgYOlQ6Fb+HNLlunktrHVLLTi19CsdlahrOf/TQYpG23cio6YJSYyS+ZsHBROvns4h4tudLsLPytbm1K4tIptWtIb3UWguNM85gtkzKVV5i0zM/lRwtOVIAadFe15baXrWuwSTo8dnfTafrXnOGuTY321mS6v8/Z4kN26pJFbxb4gk7xs2JJH5/UbtrfwzPdTXOjzG6022upWuFNpY6peafO0lylxy51C4Yyhd6kRSiR2zuiGGtZXb0f62S+aX3oR0Gs65qFv/wkUvh/RrTSZbe0s7zULHS5ftE/mafeSy3Uk17KFQXERMYfelwXEkTDerF66/wb4g07wDa6z4nim0W1udKmurywTT0nvbnxDGU8yZG1IAG7jVpJkP7tvs7wQSTF1jw/n82kxX2qQ+H5NHGqBb2805LdYEje2guovtxe1spCsdm4G7ynlnMp+dTG5j2RdbcXl3rS6ZqXjZvEms2cOl3Wl6oI7i1to0vZZII2tke1eIyxuyMh3F0UvGrEMJdnHiFTilGWifm+a3Te+/nZ6lmr44+Mc/gHUtBvYJpING0yY32m6NNo19GmnTS272k6O88ERltYWufMjaN0KmQQ+XtaJoPn7xbr1z4t+3alqL+c90NWuIYY4B5Cu915jGLcJEOS0n+qaVxgFpQvMU+u+LNS8S6pZTPqkms29jJHbWEt3Ks9zZKt9iIny18sTSIiksonkfy2blW4rTadG0Oq/ZJZZrqOz1b7QI1YTMolB3SorrJEhjyf9JkkzggRn5d3p4fDQoqN1qtPw9DOTch7Wx/tWY3hhjU6sIJm1ABoFYWpUiSWSSSIFDyA0kzKSNqDDRuabYSWt1ot7K07qtjY+XuW6ScRzCaHMaoXmMayOPuvCj7cKn7xDWnb3Mtr4ghAuYnl/tPZFtd4S0f2FUCQSrEpIkQqgEFuGYeV84zCxyrW3t4tLiWS3a3i+x6O9yYYkVPmm4JVGaHLIUbfdncSD8gVxs2jOUlbyX47iJdLLNptpNa3cbR2lppLCRmi2WR+0ud7yoPKt2WRj/rEmk2SnOAZQqXaL9n1BxbS2lzLY6s7vGJfM2facK0pj/fy8iSMvciNAAOCVYSMjjtpLmGP7Ygmt2sYLSTzHnPlR3ssIMDt++m4Ct/opiQ8g7CoVjUrecWOox3ZkKQ2+rNOoeJjHL50afvWcgbgwhyGluXx5ezaSjLf2+2v6f5gT3mkw6s13GlxHNpzNNp9ix8iS3gmkghlRVMcbw7ztlytrHv8wKpkzIrmtLYXfijUvsSXUIj1KY3bxXMsbXLD7HCscxEjTOdsdw8gUzMSFfaI2Ga0bi7ZfE00siXF3q39oCTdFG8d44ax+6QrLdNgkBVRIoiN+SqMoj6P4XeH10/wzDeyLJHJeCC4aESfugUi8uJiq4Qvh5CG27x57oTksTy18RHDUXVlvay83/wBct9jtcdu3+f8aKKF9Mg/lznGOQcc9B9M9CK/P3qbBRS8euTnGB/+o5PUcehPSkpAFFDZXAwQ3GAep6ZAGe3Unpx7ilCnaDjIPsT+R46fSgBKKKOcZxheDuPTnoM5Oc9MjigAooooAKKKKACiiigAooooAjb71FDfeorJ7gdB4s/5lr/sV9A/9NVpWHW54s/5lr/sV9A/9NVpWHXo4v8A3ifr+pPRhRRRXGUFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFAwoorJ1TUtQm1TT9A8O6dJrnirVn8rT9MixuZh96RznCxqASWJHCsTtVWK70aM607QE2c/wDFDXZotMt9A0tJLzXNZkW1gtrdC8ziRtp2KqsWyR5YwMkt8vK8t+GvwsuYdNsvE2u6xLY+INYsFHhHU/t7GPzEC2piRUtLmee4iFxYmNLZR5aiUedFLbOiX9H+GFnct4mQ67a6v4pnYX+ntrdvpyus1rF9pRXjludnkS2/nS+eZHsjbLHjzpZI0t/Z9E0/Rtct9f0270eew0/xFYT6xc6e+VvI4Vd49Sjm+0Txh5rWfziNS1ebYs8TC2tuc19nCUMDh1RpddZPr8v66MiMeaXvHKw674nZbX/hHJv7TnjtJfEvg26aPUZri6E3m/2lpsE6B5JJmN5KZYoC0sRYGXUM6cKl8O6d4eh8IXB8ORWjaQtoNWsTcy2jQtaTvbfabO5+03h063dLlLTP2sahcpHe6edu+1Xbf0nT9Qurg2sNpaXnizxFczaikM1gtp/a+tW0l1DOZrMTS3ssF3s1C1k+0iws4IXuXeJXbaNHT7iPUPsMfha7At9Qtzq/heY/a0uYdoTz7a2fTtORINyzxG5s9Jj852S7M14iw7W4pT0ajt/X/B/E022LekaRcR6hp1n4Lim/tK70Z9S8PtpxvbW41GzJkFvazywRLqUlnEz29rHd3l3YQMsUDiF1hYvw1xNdf8JB4XuPD90X03Tg/iPwJLcW0ObhXkaW70uIvGliL/zpV2RWthdvHPJDD5gW2ymt4yjvbjQ9RZLfTI7W+kbVLZtZW2Wz0rW44BbzQ39vf3RtEvbiMRF0uLq+uojHPP5Mb3J8q1pciePF0bxLphu7TU9YE3iHw/frc3UNwbtcxarYm5t7I3t1GJbgXLQafFbW5a91ILLmBXVRvFc+9/6/H/MZteH9DLaholj4d06G8uNQiW60a0jtbiQatoEhjCQXS+Qt9dW0TSSWkf2+5sLOZLWzkKtH5u3nL680vUtQ8N3tqdT1lrOL+3PBZvLyaGO6gzCZNNjnaRLaK8Kt5CW2k2W62mFoq3G6GRha1/wq154du7bw1pdpa28n2rWLay1CwtPsenaoiyy3lveW815HplrIsRlC28ov72C3VjIyLDGqV43ufiHFoXiTw7cXGm61q0r+ItB1B2vftD3KOsesWHn2loL65UtcGcx2EdtAHvtQIci2yFFL4k/68/Xy7Mo15rf+zf8AhFvA+kWdnql9rVo2u+FLiXTPJOtQxZ+xQXEUd5dXU9pLaSTWUYvpLSKC1efzfNaICOta67qTXFhqek22qajo1rHDqnhDVnu5o5LkSxyJc6It38tvbXUltJLbx2ekW5ZJvs48zNk7VD45/sPUtIt7yTTbLTdJW6hW80Wz0e3W00HU8+Vb3M2kwaillZZ8wo76rdTSySxtF5CRRuo0bi4W8urG+tL2y07WtWubie1vLrVBFcW2ptDDczWEF7BaPe3Udz5puiNNjs7dm1GSGKeb7VEBn9lf1/Wn9agVW0HSNC0278N6PBptza2st9JZ20NvawRQGNIZ7q0ura7uJ44GuYrRp/P1iWaSEadKqWcbwR7qunfZviCui+IbW0Nxea0bjxBojX6TzfabofutV06VksHub+AyXC3ElrZww2zfbdSXcFtwy6Talfah4fsLrUrAeD5NOurXVI9DSyWyt/BerIj5uRYNewW1pBL/AKO0L6jc7pZkuDHaut2wCeItVv7zWLi4uyW8KeMtTTQvEN1JaDVFl1uMCXTLpnNu9zqkckSQ3UNtBb21kyy20YOx5wzvfR7/APD3/rvp1EXdHkhXxDff29eWTaPBqkiaZN4gvItNh8OXduwhudLF9K1zDpUZeKR7e300S3ZiFs7TRxxK7V7jQdZ8N3+j2txoU9lZ22oQyXclnpQ0mLTZLc+fYa/HaLbtaafFLsgF1dXSyzKDeQxxolvJHTvEHhmaObW5fFOlTeHGSTS/7YuIHSA+FdT2WUdqNOvFtls9MtQzWayPFNfXDWy27GMFJWi2NL0U+PLezgOiXkPiOx1NrLVNHm0ACPUpHjtvtYt7KVZLibcj2F0b/WjsW5isS4jWaQRxdb/1t/X5gU/BetSWeo2i6jZ29pqV5rLTTwwWCanBPeyeXbWOr6MlxcByLlYIVGq34lj+13MZUhZ7nLW8LwpqHh/RfDq6BdaZqEpEcVpqT6pHrVpEZIpdPtjJaiPVJrNbq1aGe7byLbyI49oW2vJjleE7nU/7Ns73U9WN1ILm7lt11F76B/HOmyW263SZ5xbza/OslzDFDbrFDEUgkjd1S5hNdPr3iCytfB+tQ63reqX9xZ6P/aUOqak2n30tzZiOSOB7y6EksM00MN1arFYW8iLdHUkectHqNytvL92V4hEqfD66sPEuk6JY63rus6pa/wBpr4k0LWJIWvLyba2+KfbHE1zqes20REMyR+bZW8UaeaGaHy3w/DaRyeD/AAbq8/inTdXtdc8QWHi281bT7F5I9G8SSRW7pA1rFM0uo3MzQzRta2zRGD7TLI0Sq1v5d240PSvC+j6q/h7Xt3hV7U3Wi6u2qpFqnhy51FhHa3MwiSKDRtOme7jnMNuFuJUwzo8KzwQ7Hhe6ljvpfD32PTYbLXoTo2q+GLho9OvLKS5O2WO2tWZP7J0W4fyE86SD7bMZohseaSCRKckruO3y/q+t+wEmtaF4j8RaSviWfR7Ox1jS7mQeKvDmvWf9oLqGGeFLa+ZZI01W+eTyJ7G3jSGKAPGgKLLbFiaIaDqmp6NrXh77drWlW7NLZ6m39rL4jgIVoZdScXW281O3M+nQpZPnbLOnk7YrmGa0z18FaT4cutOuYvD91cOul39jos2g6YmrLe6K00LSW2mw/YpQRGbmeL7beRgXa3DHeUvFltOg0XVb7Vrd9A03xLu1PThGfDetRbdTh1S5eJGll0pYzbfbbvz3mF3dXLsi7ZS8cUN7cxQ4ybavH4PxX53/AD+4CrqPhO08SeN9JOk6rpcfhjVNGufFsz+I9QVZ/JiuUL6zdqqZ+z3SajqIOm5ht2iluCTBLJIsejp+o+INN1rWZvEGiRXOh6jZW95r+jxwSWbm5eaST7RetJbr9l0V2u5GaMGWYrBO80TP/aiVzHiC1t4/FkOnXGnWnhlZdc862v7PUJtSt9B163juUjvVjWcS6xdXQ0/ajvEqpMjRFZbg3cba86xeMr6SPxFpcGi+MfC0obxBpGtRvrmmRxXrQG4vtduI4o4J18uC2eGCBgsBgiZmSCJxaTJLlXM7xt6v8P6v8rhXvIV8J6PrvirTPF1naWvhO1TS7EWemXY1PxHo/wBjhmNpaTtcM8NjI1vOsNxDE7RLaTTiZ2NxLJpePvAGv+D7HT/B+lWXhvxNqWhaHfa7pfgk28c2nixE5M1pcRLbm5vpTJLAInLxLcSW4llRZrcma7eaXf8Ah3x74l1LSPG93e2vgfS7FNU8VS2i3OtXGnSSzRXkLXk4e1ljtfsHnN5NszM8UsYK3DXDSZ/iyx8G/Cm51iztvFt3pnhzwqEvLBZtSOn3OqjzWj1LS4L2MRT3gtILS0SKFJ/km8iKd3ESLDCk5Tjyu9ujXp1su/4vawGzJHc2viTTvC+hfELwt4u8RXMSan4S0nT7ltMs9CMXlXJPlrJcvNbzQtt2By6wSSQ24jt5pnt6emR6Vr1v4u8LeFrfWNT8VeIrZda0vXZJ1tL/AEG/kieO7juZ0dfIe1upzPPBAwYf2xKiW2xmDt1rxPoMfwpv/DGi+HvtfgS81Qa/oMmoac9ha6pHHPBqI0mKKaJDNNcXDNDAiR+W1vJuVpngkiPnPjj41Q3lxqth8L9Ba08FaTNbeIbbVVnjs4tPSWGa2uzZJBJuihlthK2UjaeKd7ktEJiphVOnOrGTs10u7LtZ20+a333bG2oljx98WPAHhHxL4ut/CVhcXuvNBZT6lNfxXl/q2iXNjd+Zdh7t0lMzq0VgkSec1pvtmMh2cTedLq2sxtDpFnq89zd6LryOg86O7vw947wmS+viHiWTz7uZWh8l5Pk4Lr+9FGK1dpIbvdHbeG9H1Seya4EiQaHFaXqrPsdQVmuI1nngQDatvLFEnKKWeqx0mDUNM0fS75LyS0u9PvvD0V9q9mLlpDbP5cMlrp8A87fGq3JDyxq0X2hi0kmFVvXjShBJLr397+vdXrr8zOUubcXR/sGl6bBCL61m0y8kfQNVVNTNtpsiRJJJaedqe1nmdogf9TsQq0MbrAqBHyo9Pu2slaXS5Lm91PSYblVlSSNdR1CwmJuLZ7CP95eOzuEkaflWE8qtsAAv3+onV5n1x5M3z2eneIGjYQahqsQjZZbi4RowsFmwtxb7d8Y89EhH3yyrYsYXh1MPo+n291HHrKJNdaNqrp9qgvWKo8+qhBPcqt22FEaYH2VxIXYIw6VFxV7a+vz8lvZLvsyCS/kuIdYhneW7muW1a01XTYrq7guLieG5CwCWO3h/0FD50k8sdwW4kEe8fvgXybXTJF09dNg1C+sZjb6x4dWWZlnlhUOzIl5cuphiiiht2ZooW3IuJY9wmZVvWfgXUYNJutLhNp4fsry2v9Ck1T/jwtLqWzMyxTSCCVpZHZY7wyebtjPyMUk2KsmpZjw2EbUfJ1ZbONtL1u313UdNjiuNPgaHyvLtrMxiKZhDaO/mQxMgjjZ8u1sgaedR+D8NfL9XpuMwbrUftFiLsQf2fpd4LLWRDcWk0cW45W+ZxIfO1BltcCUoRE8bzMwDspbUtPh7fXAhstf0hYo11i+8P/2dHbpdyItzAb8SWkKMYrV1XYiSGSXBmdpHVIVWrp+x6f4hGi2Gn21jLqM2saFqcbZk1y/tL0m8gkVHIYYhWKMTXLt5byyCRQI2NZlxq2rXLTa1qL3N/ra6YmsX0mlTp9ojntQgvVkmKwCydoXhgkhtw0yiKJnLAESqLa92mrfn5P0te/qgJLy1t9JbUdX1/U7aPXr7S4r69s9PaWW/uLvTbvNxbtPnfCsjxZ3W6KiC33KfLtt02vLcaZZXgkijvIbG3166j1HR7t1WxtlkifeL7U9reaXm+zNNG88nDrEUlMaiuWuLqHTNb05ZbqTTrf8Atq6smjure5kW9F1AtxJFPbHy7y9PmNDEzylFZUgBjbe+Mm4+22unW88Fr9v1XR9NthIzCKe60/8Asyf9+qTtiG2xuQLHGsxdAryKDL81Kj7Tfr+Wy+5b9QubH9t3VhoegzXmnRm4s9LsntL64V4kibS50aeGOxDM8lxEXlR5XeAFBIR5aK7PDqmpXUUup28jabZaleXGpaJfajcb3tsXim7ZGkL+VbGJ1CGJZpcM8zBHOPNoXdrYtqEttEk8cuoXd5pn9oWLyESwzw/aZJMoftV60TOgUuDDJGI87d++qmm60bi3t9RhZry9hTTrpmtShaF5R9jliJt1220ZjVUEUSG4OYX/AOWW1N4wUfeX9N6L5Jb+etiDR1XxS8lrcy2lumiaVcWen67Holgi2EVxHHNJK+3aGmeVRGqmeNYQVi8xsIib8PxFPY6p4kubabwpFbWt5JHKNrvJcyzoqlkMrwi4VGRCz4jMm595bbLVW9uCum6hbacRp6Cz1FJtPtcK2IpAsYlERhkwsZYb7sljiX91k4ehDZpNq32a2tS0U2oFo4Et4z5gFrn7sduyuVDZG2GQDflSgbfNtSowhdx00b+en+Q+YbYahLNqF5NFYyaXayMkpuoZTdyCGG8WSaaSSOPzZEUs37xHiBEIG92TFS6vdwtpMsdzBDNarHqUEMkMcctvbTOyzxxxZ/cwsRkny5JpCrFAd2za2w02S30K70lStzd6dp2pLeWYjWURygxFmbYU+VQExLKzjfAQiEpHu3sm48SpcMryXM2plUvLV5JnlUWADskkKrcyqNyOFijSEByobYyld5zhzXttf522/D8RAv77xM9rFIzXE2qqX0+5SSZ5v9BYJG0UpjuZUG50LSSRw7Zc7drOq49iiLYaaxiaZFg0nZ9nuDtlkM8hA4AdWx5gP2eKRwyP85ZpS8eh6fA9taOlyZdLjisp7uLfFJDbyyJJb7pRsMEXzmIMJEkk2nd13qLFhbz/AGaww0008tnpIgXzZ45SDckZRDIWKq4C8ywR7mQgAmNhLhyuyeisv6+QEcn2K3aeJrlmWe7Y3w3fvCIr9ApeJ2CxgrM3z3pcswKnaNrFbm1kt9Ld7e4RoDZ6wtu8Z/dHEoV0tjsdXGxt2YYYBtZ8uMPsSSSNG0aS1a5Ro7yc2PG/5hqMJRk+R4cldw22aPyuTuViokWD+0Lx9PtVeTUbqa7024udktudkkrsJJW3mSRxFBMPJuHBwY8IwDFzm5fe6Jvf5gbVvoUmv+ItQ0e5i3WkF6L25R98G5JLNVU+Q4di8vLeY8jSL5bkiKRju9K757+v9f8APrVHRtFtfD9gLSziWCJnaWTy0VPMdjkybVAA7cAYAAA4AAvV8PjsU8RNJbLY1O4/4RDSbXwnD4ouHuptMmSO3SCOZI5Deh8yxlih+QRI0mdvy+fEDk5r0/8AaN8A6HY3F3qmkWUVgLU3sQ03TxEjR7dZ1CI3MigKfJUJHEgAzzGpYBMP88Y7985znkHGMg9j059h6UvPPPJJJ9856+vU/nXkcruUfW3xK+Hvhq41bxVYizstGieW8thf3Okw2LWMY1vTIkdI4wd0Ecc0gWfhpA0inbtwPJ4vhHpV1Nbi5g1fwwzX8ltHaavLG02ootvNLm3OyNVO6JI8tuXdPGc4zXkBwwwQD6ZGcf5/xo+nBzn8fX6+9EYSjuwuj3PQvhfpl/4G1lbnRr/Qbgarp7La6rJF9uuB5Gof6PbO0aEGYrGoVo8fu8jzCFWsm60O/tbfQ08L+GLHWNEksYZLy4uNPjnL3BGbpLicgNb7JCycNHtjRWOCS58jyeO+Ont0/wAKPT0HT2wMDHpRZgept8LdM/sRp/L1IRf2L/av/CQLIh0/z/I837Jt2Z3b/wBx/rN2/nGK63xp8ItCvPiZq0MFrdw2F5rmqRzX2mtFDY6FHHeTIFmj8s5VURJCAyAK6gZNfP20AEADHpjjrn+fNKMqCAdoJ3YHAz6/X/61HLLuF0e16T8H/D2saj/Z9rHrE13HpOk3ryG6jEBe7s1ndi4hby1DMApfCc/NIgwT4nR/Fuz83JLdznuT36/hRVxTW4BRRRVEhRRRQAUUUUARt96ihvvUVk9wOg8Wf8y1/wBivoH/AKarSsOtzxZ/zLX/AGK+gf8ApqtKw69HF/7xP1/UnowooorjKCiiigAooooAKKKKACiiigAooooAKKKKACiimzTR28Uk0rrHFGCzyMwVVUDOcn1PFVGMpuPLuBj+J/EX9h2kUdrDJfaxeMINP0+BGmluJ2ICIsajc2SQCATnIAO4gVHbfCBrPT9US+S21HxrcM5Nxqd9pjxWOraei3c0Ox2KSqsDssqvKttFFhnMk7R2cPPeE7O88bRnxd5mq28V/rkXh+3utJlkW602LzYpo7qKGDfJcGO4ltGdSAN00SRkyzI9v7fr+ua9o+g6J4k1DydKg1OOytpo9Phkij0S+tpEa0KQy3MED2thK/ktG4gtoJryFZ3vJoZDX19Kj9RhGCer38n29F1XX5kL3h3irXvLu/Cd7Ld3nhn/AISv7Rcade+Jr8Omi65p0sRRnN7KNpgfFtNd3PnzyrbSwQQwQtEhi8GeIINSuNO1e/uofD0jX5vbqxu5bOzGieI44zayXE7Xt3KImkEMZDXkN5dym2v54oYmO5n6tpMNxqVh40tbMaBpGrWy2uuwyzR2d1od59oFvbXpkmt5GhnhvGltpdRuS93Juv5YIUSNSKSahd+G/Fmbq9Hh5deAjvDc3lzpcOka5FGBHdSGW9WWxt7yFAHurjdf3Ecd2I0j88VKinCyWpoRW+oeJtc0bxJb+MtRmmu5dYeTXo9RsblIrS9WK1+y3k9teXNnbJbTJBBIg1CQo0hSCCyjRJN/WBf+E/YA5uT4/XAGf7VNxrViQQOkX9r7dv8A07aNa9cS7ecO501b/wAT2muafbTQW9/GbDxNHax28N5od3GHkttVuQgvRps0UhdZr6/uJr0Ca8aONGj4tXUc+uXD6bqSmHVtYFtpWr6dcW8skpvY5WfSbySwur17y4iM8j2ynVJLeBhe6YzQ7ItoylZ6x/r+v63Ah8U+GX1fTY2v5rfwZcXko0uHXdUuo7O30HXrAMLdhqTWMMMQMVnJbSLpkGC2k2SG4xOzVqqkXiVtRtpLe4sY/GEVtcvZagJL28g1OKdba3juoLi6e8v2juQ1irX7WempNDvaOTzEVuZ8HasPFui6bqN20Md5cS/2DNqGnm32WGuWsJ+zmyu1sZYYGuLSDYkelQTS7rDTR526bJ6waTL4kxo1/pt9Nb60TpXiLQLOGW3dbx/kS7Fnc3MUcD3AIaK+1mWa7uJ1t3jtlCKBnO9N8j/zt/VtConO2usw+JPJ1HSvsVsreVDJ4kNrFd2HhbWLH7N9ilOpvBa6daxuBa2862kMqyxafbonmtcI9bd+1jqWo+ItL1JrjSYfEGoWsd/Y6ha3WqX1lcRs4sr27sHnn1PU4Qy29vEl6tnbh7m1k+xyGUqlaW4bXvtWt6he2WpXs91Fpeoa7omp/wBpf8VCPLjiurC8ls7gxvfQncbfS7aSa3+xWO5rcB1jdc3Vr4suNV8J6ha3otb/AFV9M1nw1d2s9jDcXvmq2l6muni5hv5DcKYYpp9QukVrjULR2mkFuqot9tv+G/pf8EZmtZXesXN7pfiDT/svgjVLSfTdUsFMKaT4O1qGZ4Zo45GQabpMbyuwWXbeXZiKup828GbF14ga11LWPD+o65NpxuLGKXVPENs9w8t9bwmefT9bS9lka/1h7Ro2kElnaWsTFRvlS1ijNWpruzdbqzvobG01bw3cxaT4k1FJLYT6TJKY7Owv0uVtm0/RXSS3sYWWxM8iwyOz5nshIK2o6ppWmaj4Y8ReMdf0zw1rcct1a61esJbvTNV0lzOkJkilvBq+twzvDZtHIGktPIYJt2xTKavd2/L8O+/T5dQL+pi98N69c2H/AAiU2n2lrqD2viPSdOtLXzPDEjRGe31awhs2j0/TW8mSIrf3lzNNEQyh5VtJmkPEGsNY2+seI/Gmow3Fpcafa6D4g1drqf7PqsV1IoE9pM04vJ7Jn+1XItbC3sraZIbiMTyxwKXoW+l2vgCG78M6rpcHiKTwvoquV1Kxspbi50WN0uJLkaLtMOm3NtBc3U8VxqTmWV7uRGikNxsg2bHVL3Q9SOqX2pf8JHq1qbrTNLm0nxRdb/FmnmGCYW0etTSi5up/tUcSJHpsARJ4p45IYkvcrDfK99/x/rp2e+wFSPRbbR7e7sfEWmT60/huxuJ9d+w6DZq0Olq91d2VxFpRsm0+xmEXmyj7dKl0FvL9BCzSW5ptjNrEepub2PU727s5ZAI7ee6vLDx7pn2UiJmJWO81+4ieSMsmEsfIj2A20MwLWvA+n6+PEGj6JZzC5tNEFnrHgxNP02JWvdDvZCM21hGswQCaBbpbzVJnEdxa2BnWJpZHrN0nUjqFxp9zaate6BoDGyvvD3jK71oaNa3Nm0vm3WjahqwjjEBSNCkdjpa+TbyF96u8Dyq3u1o/+D/Xy+QHT3TTatp0kV74quLfXNOiE+la54r1tIpVswIWiuJ9WguJre0heO6tYJobDZd3Za3md40uSy1tFvL64uDptqR4Y1v5JLKw0NksptE1JJI40+w6Jd3axWdpctLCVnuVilnDXcLBDqNsgytKS90zxf4Vs/DlrPZeJ5o7/UvBemKtra6jpz7ydU0+Gy+1S2VnDM8t3smuxJLB9kngaOeSGDGvfpY+LfBNl4stNJaXTfGx03TLzTr69fVbPUJnEiW9qtxcXdtdahqUMl2SZGkW2t0jdQTPYxsJemvT9b9v62aEM0XxZpGtWpl1XWP7S8Aa5qaaWIY4rjUrDQ9YaNWm02G2V7j+27uXAl+1Txm288NdJ5ryvEzW0K4juvEOjalb6Rr9vMYrTVhdajLez3dqsr2iDUZI7syX2sWc15CzWtsFRdyJG/mPp/k210GWLXPEHiPxRYzan4m02Ix+ObSO5jtdQ8q2iiurPUry8tVKWcSmO0cWmnFpHVC5lvJLaWFb99r7W8Oh6dqllN4xvdIitpLe98FW9xb6xNpCSSwRS6HZ28Kra285gRbm5EyblaVEJhfTy2cpNfA9P6/r0s97gZfibxjZaxovi23mfUtV8RWVg+uPaiXTtRupdKeFiNUu5muJYPKiiu22abaSxJMJJiYRbXrRxVdY0nS7XUrGfw9q17rEXiK5W80TW9QVbbxKby/udqzMY4oprLQJbiVkkaFIpmlmcITHOC8Wv6PqGi6L4esPCccDeGTqDjwdf6MZte0fw1q0UE9yy248lptXacrMTcPbuLNncRs7xuF6/wD4SDSNAv7rQ7/w5DeeHry/vb3VtH8XXdra29hqhMC/atfkt4JI0+1uJ5LVWDxs3lMu5Ht1snJqKjy7/wBfj8+++gDLHXrefXbvXL1NL0XRdeji8CLdjRrO/trS2ihvLhLLTIY5GkkiuYPKaOS4hJmb7K0dpNFOsdtV83w94bumufEesX0+sadqd3Z6t8N7rVbS3u/7LlmmubUyCJ4/t21Jre4mkvLmeAJNqDuxk3mjwhq+l6BpN74ghs7vxhLb+GV8PeNvE3iOK81mzs5EaN47mIuXkuLC5inuLoxW+5WT7Gzi0DtKs3wn1iX4b+GdT1LwZ4IuPD1v4ZsDoPirVtW01LCG9FsYmg1Z7beLlpltp5blrdo42mW4ZPPZ4oQ3PJ6SktNkui/H9NdU9AOe0eT4Z2+n6NNJpk3j1vDeoXBu9NkuW8SWVlol0J/skKyySzWFi0BWzWVpJYCFsZ2V5IyrS9tY+FZ/gdFZNp/w4tIfHNvqd5ryx+CBDMt/ojXbfa7aR2S2kk+zxXUQS324aUWTx7gsscWfo7eLdN0ltM1Hw7a+DtF8M2sfhDVpNSuIry/n8PTOq2t3PaiM2x8qMspuJJngiI1ImCQbkHnPxG8eWngq60nSdO8QasnjCz1jUPDl54nu/EGo6rcRQ75CsEdvHdHfNNFHZGd4wggknURosyEW9qE60+VNtdt/NO66a7avVeQ7pbjPGvxE8XeJNBm8I6JrGgaZ4F0rxJZxpd6DctqG1ZJbe5tYLW6R4D5UM88a4iigaKOGFUkkIevMF8P2d9Y6HJf3lgfCF5Ne+GZdZ1q8E/mwwGcWc0CbvJhaOKF41mHzbpnPltuBfP03wzbSaZp+gSQLbX17pculSWt8iX1w19A8q7rS0ilRIcM90BcucAxyMxXfJJK6e7s/EMV5rz2MV5Ktha6+01jcJdXkssBEk6y37iI2pVPs6PDBzGZYmRQA6n2Y0/Zv3NEt/Lp31vvfpbYx3LOqJb+KNOluJU1L/hL7jQ4p4pWtprzUX1CB5CwtQu6SwRbrEb5RUfJWMRhSxsWeuW11rGo3dl4e1d9NjvbHX2u11dv7Q+yTWX2dRPcrKTEqCSWb559xD/dWNpJI3RyS2lxqBi+0x6Rpes2+pSEXz2FhJHexm3WcX5H2uZjNLLmc/u3jiJ+UMi1WtdHW+t4dAuzfWNtJNf8Ahw2s2kP8u0NcW80GnQ/6VcLHCwJ+0ljFJeLKC7bqq0dYt/09dlreyX36CJ8T6hp8lnbajp8OgW82paVcXGlSxQ6TZ296wutj37xyqynCRjZDHtdgCyAxmSx4gudY8WRx6jqNvc3V7q2mLPFpdxZFbae8065DtYx2iM1xc4kmkidJdiqBNNhgirHJNpviXVry3uXsPtfiPUbGS4hleKK51CPW9OmjilkU4W3tI2lEMbY3iSK1QHMjikS3stEmvL60v7PRLi+u7LxDaQw6i+25tblGtp5LnUZ4/PACfaiGwpjkuVwXkkjVVaMXrG7/AKf5+VtNSxpW20uSxvrWKRbe1ey8RaTa3lnbPeR2FwrW8kixR7bOz8opJdNIV2FmtTKVdcEtJI7bV5LGSS4mEL6h4fu13okcllLH9rMVzehGt4IYY0WF7a1wYmE0kZbdtfn9QTRtN8Oy2tndzaqTDqmkW9t4djWC0+0yrG1sVmhIWbdBCm6OWeeViUUqzhiLmrXOnJqTmK2vJLMwaVqVlfyxW/2tFSVgLu1gCeRDE0UEEbM3khFjj3hiQHrlTV7b/wBfdq3+RJlz+IprjwVDOtzDqUd3p1tqS28lvNbWl9d2kpe9NxH88l5OwaJWk+WN1EjOd1upS1fQRQ6tHp2pWYit7HUZ4xpogtHezt5bP7dL5ccjSWdvF5u50LF5GQld48khq0dxpF5fNDZK+nteNfQ3NvPbTvcXdrLKHKS3EJaS8cb7eZUjP+o3hpCrF256z1g3Gmwz2dwsKxrpV3PuitkgtrlrkeZMGhIhhPCLmWKSYqSCu3eR0JOSslZf5uy/y/Ug0YNeuLjRbS8Oo3FrFqdnYSXVyPNc3DWlwrXMkjsBPPKm+Nz5LRhUVlDN5HNK+VLqG607UorWxWGbUdLjeVYmtrWScieMLndb2uwhg+JZZxuZVxhCmdfzD7PqLJaT2k89lqrO0fmM7Rm46yvGfPlGQ6F7kIhIUlfkYMTa8LLWRIt2tusd6ogmkeJZI4zZeWoVo2jVVYbV3RxojYXFwAqyDpjTell3/wCB9y0JNS51QrdDU3kkgt7yS21OSHUN8plSSF7aONjIyyyxJllaSaeKEh8CPa6h8J7xms9Onnlma5isdLaKSZQnkxpK6gpI4VlUYQB4miTnBkLYaTN0/wA5rawe2W1t7eX7FGLyWYQRLMhaTc7okYRgocHLCU5GyRlYhrvhnQtQ1wW76RosKxiG2lfVpmMamaJmYsriMOvTy38rkMgJkOTv3lGnRu6krJW/p/1cV29iHUmnvIYI7iFrOH/So4kaGECCOW8VTiFmIgwWkXDshUjiYjaokllhu9RkFql3fTNcGefTW08+ahjh8s+YWWRWYyMVVWWXaDzIrM7N32i/CHS9PkaXU55davJZDNK10oUSOHJ385YggnKsSG4yDgY7eCCK1iSOGNIURdirGoUBcY28dscY9K8evnFCn7tJcy77L73r+Q+Vnk2reC9Us/DO06ZDNEqT4ZkXzg8gcsRAqSxqd3kDMXzgRr8yrkx2YJ49W1//AEW5+1yXWpLL9mmD3DTobA+WNkjLcSJ8zozyyJFtYfLsZlX1TJDbgcNwNw4PHQfoD9awdU8D6LrSsl1Zlomk85oYppIo2k5/eFEYKX5PzYz7151HNoyu6y011Xn5eRdmeY+c01jpokizqC2Gliye5DtJxKcbNyxzKm0gEWisSVVjJy26OSzXRo1sfLWE3F2beWFZGYKYb0KsbxAMpcCQna32uTaEIVVIJ6/Svg/Z2LB7nWtSnuWi+zziKbyUniyB5JH3tu1VGM4G0egrstJ0HTtCh8rT7KC0XaFbykALY6Fj1YgZGTk8n1rvrZthoO1K8vw/r7gimcNp/ge91m6WeffpMeZpDNayuLyTdcCaF/MK+Y5AQYebLfKB5SFd57XRfDemeHrdINPsorZFDgEDLfOQWyxyTkqvU/wr6CtI8jBORknr3Iwf5D8hRXzeIx1fE6N2XY0sg/T6cUUUV5wBWz4a8Lz+JpNQ8u5t7G30+1a9urq7LhIog8cY4RWZsySIvyg/erGroPCfiVPDy6za3Vk1/YatYmxubeOXyJAolilQqxVwp823jOChyu6pkUU/E3hy78K61Lpt00csixxTJLbnfHLHJEJY5FPGFaN4zg881mFTyPQ4J+ucdjycgcA12Gp+LtG8S+KptS17Rb6fT/sVvZ21jp+pR28kaQRRwQlpXgkDfuohuyi7m+YbRxXT/DG/8Jz/ABe+Hi6HomtabfL4l08eZqWsQ3aGPz03IES1iIPIP3j/ALvPEOUuXYDyfB/yKXcGBK4wuN2DnHAPOOORz171+3fHtX5Y/tpMzftMeLt24H/Q/Lzxx9igBxnnrntWFKvzys0VKPmeI0UUV2GYUUUUDCiiigQUUUUAFFFFAEbfeoob71FZPcDoPFn/ADLX/Yr6B/6arSsOtzxZ/wAy1/2K+gf+mq0rDr0cX/vE/X9SejCiiiuMoKKKKACiiigAooooAKKKKACiiigAooooAK4D4w3JuNHh0dL2Gwe7WeeSS6cIjRwRNK0WTyHdjGqADkkAkA5Pf15D4ov4tW+L0Okv9qt1uIY9IW6sXlaeEzjiVI4+ZDiVkaEK3mIXQYZwye/ktH22K5n9hNkTZ7z4NbRtcttQ08abLoun6zpK2cN/qNxZ280yrpkcjMhaSf7PCtjcorzSrMbe2t5VVnub56t/D7xTDCLvw7eSCz0dradbnVIDFplxFqVj5X2uG2tBb2wjEJuDc2/mtHFbG4mvZ8yRukHmd/dNqHheyTUtXk0rWbq9061OqNdIsem6gI3ey1J51uG2RyOuoksoJb7TcXrH57aM+zaHey/8JxqDaDoerfZddttN0bVtHv8AS5NNjuNTitpJobT7CITmCO2lVBCLq3iMdk63M5SdJpvWrRS5pb3/AOBr+Oi/z0qJN4SvrSW6l0zVDptzYeIrI3mo2cd4IrS21FrELehpmeb7PFdWQLtqM8ks8sVlqclsCLyOR8XVNDu7ix1TQr7VbjTL61lW3u9Zuc6edO1JES407XplLLHp73URtmnu7qSa9ld57aGNNrYm8QSXtn4a8/8AtCaTxBpEjWs9xqGp2009prdiUkt76aW4vntkkL+Qt1O5lEUd3Z6fD83mGrNra+H/ABdBZeNtHeDTU8RWUUl1a29/Gl5Ysskm3UUQ2c8qPbXBkjn1u8kMgAvniQGW3rjTs+df0+nyNC3pf/E01a50rxIQyahZ/vNN1fiz0fULdJJZJls9R+0pYx3UBe7+238T3UsdpqLiDdcoKoXmmTah/aGgXlz9vk8SWq6De3P73UX1LO8aTqqCeSGfUvnnktvt0/2WyWe4smiBFqhF5ZH1OexttMmsn8SS3kLSQ2gs7qCHVFkQ2esafbSapEx8x0TOo6kzTXJubRUV47tog7xdrOm654RtfElqf7Ks9ZD2mt20msXt5a3dhHIIb5nuIbiHUNentEdnaQFrKK2E8cZJTc2d7P8Ar5f15AR6XqmmXOoX3jO6sodfutYv7DRNfvF1eUS3eoQs01rLHqFoLh0lnkFrINO0lZxCbW33zRJG0bY+r6LfyeILLRrzT73UNKcx+CPEOg6PpS2KCGd/M0u/j02MQ21nJMb1XV7+VjHd3c5S3X7JtHT3HiC/1LxR4muda1KDUr3S4bfwn471DUNStbWJ7W6CGIXd4kMy2UTyyPaPaadD+7ljllmvDsSZoZtDv9EuopfEjXmoSW1ommatpeoRosmo6YssssWsjSZkWHk3P2iS/wBWuDFBdSXYeHzIo4yKXL773f8AX4dPKwFDxN44Hh/T28V6/q9n4le/tY/D3iyWz1HNre2c80kfmxalOLhpLS5aG8l+y6RaxNEDKshR7VQbUWh3vg3ULi5nh1Ma+kMdt4hs9Rtza2+v6apf7Pq02lw3EEk6yJJvu7jV7qOGN5rqF97gRRVdS1LUG8zXrWT+2PD+i2k2k+KtQ1DXFuW1Xw7fbTHJdatLJcE5lha3e202KXbcQX/kyK08SF3ie1n8D6raKNc+yzWH2W811dc0+XTI/FmlSI8FxfT6REkd/qEkEkV5PcJeXDDZFLKoeK72oPWKS/rb+vNNdhli38MJpOoaxNBbQarrPgTRptE1C6lvbfVntPD7HCm6doJ7HTprWCKW1lghguZrgteMIMOs5srdXt1faroM9z5mmKLHS9S1Oaa6hXxfpt9EyxSSXbzrea3PHPBI0Ato7dJoLS5ihKrdRwivJqWjaLqUFhJd6nP4i+GcbTw2zyWut6wuk25jDsE/0jSdKls44IgSP391JbKCYGn/AHllZNP8Ex5trSy8PvY/v9Ev7fXzodprdgOXspfENybW8v40jUR2v2RGgjzYGaSZRlYk38T6/wBf8Fdr+QFfQ/GF/o9va+HdCiuPEVh4Ql0/WtB03RdLtb2eTTr2RiLnT9IjjlazmjidbpLzUJ5Z1dbdZFH26ZG6COYQ31hf+FPEvh6x0mKLzptal8WW8bWFkjWkDabcanCBHb20scsxNlp8ciWV3LZyxyJHNBs564WGw0l9GsJNN8XK9hd+I/BGn3miyW0F3aT3P2qews/DsaSzXNtNPHEgkvJE2Ihmt0xaGVtLRVvf7Uu38I6lqmpeObzUNU1TwuNRmtL7XtI1Ka0kaWxu081LDSWmc6hcPEY5PPiSRSsNxaxiplFfElr+fm+2ur7O/QDm9HVLaaLwFpemReGLcx/8JPpfhnUIJHFhfbIVlsLjTYI5dUvmkinmgkmuXjjktpbmWO38q3iz0FzrV/deMNSi0fxFDY3jTajJaaxrc9tNrXhzWrWQtcJcfZwun6VbSmC8upiiyteQW12WaR5FVdzSfiBaap4V0++1a7+y+CfFN3Z6jZx3evzWdjb6ibbzhDqPiOeH7TPJELCN4pbRmaKdHtZmWOOEHEs9Jt/DnhXw5/ZGoalbaH4h1BIrrT9Ris9Dv7zVX+y2Mh0XS7aa3hS5tbiNAzXoZbaSKO4hMh3NKnNt++rP7/68+nnuMj1C5i1a1TTxZQReD/Fl9HHdpGZEsNJ1/wCxi6iknVmuLjxDcvDDAyhVS0vZFhfbJLcb1n1C616GS+h12O8bxdfrZad40uFkjnvtHuPsiTjUjPFbGz0e3DxaepuEE5aC2jlCpcWcmKX9oWWm+ItZ1XxBbiz1jUxJ4d8Yb9StZpNWgDQWr3d7qO65h06Dz57WGbTrIpNarOku91ihUVdW8Txae1vDdXmm382jwwLqlp4kikvdJ1jSZLiV/wC0rO3it4LjXTCouL2a5uGEIkN1NAv75GSuXma5Vp3/AK6f8B7iOw0m51fxH4T0y7v203TvEWhyOlhc6OLt4vnupLhJbG0eC7m1Y332H7Q19OjxoES4iV5ra5rkoHh0Nb6+uNFs7Sxsxbtps+teXo0WuW7ec11o2taibeCFnhSBbdLC3YwROY4pUnjtJjFrzXWr+Dde1Xw5pNv4m1v4r6HpbXpiudRe/wDEmsaTNfrLcafd3UTTR6eYbaFSgifzHa4t5YDBLNLBNr2PjBvh3oujNZ+JIdYsvCWo/bvCSSaikPhSaGWG5Etj/bN1HunubeKW6sovKm2YFozRfursQ5puKly63f8AXy8/1TAytS1PbqFppnhrxTDb+J7eG/1Hwjrl5o9xNfaaYCLa40uy0RBJPBatPcXsavJHI6RWcqGKRLKCdep1TUvDHiLxfaaDJ4O1G0u3sNQ0qy0bT5rZtesdQjcTJdXc00jRR3hU6jc2s7zfcS7mWWZ7wpHb0rVPEXizWNc0vw9b/wBva7rWpf8ACW6T4o17/iSwR3VgLWwvbdbZY5rlI45I4rYpIkbyxTXUbS5TzZ49PTxr4yurrTpb618Pp4q1QxTa5eWgvB/wk2lSOZXs7eKWNlhC2MBgadj8ukkTQu05aXmlNXu2lbzt6vT56aap2SuMNasPFfj/AOHep+IPEv2TS7PxObfwxrnhzw7qE1t5mpieXTvPNy0LbCbuSKCaNUkBjs4sT3EafZ5lh0fxB40dNc+JGqQJFqt6/gnxb4e8Nh7O2WNbiZLF3cs10VkluVGI2jEkWoW7OBFHIZeQuLHw1q15pGuX/jCC61jxHJBJ4tvPEkNtdXfgmZbLyxLFcQJbxaXd+ZDDahpY97SxwkKTbsreQeMNaj8bapJYfa38Sapf2Ud/fae88+oLea7aeUrXMtvIGSxinLiIqYomjht0TfAsk0NdFOk5pRT0XWz27fJdd9hNpFn4j+Nr3x/4g1Hw/p/irWrlJjqPh1Laz1CAXV1ZiSSWwkjw8JurQWfBmu55/MNzMEVS4lPIrHEtvfQaRp1vpcc+kQXZ0bR5Eh+xXFlKXVL68meLDq80Pm+XicEgZQLuklW/0bUNP1PUNJ0nUk0c3MPiO30i2t7aKyFmkUUN65ZWCSyGJZo3hSRwRcKpTf5ojv8A9uadoMmlypoNxNLo+sRXNvZwTONEcXbXCwfZkbDy8tJKs0VvIxeJ1T90ECepdxjyQWn9P87enczK8Vg2p2OsT6akr6REbLxLPLNbyxWNvDIBFO5jlRJ74m3gmLOXWOZZp2IVwFfT03wvJot3ZXOoRWmhadourlW1TUoFhewtLvdLFJb6c6slqjTyIiTM7yI8REi7FeJMO21j7Vfafpt5c6pK2lNc6Elq0SWktlHLLEbKa1ts+eoKRW6LJeNtjnlt5N77GrNv9d1nxIbm4v7KO68VjS7qK71J5re4ubC4s5CgaN3WKCxBaTc3lNI5QRvhWfzW19nN+69v69Oif37Pcm5uztpGn6VbaZo+nx6heTaPqPhhtU1CWe6ZpVi2wz2aKlxMiG2klnKwosIS6QGViBS674xtmk1m50K3ksorrStN1kRvdf2hqrpZyvcq8xYyLASrwkSTtIBGsSqjs3lR8pqWuWH2rUJ47ySZ7yWz1Yy3wmdFhJ8l/lmAur1Eg80H5/L8uWXCxsqhsptQRZIrbUra2hhtb+9sEjnSJrS3EzNcDyw6PbW7KwCkFpZdsjjHyIo2jRTWrba/4f8ADRBc6f8AtS507UJ7/wA14pPtptvtsF47Pf295KHZo3jEM0y/af3saW0cMTJDcgPIXZjyy28cltf6fpckLH+yLuxurQRrFFL9lkEUU9xbh4/IYK7SebdOxEhbbGMRZzpNX1Dal7c/bJZ5dGgu/MkvJZZJPIbzNzOUkmVWk2NuQwR/JwxwHpU1iWbWLS1ikxLbah9pt7W3Y+XEDbM4aKAJIgUHe29IpCSeZBxLJ0RpTpvmX9W/4JPMa1/rFvc679v88/2jczWt9HesZluX87/RnVX2Q3E67AJBHAscYMjjJVUQ4bxxalY3MVvbaXtlg1NvN3RLBEXnjC7cgxRPwqghpXIkRdyAxtHRtbi0XSlluL5fJ+zad5kMbeZ5ux5GMbZfyg4SM7Y5xJuAUIqDEayXGtQWGofvY4rN7W/uibiKOVZ5FKSM0bzSNDJI6F1QqXiP3DtkJwOqMOVtLXl/y/4LI5i/c6hFb6tNfRPNqHmXETT3zRTGJrWSEKiSCSYN5bugJE8oUhUKKVdqzFvDNDaM++eW1tNMDXL2zg2YWX5V89tojDI6MChiU4H7wlS0ta0kMZttzWpt4iluLuN2JVI42lMsTLCZIyxcNmMZQgmZCW+bQ8O+C9T8T2ViYbVIrWOKBRfX9uiKjIxZ/Lj3N5o2yZ3fIjjeWUud1aTjSox5qsu2v/A/r0FdszL2dpLe5FxA0I235ZrzyclzICcrM5bzeMFctMoZW3SKVStLTvDep+KmupdOklmtnllK3d4GjjYtEqbi4VGJYGQF1yZGRfMiXNel+HfhzpeiyQXEinUL+POyeZQqwkvv/coPljXfuIwARuOMZrqQAvT5ev3eP8+3p2rwcRnkafu4eOnf/gb/AJehcYM5LSvhvYw3Cz6rKdZvF5RZI1S3T92sfyQKAo+QRjkf8s19K648nJ5PHXnp0pP4SMnB6jNFfLV8RWr2dWW2yNQHHA4Hp2/KiiiuUAooop3u7gLk9MnHpnj8qSiikAUUUUAFFFFABUtpbx3V1HA0sdtE7bfNkRmWP3KopY9T90GoqCA3BGR6dqBmp4q8PXPg/wAUaxoN3LDJd6Zez2UzwMTGZUcxsV3BflJXNZYbbkfdAAB/Dp/n3ra8eeJm8ZeM9f8AEAiFh/a2oXF8LZ5fMEIlkeQJuO0P98dAOlc/IsnkS5IbK8BUPX865KlaVOGkT1cDgqeLnGnKsotytZqV7d9rfiT/AIj/AL6FIAvzcABsZwOuMYz+QrE8mX/nnJWpY5W2XcDnvmvEyvN6mOrSp1KLirf10P0TirgjDcOYGOMo46NZt8riklbRu/xPqkT0UUV9MfkoUUUUAFFFFABRRRQAUUUUARt96ihvvUVk9wOg8Wf8y1/2K+gf+mq0rDrc8Wf8y1/2K+gf+mq0rDr0cX/vE/X9SejCiiiuMoKKKKACiiigAooooAKKKKACiiigAooooAK8X16++w/GS7kjt5Li+3xi3KysHJNqUAh2RuyzlynlyDKpIFLAgfL7RXgHxjt30jx5PcJJHI15aiQpJGHChlMJ4IIzhMg9QcEEEAj63hxKWJnTv8UX+hlPY9U8F+INP8dRSaVqQistE8Z2c9p+73uNP1K3ZGaCJMtIIxF9iaKCBFMrW9hbZbZKzeu3GgoPC/h2XxLe6dbXF9YnRta1LVYIDFG8N1Es91KpilMkdrqcsfmB5FN9cXLySlbSJSfL/h1qD+INFEWm3KR+NNWlOuWpsppbWW81BAUlAMZSYrIJfIG144kMupyhwkEePTtC/sfx5p6xWtqb/wAPeMbaKyubPTLWFnF4luwtoligDRiZbcSrBBLcCCySCO5nLTSKK6cZ7tTslv1+7tb9NrmkTX8P+Ih4n0jR9VmivNGi1byPDmpabZN9ml03U4WdbW3t43njihnilFxHaWkaMIN8F/duWVAKHwwu3vJr/Q/ENpPd3viTVr2DVNEylwtv4hgjRNQWOyDGG/ln8uK633KJY2BaNg7bWRud+F9zcDxFqui64LXVrTWrefT9elfVpLCylubeDz5LqS9VWkhstQsYo7tpVG+7msizfuFaumtPCcx1bWLG+uryGz1G1t9H1m3fw1IbZ7u0VJdJvriFbEQw/uJIRFpMJDvILC3lLmafy+SaVNyprrr8v+B/l0bLiJFa6bealNoesa3puuWfiOKLQNQNlrsF7NrpJcabdWjzSrLqdyjTXFq1xKsNtDcPAywhdPYpJ4P8X6+3iCK41WaBV8Q383hvx3p95aySRrr9tG+wT3Co8mpCZbebZptk0UOHhtjhZ2Mun438Y3+q+D5vE+qNrMmkx3DeHfHpur9ZEtIWka0Zb+SyMIlEN35ZitLFUJgE8krKdSIqO8jGk6fdw3d7caXcWUsWk67dWk0FjcRpMLVNN1GeK4sPJ0WLEWlhY7VTOFAkYvLpjioTbjZrfT+v0+QyEeEf7P8AFwt9W8Mma/8ADmmf8I9rsdzcAta6Fdx7bcySJPd2+kQRAC0YxzT3UlpcXl0yowMrSJe6do6/a9Ul8NRpajGqw3to1/beIrDBaPVjZIbe6194wGmlv5hFboFnktoZXDSVclittabwzqn9j2en+MfBl0Zo/DuiaVOby1jbImGn+HlilNrE/mi5hvr8LI9wsHmxRQyxquDpctt4Xtbi4uNb8MWXh7QdU8u4bT9XmfSdY0O4ilW0S6u3kjk1z7LtlihtUUDy9JvYGJeWNTitUm3/AF/wen3AdK0mrR61eX8+s33iXxF8P/Oj1Ivqr3t7aaO6skslzqMcktvptwkUYguI7K2a/lksZXjcicyrjJpcWi3AsdJ0aa3XRZpxoVhpenvHonibTLiO2e5ght4livPEMyCNIixaK3lhtLea4dFd/O6CbR/EOnX2kWcnh3U9d1nwXDFdaKH0WW6uY9BbCKLLT5YpLXT5o0gklhkvLh76SWwSKVG80RLnWdraeHYbyfRbXS7eLR4xc6dq2h+JlsbDUtN8xY5LG78RyvbXV4sRaO2hS2Uw28n2FLl5SPkhSev9f1/wbDKOm30PjH4nWumacs+s6/4ZjXxD4IkSB7sS2V3bDZawWMYltdKi+0TRzQXN8zPbIbBZUkjjwLXg14PFniZdT0S8tJNOs7W18QeH9WtbqMXmn6cLb7NqNjf6oWjj02CKCUSS2lkjPavqUUlupWHabPiC1f8A4Ra1sLTTNL8SaHJFN4o8BafcaHc2+nahIAZLm1sfD4WeW5SU3GDJdzIYY7qSW1RYoWc1n0xteu76z8NXN9rXiPUrubWfD1vrX2PU/EOj68kzXpt5tsqWOhiSeJ53t/Kd5o7a7WQpIkUS25cytHtb/N/Pr21AreG7hvE3hf8AtLS2gPg/Xphr+g2usJPZabHrhMseoafcTtDPfa5cypIsBizsu45b6OPa0Eax2YYNJ8aWNv4eisRp8XiIzS6NoGu6Yk91Y6ra3EiSxWXhuC8S3s4PNhl2XNznYbe+S7eSO4DNm6q1hqngx7qxvF8LaR4sup4rfxFHdsx0HV45EuYLVvEeoMovLBrqzvbyZrIMyXCkRySeanm6niqG38U6XN4c+y/ZfAXi3U73TdVntbieCxttb+yxy2F3GweS81u4kt7cTp9yC+aezcok7SNS0k7p9fmkvwb/ADt5gI3leJry98Qa9b3+hX11dz6fqt0dRjvp9A1y2la2F5ca1dWpstL87y0WSO0CTILbTGt1YOsaz6ZNcPJeeKL6SF9DaXT9J8XQ/wBpXunaWt3BctLpmpyeIbgTXtwsslxbzQm2XMUEtoJZVijBlh8SQweJtc0zw5qtlZ/ZrgLoXiXw1LZxfara4urK2WyudL0tFijs41Bt7K11C+IniN+kNwAIAgtXkTt40vtf8VaHqlp4t8Pwy+G/Ers8evapc2dzbRTm/wBtx5ul6NCwlYlJJPIMF1qCKymAb45rK7/pdP66aMZrR+Nrrwv4i0HUvEviE21x4Q0y40mEX3h2DTrm2spWto/7V0XR3hW6PlWttKbhpVMMR84wCaKF4Xh8SaXpfwr1TWtb1yTxzYahoc1pcx+CrOeEatP4bNqkM8ou9NYva20V0l3cmBLhLNDDFH5MJniatXUP+E2+G66gRpd5o82k2i3etXceoCTU9d0RvMIutV1RZ5XheCNdh8q2km329x/Z8gieTyM+38Np8Gbe6XxfqHh/wHY+F9RWOLRfCt49g1/oepOjB31BWinubmL+z1K+UiXEqaVKjiYXSvWN4pLt5W18tP613VhEN5pvgjwb4iufB9z4YvLnWfDXkajpHw9szeeIYI9AuJI3urC8gjEkYuvNDXWZcoJprDFw8MYAsad4w8T+JtTTw/4etr28stCuYfEnhrwppclo+6OO6eS50zV5LkJFbyWZktYltoTvs/tVsQk5t0kWw3jI+EbVNC8KeH9S8Pr4d1q/vNHuv7NuNOv9W0++keee00rTJLMtdvAtw4aJgkKSWlnPJ+7LIkklt421LR7GHRtRvNItfD90/j7SrporPUNb122umuVv44TDuszOn2i4dPJSVNt5YBvKcMSXdryVn/ebe/l+fVXdyi1OyXE2mP4h+IUfhnRdYil8aeDI9Ft3RLi7vI5lu7T5/wDTLkgXkboIjbTyNqEohEZijWDkLyxjsvBuljWr6CCbWNGOu+HPA+k2kdppdpr1vi3vdNa1yZUjdbhLeaBpDGd2qSSiHgrZ1Dxho3w4udev/B00vijXNMubrxDa+N3WK5tr6xlRpb62ldZIPtASaa5kFvZBbeOdrQyFZPOY+GfEnxJpOoeL9V1a+t11fVzeWl7LqXiSKRGv7QQfZvMfSljjExgH2onbHCUWKJsybnL7UKc6k7XdvRf8PZ3vrq9dCJSNTxx8SV8Q+Htbh062itfARFp4jtPDtjdRRaBGIWjE1uheCKSYyGEEosZiE95h4kkXzG5jXmh0O0mi1WHT00fStRt7y0tdU0+S0sIoLtnidl0xwZZWVxeSlZHUosMZiwjFTl3niRvDepWcznVLebR7+S2a4keG4ubaCdNy7YnZ7OzjBaCLcmA4QgeWFZTz8NxJNYaTarultH0660bfbXE5e5CGNXEUgEzyR5hMgWKNI0DbdzfvFPs06XKrLb+v0XpqZcx2NxeQXF1YWGo21vqF5ZajPZvFd26TyW1nMGa3S202UMlvG3mWSpLMwaOQrE37tNtYN14mN9bruv762Opabd6DNrF5N9o86RSArTXdyXjjic+ezR2rZUDhpDtC8tqviB9S0e4kaVbc3VtBdeSHUwSXEZLSL5RlKzOx8neZy83I/dkN8k11eSw6lLeSRSJJZ3qszl5oplE0YDHzNkbIplmabaxgjJZwN+SU6o0uXX+u/wCLZPMaupa899batOkIh025tLXWRpsouGjkmVmYvLES5m3GNYpJnaFGJEjAs0bHPjYwzRzWcyS2dnq6m1kkEcv2dpIgyRwMqvEGaSRiYYIG2lAd2FQ1nLpMt9GI3tbLT4r1dQSAXsaQjd5qjbDGvmFJQdq7CpkwCodsxlEuri11G4N3HPPcpKliksEUEcs0xaZnIUmaQs21FxHKZCxwSirGpj3VKNv678v6ECXmqSw6VJAr/Yols7q0IWVo2m8kiOMSO0kTSuEOArZIyALdFIL3dSin027ln1K5OjTw3Frcwlp9k3kMEgJRI0jZl2RuTGggcLt3FjtCw6deXGjzRtZRXFinnXdl/o0TSNtMm77P5kjqSVWPb5eYJQZlZdxc5ytGtjcWsc1mTcLHDYuY7ONQqMJSCpEaKWlJUqNzxSHcVRpFYM3QoN+90X379/l5gS3KwTWtz5lz9ruJbfULlYfIH7s+cq79z+b5uRG/7yLc4xhpAkZZJtQ8Rqt5IhvraztDfieWyEwljBa1Cly6CRnbAYbvnVycyon3Xo3EEt1HNbzX1r9pk+3LHZrAJpmuDIo2bJWLRswA2yOBOdhTDYQHtND8C6xeXLzzXMmjRC4aaOZpRJdurQrG5wY12M6k/vCquCCZA52FVVq0qEOarLTX177W/wAxJORyFvNfi1ikE7Wo+wWkRaaOQt5Bl2k5kfaY89QcQMrDO1wq1taH4B1nW7UxpA+i6e6TRB75Sx8kyZUJDncoUqOJJGAZ96fN81ei+HvAOh+GGjks7FftKrt+1THfJ0I3LknbwTwuK6EgEkkZJ6nuec9a+fxOedMMtH9r+t/mWoHN6J4C03SbiW5eS51S7kkWT7RqE3ntuUYX5em4Do2Mjnnmukb5sZ5OAoz2A6D6UuT6nP1pK+Wq4ipXlzTZqHr79fzJ/mTRRRWIwooopW1uIKKKKYBRRRQAUUUUAFFFFABRRRQAVo6Ho/8AbNxMr3ltp8EMTTyXN0WKIgKqMhAWYlnVflB65+6Cazq3fBus6V4f1r7Zq2jHWooUJithMsarJuwJGBR1cLydhBBbbkFdwMlFfxN4duvCWtTaddvDJKsUUyTW7EpJFLGJYmBOD8yOrdAR90jNZsULTTJFFF5ksmAsaj5iScAfnWxrHiCPVPEF9qkkEl99qYu66tcmZ2kOPnLx+X6HtUujataya/pDfYbPThHfRSNNHJICFD5O4vIw25rixeJrUKUmqTfu36Wv63v+B5uMxFbD05SpUm0lvpb87/gVf+EV1z/oD6h/4CvWddW01ncNDPG0E6/ejkXDDIJH6EV9G/8ACWaL/wBBnT//AAKSvE/iRdRX3jPUZ4JRPC3l7ZI3yOI0B5+oNfn3DPE+OznGSoYnDezjbfXe6VtfK5+fcL8V5hnmNlh8ZhvZxte+u90uvlc5miiiv1A/UgooooEFFFFABRRRQAUUUUARt96ihvvUVk9wOg8Wf8y1/wBivoH/AKarSsOtzxZ/zLX/AGK+gf8ApqtKw69HF/7xP1/UnowooorjKCiiigAooooAKKKKACiiigAooooAKKKKACvHf2gNOCz6PfrC25hJDJPk7cLtZF/8eevYq4j4xaX/AGl4FumUSO9rJHcokYz0ypJ9F2Mzf8Br28mrKhjaU31dvv0Iqax0KWgeJJ9a0+O73Q/25FJ9vGmag5CzfKj3QljMsatbzGdpAGKRRwXOqEghFY+1/ZX8SWet6fLNIYbxr+XTP7bt1mtBDbyedLNMXgVIEN9Ml9db8KPJhtBHI6vDF8qfDPVUt9Zs7KBB/aM+YoreV5BbT3AOYVmUSbZBMry2jK2xVSYsc/NX0B4g1SS90ee/0GVpNX0drnxFol/dWMd2sapGbq4mkDI0USyRzpc58tWNxqNpH8gsuPqcwoclWMILTX/gfK/69whL3T0CPxAfF1np/iLTIrzQtQ1a4ttPv5LrM18mv28zyWjXWZreOe5W4EscFltEUUTwT3GyGOCGO34ujt5bjw3rA0vWIrOT7ZpuvR6asRu9ImhkaRZ7OS6JjL2NwbhbjV5ScSajMyTKXxBX8EDTNZ16/wD7FtvtuhfEi22WVlNOoY7YEF1aLcuzyB7iJYpb+6RH8trd4Vea4Mbpa8P3GseFdFurcW2m6za+LLOG9iuxZgQ3sccP2ew/tNbSBGtbGeOKP7Np0cUkk8peBpQDIj+BK6laO9r2f3Wv5bfLtqak3gXR4LrxNPb6nbnXLXxd5ltJpOj6lG7319Bbbb59Pgnu22JeWEsMh1O4k8+SJJ2HlNfW7VzeqWdnrXjKbSNR87WdCXR/7P1eW6s1vIJ7B4JriDWdOZ0gVpluWvYpdXuT5IlvVuQUinMcXQ6toWn65YzatZQaxceG761sNH1r+3HbUbyz1COdhZX+q+SZmvL1ZZxH/ZISRQv2bzzbqIo49fxFpsfjTXNCGr3V54Q1rUheaD4m/wCEmN3fhbX7HNd3sd9ewyQRxx+bZRSQ21rNAiwSvNsMV00SCmuZy8vuf9fo+oyr/wAJU/gTw6q+Ldbs7vTdNuj4e8WyXN9qFxp/9pIhVLu8uRcF9YklRHJ06GFf3MiQ3TRC0hKbmmw6ro+naj9g0efSfHHhGwaw1qPT9YhF/JYYtppEu55ZUtNGs5I41aKKzmlaBp3a3Ki2uUfA1Dw7Jp3iHRpdTh1i11CHQm0PxAlzaSQw61oFw00ds7+VbG20KwU20ZdNsNxHEbvOJYVe4isdUtPDOtWGtaj4lntZNNhjhvy139tgvtNjnlnh1bTLHyYpNVkhaSa7l1G4iaBZPtE8MU21UiyktLrffy3/AK/DqmMpaHoOkaP4X06DQtC0zUbOCabU9D0u80rUHt9W0+7ImntrfT5rVJtdliKR/vGkijRLPS5t0QM4HSaXDetr1tpPg66nvvF2lxR634VhF9aavrS2ckO2aAGO4bS9GhMMwCsIWgmt7qz2RNPbBTq+Fvh3caj498Xw2j+Jv+E1steUvoVpq0NuYbK4s7a7mfUNQthFNbxzXF1czNb2szwrOZHht7lbeQNzbaXrereCvD9qfBsVzo2rS/2z4B03UtK/4lH2uWOS6ks49LtnvIgLhWkzLf3UX2dLmV7dIhbuKlyUtb/0/wCvzAEm0r+zp7rQ9V0vw3pWvSR65pXiGK9lsdMW+2u0kV/4jvLeO8u2bzJWC2hF0Dc39tIY0jEix6pptt4t/sbR9V0o2Hg/XN914cEuiTrBo+uWwlj1CKy8L2ssss+xY0SRLomBJkupMvHcCOfRXw54qsvD9j4g8MWviDUr3xrf3OteCdX1Gaxn1uzuprVr8Id88Vpp0M80NzLKIIpvtNvK0MoicIG2NN+H+lWPhWXU7vU7j4aeHviRBJP9l0meXUbyz8RwbpbaO7u5VN/d3omWaVIomt1S4s3t9s0lwTJLlFK616ed+/r8rPVAc9a6mnir4gX17rd5pjX2pxCw1CC8kt9a8XaX4ghuUsN1uLc29vpcsjNBBDfhPIP2KyeUo8qKzfAO7UNavtb8T6FqU+teLIm8JeNbPQ5I7y8uL6CZ7aWG41G7CWdlDeEmJrKCaOSPy9N8g4lAXoNM8eafr3h3VvCug6TY/B3w98R9JuLW48Npo7apqdtqcST2V8YNKsnW4VJEiZRcFVRG0uUvCrTB20vFXjLUdXvm8K6Vp+i/Da+8UWkWhTeCbHbq+t6fqNpbyta3MNhE9pHabVh2xagZZUMcOmSEQRoXSJSmrw5bfPZLp/V9lsMj8L+CU0XQ7WXx5f6XoWgalK3hD4gQae76e91PbwXLRajqmoMyyFblxvRlW2eVdUgSR51CrJkaV8TLPR4NE0+HRtL8J2tnFfeBdX/tvQFhXW3kkt54LmDQoTHcXKv5hZoNiGA61keaomY583j/AMFfCPx3/anjvwvfeOfiP4g0D+zvE82raAVGmapa2ebwNKLfy2tGtL1Vkazjfbb2kchScThza8Ga9ompaRo3h7RrfUvGurfETwm/hbxTqtpdm4WLWreCX5ptSkDruKS6iSy/aG8iC1aKIx7FkTjJL2k7tPW+y6/l0b3shG14b0nxXDsF/J/ZOn/2pL4H8TT+Ib6XxBqdxbXnl/YpLpJXeAXAEloirGbm2V9WuWMcSiWI3fB+uab4H19NW0yy8SeOvGPhe51jw9rzRRX2sXd5p4YyxAXsuYPtX+j2M32fz41U3N2iQrNKqVzXxYj1XVtBv/Ffji8s9R1EWt5puo+HLC0e3sf7S0hJtTskuYJJJHmtHSPUC290EsN3ZSCGNh5kbtP/AGxvhp8IfAiWvhKL/hKdUvZH1Q2UaR6fDYR3LrJb21xNl0UQwPDaAx+YifZkicwjaFh0qtSmnRi5N9Ft569t+3Sw7xjudJ4euta0H4ax6vea1pt2nwnsRquj6LpcYmt9RsF06RIZnvC264WW1kmiS4jjgiEyzt5UqxBB88eN/i5puka9Jo93eWPjJdJ1V/7I02OSC50CPSb2EN9ht1jxJfJb3pgYIyYC6dEEFs3yDx3xt8VPEXjjxfrWr3cFjoVrr8rQanpum28NjaNJExdJLmB5SklwZfOci6LNkHYwwmznrqC+XSZZL57oNd2Epka5u8tcSwfKwKmPL+W0jfJKgZPKBSbauV+kw+Wqm+ebu5fh3X56mMqjOq1H4gaj4outNmvGRv7O1G4tNPSBEnt7WGTdPHBaqVkggVGESBV82baAiZEaIee0+eZdPk0+d/ssctlJY3U0TyQjMEnlIZPMZMkLIwKyyRrh4wYvliWWrrF1py3l1NcXMscxNtIZJypS4AlCSYcvP5kSqkYMZ85g4JChVdans7g6bIsDada2lrBqE1usksQkjETRySLC08roBjOGiLxHlg6yM0gX0vZxjG8F8vl/wTG7Kv26XUrO8l0mxkEVtFDqDRxSkxLJGxaR3MaRrBIETZgJGzCMlZDuxJMLaCS6uQ15ZrPJqSSxxrG1yl1mNVbLOJdzjzSB/ryHY7Qih2aDULie70+2tLu4eMWdrLpa+fcIqb12qqOpj/dglGYLMkTDywxl+VRG7VLq5VZ7k2F9dQ3Vvb3X7m3n2SxRSl2aRpTtyI2jJMguVGQAQuAusYvZOy8tetuumysBM7QLIbO5vrsS3EN9Ym6uNtrEAJUVY413x4wi7vIlZUTcCqsWVGjk1Ce7b7THaQ2bRx2M0U9vaRNHZ5mMmAxjVYRl2IWTAbbvMpUrvfbaf/Zt2iXlw3k22pPbyj7NBGoUwNIy+YD5Me1nYeUZmUlzujGCrwXiWVrp8gS3e5mi06eNkmlFs9ky4UKdvzB082VGDCJZjtwpcgs9E7LW+v6+QieKN7jUobGK3W9ujfOfLEkLNcF45XQEOsjHHmqN8gnQlvllUElqv2UwxublrW3khsLZnS8m8v7SkbEssW5mWbcYkC5WZDhCCoCoLkMdxrt/JZWtjNd2v28vJpsVokMVvmDa+9Cy+WSTjYwzlG2T79zt2GifC2WOGGPVdSeWEwrDPZwHK3AXGxZSf9YE+bbhA67htYbVxy1sVSw2tSST08/6+75lWOItY47nU1i0XTbHWza3G62SZJHhSBoSQPKJZgjSOW3PIdjjlYtzZ6fRvhhqOqPbSa/PEq29vBFHG0SvMhizgDLOoUAkHAZHXllD/NXpNjptrpkbJbQLEGbe7Yyzt3dmPLMcDLEktjkmrXOMZOMg4z6f559e9fO4jOpv3aK5X33f+RXKZuh+HdN8N25h02zjtVP3mXJduSfmY5ZupHJ6HHTitHooUHC+meOmKKK+dqVJVZ+0qO77s022D9PpxRRRUDCiiigQUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFX9B0+21LVILW7uTY277iXitzM2VVuI0BG52wFAyBlxlgDmqFXdH1P+yb0zmzttQjaNo5Le6iMkbhhznaQykdQQQQQCCCAaBmn488KnwP4qvdFNz9qe3WPdK0fluNyBmVlz8rIXKMMkBlYAkDJ56WVIYmeSQRxIPnZvuYHzH8K0PGutXnjbVX1Ceb+zpmSG3VbJF2JFFEkUcYEgYlQkaLk5PHJ5NcrqWjXc+j6nCl/c38s1pLFHDMIdhcpgHKIvavRwOEo1pRVatGN5We+i77cv4mMtHdIn/wCEo0T/AKC9j/4FJV+3uobyFZreSOaBs7ZI+VOCAf1Brw//AIVn4k/6Bv8A5Hj/APiq9Y8DaXcaL4Xs7O7i8m4i8zfHkHGZHI5HHQiv0HibhrJspwUcTl2OVao3ZpOOis3087HPQqzlO8o2N2iiivy07QooooAKKKKACiiigAooooAjb71FDfeorJ7gdB4s/wCZa/7FfQP/AE1WlYdbniz/AJlr/sV9A/8ATVaVh16OL/3ifr+pPRhRRRXGUFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFVtTsU1bTbuykZ1iuImhd4yAwVhhj+XarNH6/XmqjJxkpLdAfKKw3Om6lcabJeHT3Mn2S5JdvLXEgzv2Z3BWQN8oPKKRkgV7vd+MNRuNPW4j8mz8U2K3HibR1vLYPPBOssv26JIpY2ijSJ49Rn3M3msRaDJaEAeY/GTS00fxrK8W1VvYVuNqpgAnKsPc5Uk+u7mrXg/Vr+GPSruCC3nOkX0WrWlyVSG3tpkMcJilDNErCST7BvcOSqfNyxev1+ty43DUsXb/h7bfp5o5ovlfKfSun6tpevafb6RLJCdK8RJdXui318vnw28QuEuriO4kupHVmtQ4vrnLFbmaM2zShbYRSdB4J16DxBqF94c1Lw/q2n3+uE6xp0F1HF9vsr9/KW/8mNYoh/a7TmOeOaRglvbXMc3+jxI0UvAaTr2nNdWNnot5YXzeZFq2jX+rXnmmaa0unnX7TcGNliWNXu9QuBmO4xerANoHzdfbyXl1q+g6n4X07VLi9vtQvTcaXDdiK4jvtk7ulzIt1FBBfXVsb8TSKjyWkZgjSGNkRn+KqU1Zwat1Xl11+S1v5662OmMjd8Hyan4y1TxJ4V183h0Gf7ZpAh0PddNa6xGptNRsbFrvIae9jdLtrqcHZHNffMjNd3CVv7P1bQRp+ja3qOjp4ig1S10oahpli+oQXGvjdNZX9tC95CJb6WW2uIZ7+5RVaaJbcjy0u3EvxCvLXTVTWbWWLR11KKLT7PUNLA0q20K8ME1qskDmKOeG2tm/s6C8nyGkdoYSYRA1m274buvBPjRvCniTX7w2GlpaSaFdzaDcoYrnVENrdJpdsLVjLbw2slmPsiQENPJG7Bm85XveZzdvaJaPokui6f1vr5l2ItsPj7QbvxPa6JNDqnhW+vdP1zwvrkkmr6YkjSwwS2t1LKPN1zUJHhtjBEJkiQxWce5Ckf2jYi0jxnoHiy1snTxJdzafbSnWtIh1a/uNT1XSZIpJLG9u9UjmcxSQ3MKxtaWis+/7fJAs0U5jOZpfheOa18BrJ4kF54l1IxabrGn6np0X9k+H7qGOW2F1FDYLbLBci7tVsLe6MwdkysLOEBXVtr74haLeeNPEdr4sttZs/DQm07xl4nt7lF1LUltIUvIxZ2TQT2ts1ss89v5WdsrtKH8uQrIvM5PWNK3XR/dv6/Pb1AzPB+hvr18NA0bwVd+MrTwdvurDRZ2tLbwxd6TeQTSpaxSyRRyXSPcwIyXcsVys82nRT74RcOyWvCOqeJ9Qs9M1Lw5a6lqCeEYRqnhOTWjPb295oUdn9kYWOjI5N4VMl2Y/PminVbjTzJcSLL80mtQ+LfBPhGXUtV1vTvDcPwp0iTRX0Oxvmin1zS50tZIiNSkjV4mkEEVuHhtkLzWs4jkiLDyU8eW+reBvA+v2uueI4dE1DwBZB/DGj6ILpXuLGa2eSK1mu7eSO6liT7LPEAjW7Y08XVyjoRtltN2dund+r066p6dHrsB0ml6Houpa5cReEfiZo+pRaMf+EnTxrrhgvjZN9tlutQgt2tZIIVjfzAbpl2NHDPGkjSxzwi24+TwL4o8QeDdG1GPSbewsfiTFHd6ZqWjXkeo+KrfUZI/7WUxXU32G3tbUz2rXckUZI815hFs81Xhv+K/DXirQ9b0/wAK2+s+EdX1fwrb/wDCW6bea5dy6Zpehwrev97TyJhMgjMsEcvmkWqRJs+zuFeflLO6gmvNQj8PWOvS+KdSmur3T/8AhJLSCDxZDqjNJdvaSXltc2/9lWc/72by8I80Q1EoULRNI6abXNCSv5r8baWv5+fqNnd6fpGua9q134Qi0TVPCX/CR34gvvC+n6t9nh0vX4bVLyC5udbaCeW6upbW0S8EtpwklvEtxG7XMjnWsvD/AID+H95oGsePr+38OM99eaffeGfBtzc6Cula1EUt47nT9PsZkuJ0nhmIeZhNcPHdWTgQQOwTxP4gfG7UrjwhqnhddZbwlpGsSRaymi6LeNeavoWo24gke3ubu4ePymMsBvX3LFK8y3W6bcp83xjV/iBrvia8vL62kmsZ/EFjbyJPcPcXl5JJblip8+WOSaeSMTQuGjQfLGmyVRBlt44SpV0vZ/11+/vtq2LnUdj6Cm+IGm6Xpk+kax4g1LQJtWs/+ER8XWen3UN74k1sC2la1vryW6E6IJfOEKJExWL7ZGpu9sKxxec/FL9oDVPih/Yvi1tYtk8Xac03hr+0LCzVXt7Z5SqyJdwqk0962VnzbtHFt85PJRZZUm8V1a+l1TSdUvEvt9vPGmpY2+YsswI3mUNOULZS33pI07kyhgu5mFT3kkq3F3qC3O+R4odUF8kLi6eEjbJtwvnGPbERuDWyjzM4EbIB7FLCwpuMmtf68uvTrp5GXMR+IFi8S30F81tpv9o29lLbtHHpdnYwfaY2yGaCBII4wQJmDXGWZI2VkO1RViHUpIiiW1pqVxHIi3+nNIrieVA2ZLaKQKnkq0eARao2d3+s8tGwjW975K3FvdRQWWm6jDcxugjW0tknfar7i5hUeZJOAypMY2iIMjqoq7DoLRaxapb20kd1HcpaJazQSK15bzlVSNo5PKlmRZWWLzJ5IoisSjBLFK6+dWS7f1+q/H1IsR2+uaSuoxRwTQJYWuoCWC6hlS2AguYpQyKys32SMSs5ZMGby2VusHObH4djuNQncWUmoSNf3OnlhajEm4tMhLOXfO3cCpKyIdwknQbcXLrTbnS9Uk8MLPbrfxWzaHdCxvReySugGAm8MQrDe5jAiRTw0qsCEz7zU4NRk/tK4sdPHl6fFqBWGGGSNyY2iEY3xrsVFKquGaNDEqkSyvg3GL5uePb/AIH46gVY7Gb+x1tIJI5Gu9PeJnlupD9peHEaxQfuVSZ98m1R++IXCqy4UmaZtMia5lsoYr22jFiTdOXMSp5wGxhvYGMrFF+7uZkwQSoXO0TrDHa6hthjkkle/ltpLxkeMzq6O7RFQjFwSygxzSSyAooMRyYmpTWss1ni2s7m4uLXTptPP2cS3EiupEYHL7owxDsBsgGGYESj92/RGV3fm5V/X6L8SS9JrLaXdWKOLDRtTtr1k+020CQugeFygSOba8cWJAvltGqM3zNKu/cMdpGXT2tory4WWTSpFuI7e4cLJ5J2L90ESKP3oBVplKk4EKjMfV6Z4N1XWL6d47Y6NpUzw3ESS7odkwYkmO2UJ5Z+QRsAQ4wCssgJ8zstJ8B6bpsiS3Cf2hepK0okuMyCJy24sqtkhiQPmYtJgAb8ACvNqZhhcPq9ZD5Tz/S/Dd9rF5J9kt0uBlJV1LEUcSgKqSRjb5nJVXG2NpYwH2+UpOU6/RfhjZ2MsEl/N/aE9uJQgjh+zoFdiWVkB+6csuwHygrMdmWJPaY/KjA6YAGcgY4z6189WzWtVfLH3V3RpyjILeK1hSGGJIoY12pGigKo9AOg7fkKf6+h6+/X/GiivFbbd2UFFFFCdtEAUUUUgCiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACrmjaRc6/qtvYWcYkup2CqWIUADksxJ4AXLMScAKap1s+F/FmpeD9QkvNMa1EskL27reWUN3E0b8MpjmRkwRx06EjoTU6lFv4geE4fBHiZ9NttR/taBrSzu4r4QmENHcWsU+dpJIwJQBz7nGQtY+j6TeeINY0/S7KH7Rf3s621vCSBvkdgoAJ4HUda6XXPiXL4q8TJrOtaDouqSrYQ2K2q272kIWKNI45NlrJEc7YuTnaqkqFCqgW/4T8caJD468KXknhzSvD1vY6zaXdzd2L3ssnlLIGbKSTSZXAzwu75OvJryMbi8Vh6dT2NFykotp6Wbte1r3evZFxinKzNz/hk34qf9Cr/5ULX/AOOV534s8J6r4H1670PW7X7DqVrs8+38xJAm6MOuShKn5SDwa++/+GsPhV/0NI/8F11/8ar4y/aE8WaV45+MGu63ol19t0y6+y+RceW8ZfZbohwHAYfMCORX5PwRxRxRnmY1MNneC9jSUG1LklG8k0krydtr6HfiaGHpU+alO79Uec0UUV+4nlhRRRQAUUUUAFFFFABRRRQBG33qKG+9RWT3A6DxZ/zLX/Yr6B/6arSsOtzxZ/zLX/Yr6B/6arSsOvRxf+8T9f1J6MKKKK4ygooooAKKKKACiiigAooooAKKKKACiiigAooooA86+OGiJf8AhWPUVCCaxkBLsxJMbEKwGOvzFevp7mvHtI1SSxiS2tbaIzXSzWsr3U22KRJUVVVtxCDYy+YCTw2wn7gx9Q31rFqVnPaXKmS3mQo6biMqRggY6fh9a+YLnTl8M+LjaXvmtDZ3gSV1hXc8YYEsqvlTuXBAYEHdznNfpPDuKVfDyw0t4ao55rXmPXPA9xD4OsdRgtbCG9s3toNSifVp1IhaRIMwqzIkQimN5ZQ3P7wboIJ921XQL6Z4fvLmTWbK4tr3UNLOI/GfkJmG71WKaOG1vZUWOdkW6vjdTRwpGyvE0EaII2nZx4J4G8W3+kw6cLCWF7m1wLi5uLeJksbYSsseN7IrMs9yZQshKh0tmLKEYL7D4P8AEllay6Tb200+oLDf2usaRusbjULqyUySRWVk6GOTMVta/arnyw6uxdTA4wZWyzClOnKTet/x9e39fPWDPdfCuj6dql/rcFrrVp4T0y3gsvEDpFpqwabDNaXDS/Zo/NjikNtbSrE10qlT587EmzdpkaPxB4qGs6Jd63qdtpUXiPxv4dt5tL8RTsbS18JWrL51rFd3OGaHbcEyRXCjM9wCoWERRYw9VhfU9FjsNHnufFdvZX95d+E9QiFvm91+RRepcmVXWF0heS9wVHkttmidA8MXn6tivhnSNW1uxtvGV94c8P3d7a+I31bX7NYbO+1tJRI8bSSRQgMJLaF57ZHDM29Y/s4hmQ/KOK/iSfy3fTsvLt0sbGvft4E8VabZSan4S8T6T8KdUiaHVI2S63ajrf2iBLcXEFtK1y1wsv2qOWSVcSTJDueYrbsKHhf+xNAv7VPHGgat4iS6ubrS5PCmr6FAqadNHcGDR5vs8McVipmgQWq3TFtzCNIZFiinCZmn3st59hufHXjuTQ7LxNFH4k03S/D0cdqmn6xbTwNd2/kyea89x57J+4+cSTNdFoVlVScrxR8RNY1nS7OS31iS/wDGPjK2g07WdFm0pftOgSQxXF1F9lUvbC3aKZ5DEbh3kYBJY3fy8vVOnzLkg7r1dra63tfTW/othyZ23hnWNM+H3xD0fVL/AMN+Idd8brdXdjeWmsFr270+zurq4OkumpXcrQRYjH2cQxXC+ZJdOGMkkOytA6deeF7GbTrHQtQsviFY3y3M+saFNFeppOhT3jMlvbCY7pbdLZbiGK0S3ZRNa+YIFJhlfznw3rVxqWq3HiPxNpXie+0zVQtnceZrkcbjWreU22RBbSRwNucW8MNwqqUktVlIjz5wXWvGzeGdOs77XDfnXJbWzh8Z6b4g1byrTUpZJdkECyHzVW3Mkl7cBLX90I4JopogHConTm6ijF3ennqt1o9k9Ff+7cnmDV/EWl/DOPSrnRNU0m20i1tW8TeG7fxJdQzT3FgpiQpMoRJ5gVjszY2pmVj9mVppVa3ihj8x+JnxV8QX2s6v5HiTV5Db6j/b9rdwJcafNGZIgLiRYogtw4Cx3Fsn2iT9zD5MayBWJOB4n8dXOua7LFb28drctq+oTvHp0clvIRfyCUiVmaK4kKuLWNZPLgQhPLLbWBHFafbWtvZ2CzJZT20ckmnvdyNbeQm5d8TMWQwJIEiXLKZyRI+WBEan3KOGS5ZT3/r+vmZylzbFqWRbO3LQXxS1028Sew3yw+VCr7nL5B8ljk3XyxQu6PHgOwUZZDatu1I/aHvY7bUy84igAklVh87TFlbZhZ52zcz4/dsrofnAsafYtdXVjbas2zUZkn024VUna5kBBYSvDE/2mUFYSuH2KBJFtUqpzdFjBqcdnb38Kh5LWXS70s6ERzxKzckp9mtFiEcxzH5jlH3hNzhl6udR9xLT+vw06dyLFa1t2huLS4mu2ka3uzZwyLK+1o5TGAtsqMskm1ZbdgII4FZAwyVkXNrT9JSzuLCw+wfahbStY3EJgijGyRFaOfyHCoskqrbbTcytiUMoicpgOia41W4gZbkWsOr2RSeS1aaUvdW8wAkjmIea6kjeTeAhVcRqnmOsZNRNuv7O7tLWKK2uJ7FruXSg8aQWdzEweUy28LrHGg3x4a6y6/ZypRztUy2/taf1+mvqupRLayR6h/Z99NBPc28kMumSXV1K8xunUuAPtDLMUEqJcjZZhwGZRvO5drYrFp4YbATXEd/rFvJp93HGixS3M0YlRbhYEdZnBaO4SRrkqrNKruMLsV+oTeZLLesk01zqvk6jbzFxBLeGFoWeDz5o0nYOI4Gi8hEXzJtqgrH8kFzDZ6tPqGmD7Rev+61u1t7S0kl89vLULtgUy4MiJGWmuixXzQfJG5iZiv6/r+mkMybqZtSudOuLx4bmKOG2gmS3czb3H2qNWii8kweQkhWNvLjlCkpsLtI4ObatG1lHF5zSm4iXT3FsRJIJY45FOwGRFlYq21QkjMQygFEkED9BqWiT6x4ieKzi+3/brS68q+uP9ITbJKrtmTzY4d8ckjlhApWMtgea2WHdaB4RFlqlzrF7dy6hq9yA0juyFEwmwbAoUZCkL5mORkAIGObxGNp4alzde3X+r3+5EJGDpfwzF0txdakRZz3UcJe1tVV9uxtyB2YFH4CBkVRENuQmVTHaaPo9noOnxWVhCILaLcVj3FupJOSSSeSev9Kuf/XP4nqfr70V8dXxlfEP3noaWQDjIAGD1GOv+cD64o/hx2xjHt6UUVw9bjCiiigYUUUUCCiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAK6f4f6Houuaxcx69qKaXYQWskxmmmaFS+QqLuWKVhy244jJIUgLzuXmK0NF1698PzTSWTxr50fkyxzQJNHImQ2GR1KnBVSMjgqCORUyKLXjLw/L4V8RXemShfLjCzQ7blZ1eCRBJFIGCgMGjKsGAHBXIrHjVpGWNSHLHAXOQPp6Ve1bXr7XNUn1G/n+03k5BeR1XHACrhcYAAAAAAwAAMAVBHdFriEyBQgfPyoB/IV34WlQqSjCo2vu/zPRwdLC1qkI1qjV5Weisl35r/oP/ALLu/wDnl/49VWSN4ZDG4w3dexrf/ta0/wCev6VjahMk907o25D/ABV9bnmVZVgsLGrgq/PO9rc0Xpr2P0fizh7h7KsFGtlWL9rUbs1zxlZWbvZK+9ivRRRXwp+ShRRRQAUUUUAFFFFABRRRQBG33qKG+9RWT3A6DxZ/zLX/AGK+gf8ApqtKw63PFn/Mtf8AYr6B/wCmq0rDr0cX/vE/X9SejCiiiuMoKKKKACiiigAooooAKKKKACiiigAooooAKKKKACvJvjZ4NWSBPENqMSxBYbmNEABU/ckJ9clV+hH92vWahvrOHUrOe0uUEtvPGYpIzwGU544+p+ma9LL8ZLA4iNaOy3JlHmPnLwbrMel65p95fNd29jZ7LfzrVmIRjKZFZtxIBRsyqmCGMABU5Zh6l4L8SavpuiR6hp0caa14agbWGbUI1F0nlwCwaBUZEElv5dqfMKsGXzYwGaSHEvkHinw7/wAIn4mn0+4jle0jk3ROGw0sR6YcrjIHBOMBgfTnpNL1y01BY4brUrW8u9ShFrfz6lFvWAloo4pk3SIC8cbyYYKWDCXJZX3j9KxlOGIgq1LWMv6/z/Awi+XQ+gfCGqGx1a9jsNdvdT1axkt7bTNf0eSa6S4hxbPrLpbbpYAfKkjdvMRzNcu7KWcoiaj+LLq61a00bw1revahpmjaidee8k0UR6gk9xLexXmDJAkZSPzJCsYt5JHdnVNojJi8ns1hS60tHkW2vbG6urRzfWT3sen2Sy3AieO5j8uREjeMKJZGDoyF0KJuDLYlbW81G4fzfF1rp8tykVg9lqEtrqAm8u4Y7y80YG8ggFWEm1ZCSWWVPkZUqbk73cu/Krdvvfr9o35jqPFniaW18Sa94g0jWtcuWt5LHUJNY1CHTrX98puLKYTB7cSKFhWSJI/LY+ZvPlvvG7lPFV2uvTarbWt097a3lql1/Z1lqGo61DeTQFcpLIsiBSyCBRlX2JGp3RnYTg3F9DoerWNxY/YrNzMZ7bUILWDT1ltLot8+J/McCOQFFAj+WIMd21wRYvLc3EF7qcdvc3Rsrprm70vU7e5uIoVWERu7vcSxrIfLAlAKB8siggAmu1QVO0tl3+7Rr/hrXtp1m50+k3Fr4dvDCb25v/D1ksk1zYW9jqujwQzRtbvB5jwbjvRfnEskbthAHYkxunP6x46/4WE9jd3d/JrNxeX8jXjfZUtzDm2SzQmGEvcEyrHDJIEkWEs6xgZJK27PX9H8B6hqEuuaJDc3LIL2xnn0wweVMiBDbRvK7nGVh2mLeq7t3CDjEW4tWt/suk2EupzL9jnj1KzSRrmSOEwxsqpByV/diQrJLCQZVOFYKSUbc3Nyt3taVkt9/S1/nZbiJdN0CW+8+wkYT399b/YbmJWSaVbyIyK6yojRRF2+eSOSaRifs7MCT8q2Zp4dXieRLm30SfWLOG5j1OS5wRPGVcmS9kiTGHEIMFuGCvDjMIDZSa+sbi3axSCZ0s4I9bjgaND5FrIfMnWK2VpLdAEeWRWny22WNACdrme8vF0241HUPPs5ZLKX7fFfQXSAMJUkEsCXjlGPm7LvCQRYWVwQU2lRpduWu39fnp9zKBjdanINPsoJLu11a1h1iK2mtykc9yhVR5tuGeUpIVijLzyeXu8yTc2FIr3WoWwtbvUIJIbi3jht9VtrgeRLcRCIooVHGyC1kCpao6LHK372MHeuAC6R9Ej1CG7aLUf7Nvv7UFjc2rTO0UyEPJLa7sjCsz755zIBHEpEe/myL/7L9kkSWa6Fnep9naG5DvJFcb440jljcqg2u8bpZwu2+0Ygr8rKtFp3/Ht6X0+dxleUW1g2o3NlcmzEwh12J/tEsc0i5dZWhBH2m4xGlwGeSSFSJWfai4cvvTNbERW9zHZHRNVhnSBmi8myWSQq28K8kFtsmkm27hLKvy8bY2YyWYSzubXTYBDvtbqWzezWzkt0eOUK0Rktg6SybiLeFpJ2CfNGMOSz1n2v2C+htLl7iYW6i48Pfa3uIUWOAI4h8yaUNCn7tVRvs6nIYtvZ3CNUY99f60+9fmBft5F0O9SNFOmNHMtrDtSa3uZ7adk2qMst1cGKTYqbVjDR28il/mwFmjj0u0gtNTtPsy6VdNZ3dudjpDDLlo4vJybZF/eQSebcSlvMifJk2DMFur3kcdnd3M7TapZyWV5MGlE00iMyLN5SNJczFcXSkSrHGwSNSE2gC/p+lt4mvLaA6ZDBZwxS2mqwSJEsUEqOSsVukQKKFczKrkmVVlckjMbNhOUaavJ2S/r9X/wANf4d6S9jYz3EklxJExNvai4uDI32OOSTyWYjco4dv9WTGQAVyWJPXbiepzznmj+XX/69JXx2IrfWK0qz3exQUUUVzgFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQMK6n4d+EbfxhrzxX99HpWj2MDXmpX8rELBbqwXOArMSztGgAVjlx8tctWlofiK/8OXE81hMsZniaCaOSFJYpYyQSjxuCrDKqQCOCoIwRUyGTeKvDVz4R8QXGlXbQyyxqkiyW8gkSWOSNZInU8cMjow9jWfYafPqd9a2NsnmXVxKIIozhS7McKo3EYOccnjmtK48Yapea1catdSwXl7OoR2urSGZNo2hQsbKUUAIoAUDAGBgcVc0nxpLDruj3V9DaLa2V7Ddyix0+3gkISTOAY0UkEdjxW9OEJO8meTjamOpqbwtNNqN1du7fa1v1Nf8A4UZ44/6An/k3B/8AF1yOuaDfeGtWm03UYPs99Bt8yHer4yoYcoxHcV9E/wDDTHhb/nw1b/v1F/8AHK8N+JXie28ZeNNR1iySaK1uPLwlwqhvljReis3oa9HFUMJTp81KV2fnvCuc8U5hjp0c6wipU0rppPV3S7vpc5miiivJP1cKKKKBBRRRQAUUUUAFFFFAEbfeoob71FZPcDoPFn/Mtf8AYr6B/wCmq0rDrc8Wf8y1/wBivoH/AKarSsOvRxf+8T9f1J6MKKKK4ygooooAKKKXsSB9ODjoTyehyOnTPGPcASilKkKGPAwTnoODz1HTg9M85pKACiiigAooooAKKKKACiiigAooop9LDOW+Ivg5PGOgPHGoN9ADJbMFG5mxgREnkBvTpkA9q8P0a9utJlW1CwWDss1qJGk8mVZvlbc+SdpDLEBvGwFdwKMDIv0zXD+Pvh6NclXWNLQR69AuEIdoxK2MLhlIIdeGQ9MgK2VAFfW5PmioxWFrfC9vJ/5GMo31Rxen6gkk2n3ESKt+WNkkJjigmSFigtzGolin37BGpYySLsdj5n3xWnpenanY6o1pLaTXrl/sElhdQtPGu0NNboVe8WORTEz/ACknYYwu3Lh2w7CS91CG50q8uZkvNRjuDLAIJXQ3RcSFdkKlTKFcMwaN2TykUMjYEdi70mxkuLaOSbR9PuLuIqIpp7MGzuEw6LOhtUMe0GRWVVJZgqsRXs1YNNxi7J/P/Lz2+8CbTnghVIo7i3SxmZ9Pu7WzkQEhyvlSbbYM8qBTGrZlLF2MZcZJZLFZItUspo41k1JZpLKULFDLcLPEXKykJBcMrMqOxOS7OSQNihjd1WafXLGDUZ0vI01C3EV1Pdea8bxureXIxkW2twUbAQg7cuWG5hzS1JhfW9vHGImW/jVVSY+ZbrPC6Kjxny1hlYAiIpBFISsO1SfMzWKtLWenNo/6+9/cBm3XmadZ3thZyPZ3VopjvBbWX757J0wzMPs0TMAkgyZHG5lLYGVK3bzXZptNuru0vW/tiwWOSaKLUCWlj4LKkiySSzRgCQuFljVQgYruBq23gvU/EtmUOmiNXjDWx1AmNbNmX512RvHs5UN/x7nc7HdlQJGsXHgnWLHybW48L6ZqNtH85ksZIrdz1XyjJIoYpsPUgtna/mbgAN3XwtopzXMul1+d0LXsXdFuLa4gjvrJlmGnypdWtvFaJcG2t52DythXa2sjHIZZFaVt+I1V9qL8y6PDNpNvp0gupvLguZNJN0s0hYRSMTBGjqwnnI2WskS28caMpYbhucrR/wCED12bRHhisbcE2AtJbKeRBulRMrJCm6VN4JlHmEoWWV/lRmLmxq0sP9qzRbRpWpahZCI28txKZknSYeUPNMb3N1IJHjYFBGh8kKGcRnbxynCbtTlf8fXbyu1/SLHRx3FhHp1vKq/2XZo2m31rNbRwhYw5aGeSF9qRs/8ArF+2O2ZZWZIzhcuhWe9s4JruSW7ttStZ9Gl1BLyR/tU6EqFW4kMkjI3lyOqwRhWZ44z5hyBUvI1hgvLvSrmO3eazTXLWxht4pDZSRCOQyiBJFitVZShG7zWZFOWJYq2prAtbPWtQtbvVrWHVryWOU3Ml2I1E0eCVuLtolkMW62GPs6oEkLxtsAUhy+H+v66+mgzLjeDXLa43RR2c2oWclvqVuyjMc8QbiSIzqqsFM0gmu5GcmFmCpgBmanqkFxJ/ad1bfZ2u7a31eO4vEME08sT7pI1vJArlmjEYH2dNqsVChUV2fXt0vvECRSaPbPBp6yW13byPbG1toJlZJWFvE0zpDhQvziKUM7zfMEIrd0fwPb2vmfbTbahJM0jSCO2UGYO5k/euzPJKwOeHcrhIzjeARjUxlGj8b17L/P7hWZy1tb3/AImuLiPRblpdMN99s+3z2rQ2U262WBnRJMyyyMTLvDyFXx84bzTXouj6Tb6FpdrYWy7YII9gYgBm/wBvA7nue+TnrVzAGcDBOQccdTmj9PpxXzOLxjxNoJWS3KsFFFFed5jCiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACtjwraNfeILGzj0+21Oa5kWBbe8eRIyXbAZjGysoGQSc4ADE8Vj1Na3c9lN5tvNJBLtZDJExVirLtYZHOCpII7g4oGaXi+40u48TagdDtktdKWQJbIrud6DC78SMWBb720njfjOBVHSdNk1jVrKwhdY5rqaO3jaUlV3HgHIBOM9sZpdO1e+0eZprC9uLGZlKGS2laNipI4ypHHA4rY03xrqX9t6VdatqmoahZWd5DdPDJcPJ92TPyqTjOO9a040vd5hdLHZf8M5+Jf+f7S/8Av7L/APG68/8AFHh258J67c6VdSQS3Nvt3NbNuX5lDeg9RXu//DRfhr/ny1X/AL9xf/HK8X+I3iS38XeMdR1a2S4jtrjy9q3Qww2xovqfQ16+No4OnTvQleREW3o0c3RRRXhlhRRRQAUUUUAFFFFABRRRQBG33qKG+9RWT3A6DxZ/zLX/AGK+gf8ApqtKw63PFn/Mtf8AYr6B/wCmq0rDr0cX/vE/X9SejCiiiuMoKKKKACvatL8Ly/Dfwr4a8U3lt9o8NeJLCXTPENslp58v2d7hnE0ZkwI5FX7M8ZO3EkMZ+cMa8Vr0K68Tar4g+CptL2/nez0LVLe1tY1fCPHPHOxSQfxCNrZSo6qHk6rtC/LZz9e9phKuDqJU1Je0utWnpb73+p0Ure8mUvjB/wASzx7qfhyDjS/DNzcaPp6jkrBFcTZkL5OZHkMkjZwAXYDYgRV4qjvn+L+936Yzn1or6ZGIUUDPPGQAoIAyc4x/Ou11j4e2Wk+GU15PEVrd6fcafBNaNHGyvJfF0W4sWQ8o8IEzs3K7BASQbhBQ5Ri+UaTcW0tEcVRRRVkBRRRQAUUUUAFFFFABRjOfQ9feiigDJ1zwtYa+Y/tKHzo+FZUWQYwQAyODG+AxxuU7cnGM1z3/AAru8js7m1ttZ8myeTdDHGs6pAc7gypHcrGGDrvGE2h24AAAHb9sdvTtRjnPfGM98en613UcbXpaU394WOR0/wCHSQsGvL1rm4WZpd6wKJF3OZD+8l82VDuZyCjgj7w+dix6DStCsNF85rO2WKWZi0s5JaWUkkkvIxLNkk9SeuKvbQRggEdcEcUVFXF4ir/Elo+wWFyeOenT2/zx+VIPlxjj6UUVy3YwPzDB57c802aGO4geGWNJYZEKPG6gqynIII6EHJ/OnUU1KUXdMRj/APCG6B/0A9OznOfskefzxU1n4Z0fT7hLi10mxtrhPuSw2yI6+wIGR1P51pUVs8RVe8n94CkliCSSw4DZ556jPv39e9BJYYJ3D0PIpKKwbvuAUUUUulhhRRRQIKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAK774QeGdI8Saprp1k28VrYaXLdie/My2sLrJEgeYQnzShLlQI9xDMpPANcDVzStYv8AQrwXem3txp10FKefaStFJtOcjcpBwc8jvUyTexR0fxb8P2HhXx9qOm6WmyxjS2eII5dXEkEb+ZGSSxjfeGUN8yqyhjkGuXs7R766t4ImXfNIsStngEnA6Z7VPLrmpT3899JqF1JezkmW5edjJIScncxOT+NSw+IL37dbT3NzPeCGaOcRzSswbac9zWdR1VG0dzWPK9ze/wCFYar/AM/Fn/30/wD8TXN6tpMmh6lNZymPzouph+6cgEc/Qmu0/wCFsD/oFf8Akz/9hXH6/qv9tavPe+R9nEu3CZz0AA6ewrx8vlj3V/2lJL+vM7sVHCqnfDv3jOooor3jygooooAKKKKACiiigAooooAjb71FDfeorJ7gdB4s/wCZa/7FfQP/AE1WlYdbniz/AJlr/sV9A/8ATVaVh16OL/3ifr+pPRhRRRXGUFFFFABXX+B/9O0jxhpP+tuLrSRcWtu3IaW2mjmaQHorJbJd4PUqXVclwrchXQ+A9attA8UWk98WGmTiSxvWj5kW2uI2gnaMd5Fjlk27sjcFJ4ry8zjKphp8qu01Jesfe/NIqMrO7Od/h9KGkVep5/u96dd2lxa3LQ3SeSykN5eQWZT91gRwVIwQRkEMCGxTVRU6D8ep/Ot4VpVoxnTWkuv+S/zsenGlhKKU6s+ZdotW+ctfwv2uZuu2Vzquj3NvazPZzOoMUqsVO/OVH+6fWut8M+MtYsPBcvhbXr281rR5CJoLCS9kCWN0BJslt9wO0hpJA4KYkDtkK4R48X39sfhR06DFUqMeb2jbuFTHSnSdClFQh6X/APJnr+gUUUV1nlBRRRQAUUUUAFFFFABRRRQAUUUUrAFFFFMAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigArsvhbommeINYv7O+W1uL5rJjpdrfXBt7a4uvMjUI8oZdo2GQjLKCyqC3Jrjaltbqaxuobm3mktp438yKaEspRx0YMO449DyKUijo/iZpOl6D431PTtJZGtbfy43WFy8aTCNTOsbsSWRZd6qxzldp61i6Dpv9ta5YaeJPK+13Edv520HYXOM7QeR7A5pum6tfaLL5+n3txYSFNnmWsjQsy5zgMp/StSz8caz/AGrpl1qGoX2qw2V1HdLBcXTupKPknDE4JFSdVFUJSi6m34f5nqP/AAzL/wBTH/5I/wD2yvK/G/hc+DPE19pH2j7WLbZifyvLDb0DjjOeAQK9U/4aa/6lv/yeH/xFeVeNvE6+MfFF5q4tlsmudn7lZA5XaiofmAHUrmnd7H0+cLJfq8Xlvx3t1217mHRRRVHxgUUUUAFFFFABRRRQAUUUUARt96ihvvUVk9wOg8Wf8y1/2K+gf+mq0rDrc8Wf8y1/2K+gf+mq0rDr0cX/ALxP1/UnowooorjKCiiigAo/n/8AWx/KiijfcDUgYazZ/Z+DfxkC3/h86Mf8sz/eZRtCDg7cqCTsU5m0qcMCpzjB68dRRk9cnPrnn866yx8PR+Klj1Ka6Sy826WO8ZfLCqrOivP87oqfKxbDui7h95UJK+JiMXRyxxlWnywnKy0vZ9vR/geJXxVHKpJ1JcsJy00vZ9vR/gY2r+Fda0Cx0+91PSL/AE6y1GPzrO6urV44rmPCtujYjDLh1ywJwCCR3OXXefFo6nNeaO12ui2+m2tkun6TaaRqljfmC1jO4GV7Z+ZWaR5HdgvmO7suFG1eDr2Yvm1Pc3CiiiqEFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFe3adpdteaDo91a6Pp9z4hbwQ89nbpYQubm5GsywFzCqESyLarKcFWPyA9VzXiNHJXHOBkYGT6ljnGM4OccEkmpknLYo7T4qaTDZ+Ori3sLOO3kazsZrq3tE+WO6NnC1wAoGEHntJwOBjA4rlF0+aSeGOWKRFkZV3FGOP0qtyckj5SOpAA5ORzkg5PGRT4ZjDNFIF3srbtrc8itKfs1uOLg3qjf/AOEQ/wCnv/yEf8ax9RtTY3ksBcyLHtyx6H5T2/E1of8ACUXn/POH/vhv8azLy6a9uGmcKHbqF+mK9DESwko2oLU7K8qEo/ulqQUUUV5pwBRRRQAUUUUAFFFFABRRRQBG33qKG+9RWT3A6DxZ/wAy1/2K+gf+mq0rDrc8Wf8AMtf9ivoH/pqtKw69HF/7xP1/UnowooorjKCiiigAooooAKfDLJaTtPbStbTFdhkjA4GCNpHQrgn5TkUyj/HNZVaNOvB06sVJPo9TKrSp1oOFWKkn0Ydye55J7k+p9TRRRWi00RqFFFFMAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAruvG0sdppHw5v7e0s4rybQzJMY7OLbNIupXqIzoF2yNtVBlhkgDOa4WlYlhg8jG3HbHp9Op+pJ71BR3vxJ8J3V78Z/Hel+HdFmuFs9ZvlSy0yzLCCIXTAALGPlQfKAMAYqjovw11n/hJdBs9e0bVdJsNS1KCyaea2eHiRwPlLKedu48jtXIdwTyR0J5x9PT+tXdB1ibw7rmnarAsbz2NzHdxiXOwyRkH5wOSMgcjmsa0a3I1B6m1OVPm94+sf8Ahj/wX/0E9c/7/Qf/ABqvm/4ueEbHwF8RNW0DT5pprS08rY1wytKd0KSfNtAHcj8a9F/4bA8Z/wDQL0L/AL8Tf/Ha8p8b+ML7x94mvNe1GKGG6u/K3rbqyxfJGI+NxJPQGvnMpw+aUsRL65O8bHs5hWwNSjFYaNncwaKKK+sPngooooAKKKKACiiigAooooAjb71FDfeorJ7gdB4s/wCZa/7FfQP/AE1WlYdbniz/AJlr/sV9A/8ATVaVh16OL/3ifr+pPRhRRRXGUFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUDCjvnv0B7iiigAo2jOQMH2oopWQBRRRTEFFFFABRRRQAUUUUAFFFFAEbfeoob71FZPcDoPFn/Mtf9ivoH/pqtKw63fFn/Mtf9itoH/pqtKwq9DFa4ia82ZRqKz0CiiiuQfOuwUUUUg512CiiigOddgooooDnXYKKKKA512CiiigOddgooooDnXYKKKKA512CiiigOddgooooDnXYKKKKA512CiiigOddgooooDnXYKKKKA512CiiigOddgooooDnXYKKKKA512CiiigOddgooooDnXYKKKKA512CiiigOddgooooDnXYKKKKA512CiiigOddgooooDnXYKKKKA512CiiigOddgooooDnXYKKKKA512CiiigOddgooooDnXYKKKKA512CiiigOddgooooDnXYKKKKA512CiiigOddgooooDnXYKKKKA512CiiigOddgooooDnXYKKKKA512I2+9RQ33qKblKL5dNPIOfyP//Z)

Figure 7 Creation of 3D shape model and mesh generation of car body

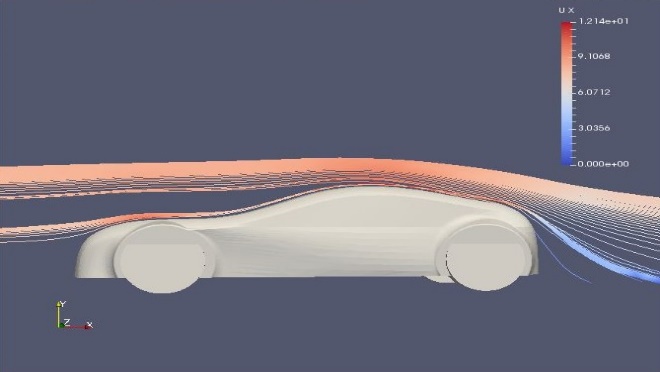


Figure 8 Streamlines of flow around the car body (from the side)

アイコン が含まれている画像

自動的に生成された説明

Figure 9 Flow pressure distribution in the center cross-section of the car body

Figure 7 shows the 3D shape model and mesh generation of the car body created using Solidworks and Xsim.

The calculation conditions are set as follows.

・ Initial conditions Speed U = 8.6 m/s, pressure: standard atmospheric pressure

・Boundary conditions Velocity U = 8.6m/s, pressure P = 101325Pa

Body and ground: no-slip conditions

・Regarding calculation parameters

Calculated Courant number = 0.9

Calculated Reynolds number = 109861

Number of computational grids = 30000

Figure 8 shows the streamlined pattern (side view) of the flow around the car body visualized from the calculation results for a calculation time of t = 5 seconds. The color indicates the velocity magnitude (m/s), and the maximum velocity of the flow near the car roof was found to be U = 27 m/s.

Figure 9 shows the flow pressure distribution in the center section of the car body. The color indicates the magnitude of the flow pressure (Pa), and it was found that the flow pressure is small where the velocity is high (around the car roof) and the flow pressure is large at the front of the car.

As shown in the simulation visualization above, it can be said that reasonable simulation results were obtained from the streamlined distribution and pressure distribution of the flow around the vehicle body.

In this graduation research, we used an ordinary DESKTOP computer (4GB of memory) for calculations, so the calculation time for dimensions was only 5 seconds and the number of calculation grids was 30000. However, if the calculation time and the number of calculation grids were increased, we think that more remarkable calculation results can be obtained.

**Discussion and conclusion**

This paper introduces the cases of graduation research using OpenFOAM conducted at Hiroshima College of National Institute of Technology (KOSEN), regarding engineering education related to thermo-fluid dynamics, which is a major subject in technical colleges.

At the beginning of the graduation research, the students of the technical college had little understanding of the partial differential equations and simulation knowledge, and they had conducted various flow simulations by trial and error, simply following the operation manual. The joy they felt when they were able to reproduce the flow phenomena on video was very impressive. Then, several technical college students transferred to universities to study the physical meaning of partial differential equations of fluid mechanics and acquire further advanced knowledge on how the invisible flow became so visible on the computer.

From these educational cases of so-called "flipped teaching," in which the results of simulation visualization of thermo-fluid dynamics lead to an understanding of theoretical knowledge of fluid mechanics, it was found that if a manual4) can be developed to easily operate OpenFOAM, even if technical college students do not have sufficient basic knowledge of thermo-fluid dynamics or numerical simulation, they also can use OpenFOAM to carry out numerical simulation of flow phenomena and learn and deeply understand essential meaning of fluid mechanics. In the future, we plan to continue this research on educational practices to enhance the learning effect of fluid mechanics by using flipped teaching method utilizing OpenFOAM.

**References**

1. Kanau Assano, Simulation of Thermal Fluid in Boiler Furnace using OpenFOAM, Special research dissertation of Advanced Course of Maritime System Engineering at Hiroshima College of National Institute of Technology, (2018).
2. Ikki Takemoto, Simulation of flow around car body by OpenFOAM, Graduation research thesis of Department of Maritime Technology at Hiroshima College of National Institute of Technology, (2020).
3. “Beginners can do it”, Xsim from OpenFOAM model creation to fluid analysis: <https://takun-physics.net/?p=3539> (viewed in 2021)
4. OpenFOAM Foundation, OpenFoam Documentation, <http://www.openfoam.org/docs> (viewed in 2023)