# MAT 303 Project One Summary Report

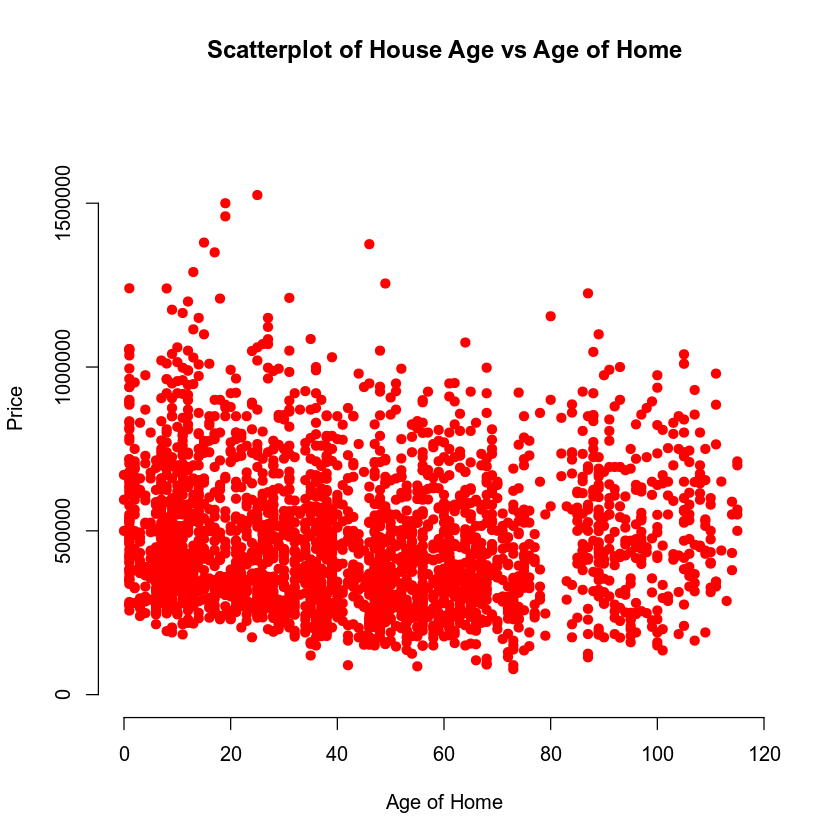
Benjamin Leanna

Benjamin.leanna@snhu.edu

Southern New Hampshire University

In this first project, I will be taking on the roll of a data analyst working for a real estate company. I have access to a large set of historical data that I can use to analyze relationships between different attributes of a house and the house’s selling price. These regression models and charts will help my company set better prices when listing a home for a client. Setting better prices will ensure that listings can be sold within a reasonable amount of time. One of the greatest benefits of using regression modeling is its inherent flexibility; they can work independently of other models or in conjunction with others. Since knowing every local real estate market in the country would prove almost impossible, regression modeling can help narrow the search. You can use linear relationships in simpler models to check between a few traditional variables such as total area the home has in association to price. When these variables start showing diminishing returns however, non-linear models would take its place. I will be using a variety of different variables, graphs, and models to statistically look at which fits best for the overall prediction of pricing. First, I’ll be looking at a first order regression model with quantitative and qualitative variables, different scatterplots to see trends, and be reporting on the correlation coefficients between different variables. Next, I’ll be analyzing a complete second order regression model with quantitative variables, scatterplots of a few different variables, and their correlation coefficients as well. Lastly, I’ll examine nested F-tests models by creating reduced models to set side by side with the complete model.

The important variables I’ll be using in these analyses are sale price of the home (as the response variable), number of bedrooms, number of bathrooms, size of the living area in square feet, age of the home, measure of craftsmanship and the quality of materials used to build the home, average age of all appliances in the home, crime rate per 100,000 people, and the view (if the home backs out to a lake, backs out to trees, or backs out to a road). In total, this dataset has 22 columns and 2692 rows.

Chart, scatter chart

Description automatically generated To start the analysis, I want to create a few scatterplots. I will make a scatterplot to include the price vs the living area and price vs the age of the home.

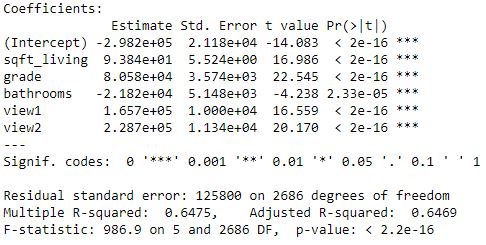
As you can see by looking at these two scatterplots, they are fairly different from each other. The scatterplot on the left, which shows the price vs the living area, looks like it does have a decent positive correlation. The grouping is pretty tight, and linear, until getting over about the 4000 square foot range. To me, this shows that this particular variable might be showing signs of diminishing returns past this point. If I were to make a regression model based off this plot, I would probably use a quadratic model over a linear model. Now looking at the scatterplot on the right, which shows the price vs the age of the home, this model is consistent across the board. This scatterplot is showing no correlation between the age of the house and the price of house. When making a regression model based of just looking at this plot, I would think after running a summary that I would see that this variable isn’t significant at all. After running the tests for the correlation coefficients based off these scatter plots, I found that the correlations to be aligned in my thinking.

![Table

Description automatically generated](data:image/jpeg;base64,/9j/4AAQSkZJRgABAQEAYABgAAD/4RD6RXhpZgAATU0AKgAAAAgABAE7AAIAAAAQAAAISodpAAQAAAABAAAIWpydAAEAAAAgAAAQ0uocAAcAAAgMAAAAPgAAAAAc6gAAAAgAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAEJlbmphbWluIExlYW5uYQAABZADAAIAAAAUAAAQqJAEAAIAAAAUAAAQvJKRAAIAAAADNzIAAJKSAAIAAAADNzIAAOocAAcAAAgMAAAInAAAAAAc6gAAAAgAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAADIwMjI6MDk6MjMgMDk6MTg6MDMAMjAyMjowOToyMyAwOToxODowMwAAAEIAZQBuAGoAYQBtAGkAbgAgAEwAZQBhAG4AbgBhAAAA/+ELImh0dHA6Ly9ucy5hZG9iZS5jb20veGFwLzEuMC8APD94cGFja2V0IGJlZ2luPSfvu78nIGlkPSdXNU0wTXBDZWhpSHpyZVN6TlRjemtjOWQnPz4NCjx4OnhtcG1ldGEgeG1sbnM6eD0iYWRvYmU6bnM6bWV0YS8iPjxyZGY6UkRGIHhtbG5zOnJkZj0iaHR0cDovL3d3dy53My5vcmcvMTk5OS8wMi8yMi1yZGYtc3ludGF4LW5zIyI+PHJkZjpEZXNjcmlwdGlvbiByZGY6YWJvdXQ9InV1aWQ6ZmFmNWJkZDUtYmEzZC0xMWRhLWFkMzEtZDMzZDc1MTgyZjFiIiB4bWxuczpkYz0iaHR0cDovL3B1cmwub3JnL2RjL2VsZW1lbnRzLzEuMS8iLz48cmRmOkRlc2NyaXB0aW9uIHJkZjphYm91dD0idXVpZDpmYWY1YmRkNS1iYTNkLTExZGEtYWQzMS1kMzNkNzUxODJmMWIiIHhtbG5zOnhtcD0iaHR0cDovL25zLmFkb2JlLmNvbS94YXAvMS4wLyI+PHhtcDpDcmVhdGVEYXRlPjIwMjItMDktMjNUMDk6MTg6MDMuNzIyPC94bXA6Q3JlYXRlRGF0ZT48L3JkZjpEZXNjcmlwdGlvbj48cmRmOkRlc2NyaXB0aW9uIHJkZjphYm91dD0idXVpZDpmYWY1YmRkNS1iYTNkLTExZGEtYWQzMS1kMzNkNzUxODJmMWIiIHhtbG5zOmRjPSJodHRwOi8vcHVybC5vcmcvZGMvZWxlbWVudHMvMS4xLyI+PGRjOmNyZWF0b3I+PHJkZjpTZXEgeG1sbnM6cmRmPSJodHRwOi8vd3d3LnczLm9yZy8xOTk5LzAyLzIyLXJkZi1zeW50YXgtbnMjIj48cmRmOmxpPkJlbmphbWluIExlYW5uYTwvcmRmOmxpPjwvcmRmOlNlcT4NCgkJCTwvZGM6Y3JlYXRvcj48L3JkZjpEZXNjcmlwdGlvbj48L3JkZjpSREY+PC94OnhtcG1ldGE+DQogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgIDw/eHBhY2tldCBlbmQ9J3cnPz7/2wBDAAcFBQYFBAcGBQYIBwcIChELCgkJChUPEAwRGBUaGRgVGBcbHichGx0lHRcYIi4iJSgpKywrGiAvMy8qMicqKyr/2wBDAQcICAoJChQLCxQqHBgcKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKir/wAARCABhAKQDASIAAhEBAxEB/8QAHwAAAQUBAQEBAQEAAAAAAAAAAAECAwQFBgcICQoL/8QAtRAAAgEDAwIEAwUFBAQAAAF9AQIDAAQRBRIhMUEGE1FhByJxFDKBkaEII0KxwRVS0fAkM2JyggkKFhcYGRolJicoKSo0NTY3ODk6Q0RFRkdISUpTVFVWV1hZWmNkZWZnaGlqc3R1dnd4eXqDhIWGh4iJipKTlJWWl5iZmqKjpKWmp6ipqrKztLW2t7i5usLDxMXGx8jJytLT1NXW19jZ2uHi4+Tl5ufo6erx8vP09fb3+Pn6/8QAHwEAAwEBAQEBAQEBAQAAAAAAAAECAwQFBgcICQoL/8QAtREAAgECBAQDBAcFBAQAAQJ3AAECAxEEBSExBhJBUQdhcRMiMoEIFEKRobHBCSMzUvAVYnLRChYkNOEl8RcYGRomJygpKjU2Nzg5OkNERUZHSElKU1RVVldYWVpjZGVmZ2hpanN0dXZ3eHl6goOEhYaHiImKkpOUlZaXmJmaoqOkpaanqKmqsrO0tba3uLm6wsPExcbHyMnK0tPU1dbX2Nna4uPk5ebn6Onq8vP09fb3+Pn6/9oADAMBAAIRAxEAPwD23UNe1z/hKrnRtB0jT7v7LZQXcs17qT23+teZAqqsEmceQSSSOoo+3eN/+he8P/8Ag+n/APkOix/5Knrv/YF03/0ffV0lAHN/bvG//QveH/8AwfT/APyHR9u8b/8AQveH/wDwfT//ACHXSUUAc39u8b/9C94f/wDB9P8A/IdUdW8R+MdGso7q68N6G6SXVvagR67MTummSFTzaDgNICfbPXpXZVzfjz/kXbX/ALDWlf8Apwt6AD7d43/6F7w//wCD6f8A+Q6Pt3jf/oXvD/8A4Pp//kOukooA5v7d43/6F7w//wCD6f8A+Q6Pt3jf/oXvD/8A4Pp//kOtyC9iuLu4to0nElsVDmS3kRDkZG12AV/faTjocGrFAHN/bvG//QveH/8AwfT/APyHR9u8b/8AQveH/wDwfT//ACHXSUUAcbq3iPxjo1lHdXXhvQ3SS6t7UCPXZid00yQqebQcBpAT7Z69KvfbvG//AEL3h/8A8H0//wAh0ePP+Rdtf+w1pX/pwt66SgDm/t3jf/oXvD//AIPp/wD5Do+3eN/+he8P/wDg+n/+Q66SigDm/t3jf/oXvD//AIPp/wD5Do+3eN/+he8P/wDg+n/+Q66SigDm/t3jf/oXvD//AIPp/wD5DqjrfiPxjoOgahq954b0N7fT7WS6lWLXZi7KiliFBtAM4HGSK7Kub+I//JLPFf8A2Bbz/wBEPQB0lFFFAHN2P/JU9d/7Aum/+j76ukrm7H/kqeu/9gXTf/R99XSUAFFFFABXN+PP+Rdtf+w1pX/pwt66Sub8ef8AIu2v/Ya0r/04W9AHn3xq/wCEf/4Tnwf/AMJkLr+xPJv/ALX9mMv3diff8r59mcZx+PGa5TT9GtPEOjeCdJu1vH8OXXiK/TTkmkkjkew8pzGu7IYKQCOudpr3jUPDNnqXijSdenknW60lZlgRGARhKoVtwIyeBxgj8a2KVtF/X2r/ANdrsJa/15Nfr+CPnbxRZf2XeeN7Kwhni0G11DSItUis929dOWDEijb823aBn/ZznvVfXjo3/Cpr8fDI6m3hQaxD9qOo/aPsQh2HzQm3/SPJ37d/fcTjvX0jRQ7tWfl+Ft/u/Fj0vp/W/wCOv4I8q/Z/WdfBd75d5YXOlG8Y2Caet2IYBgb0T7Socjdk9WGS3I6V6rRRVSd3clKxzfjz/kXbX/sNaV/6cLeuP+Nt74d8jRNK8X2DSWN9NJ5d5IblobaVU+TdFblWlZskBdy4+Y5612Hjz/kXbX/sNaV/6cLeukqWr7lJ22PmGxexfwb4Eg8fnUT4Utrq/triOMTAxXSSMLeORUJlXC7gqg5B46Zqrr/2v/hWOn79n9hf8JHqX9o/2v8AafLz5h8r7R9n/eZ3Z6fx7c17/wCM/AGneNn0+e7vtT0y9013e1vdLufImj3jDKGweCAO2eOvJzpeF/DNj4R0CHSdMaeSKNmd5rmTzJZpGJZndu7Ekk097t/8Pqnr935dge6a/wCG3Wn3nL/BVLyP4Y2S3d7b3kHmyGykthcCNbct8iL56rJtXkDOflA5Nd/RRVSd3cmKsrBXN/Ef/klniv8A7At5/wCiHrpK5v4j/wDJLPFf/YFvP/RD1IzpKKKKAOJudBtNb+Ker/bZtQi8nRdP2/YtSuLTOZ73O7yXXd04znHOOprS/wCED0j/AJ/PEH/hR6h/8fosf+Sp67/2BdN/9H31c/qvxp0DR9avtPutL1x49Nu1tb6+hst9taltuHeQNwp3f73B46ZN3y9QOg/4QPSP+fzxB/4Ueof/AB+j/hA9I/5/PEH/AIUeof8Ax+sy8+KGnR+KtQ8OWemavc3lggee6hsxJbQqYjIru+8YXAxg4JPA9az3+MelWOh6PcT2WraveX+nrqE0Wladua3hP/LWRPMby1zn+NunU0rr+v68gOj/AOED0j/n88Qf+FHqH/x+uf8AGngrS7bQbZ47rXCTq2moRJr984w19Ap4aYjOCcHqDggggGrWt/FzQNHe1+z2mraxFPaJfSz6XYtMlpbv92WU5G1SAx7nCnjpnR8Z3MN54SsLm1kWWCbVtJkjkU5DKb+3II/CnYCX/hA9I/5/PEH/AIUeof8Ax+j/AIQPSP8An88Qf+FHqH/x+jx14j1Dwz4XvNQ0jSm1C4ht5JgWdUhhCLktISQSPRVBJPHAyw1b/VY9M8O3OrXakx2tq1zIqDkhU3ED8qV7JvsUottJdTK/4QPSP+fzxB/4Ueof/H6P+ED0j/n88Qf+FHqH/wAfrJm8Xa34dtftnimGzuIrjTZr6GLT4HRoHiUMYGZnbzCQ3DgJ9w/LyAJbnxXq/hlbj/hKVs7w/wBmTajAunW7xFfK274Tud9x/eLhhtzz8oqrNO39f1p/V1eVrt/X9X/qzNH/AIQPSP8An88Qf+FHqH/x+j/hA9I/5/PEH/hR6h/8frNuvFms+GVn/wCEmSzvZG02W/tk0+B4cNGVDQku77jmRMP8vf5RWjpGqa1b+Ik0bxJJY3E1zZtd281jbyQquxlWSNgzvnHmIQ2RnJ+UY5LN/wBdr/5P+rCvpf8Ar+v66O2B408FaXbaDbPHda4SdW01CJNfvnGGvoFPDTEZwTg9QcEEEA10H/CB6R/z+eIP/Cj1D/4/R48/5F21/wCw1pX/AKcLeukpDOb/AOED0j/n88Qf+FHqH/x+j/hA9I/5/PEH/hR6h/8AH6zYvFesEwazKtmuhXGp/wBnpbeQ/wBpQGYwLMZN5UgyAHbsGFb72Rg7PiHU9RgvtO0rRPs8d7qDSH7RdRNLHBHGuWYorKWJJVQNw+9nPGCdL/1/WodSD/hA9I/5/PEH/hR6h/8AH6P+ED0j/n88Qf8AhR6h/wDH6pjW9cufD1zd/wBpaTpc+kyzw6lJcafLPE/l8h0AmQoCuGwS2N2MnGTJYeINbtfAcOp+Iba2fWLoH7PZ28bQhi2TGrAs5U7cF+SFw3XHKbSV/wCtdvvGld2/rTf7ix/wgekf8/niD/wo9Q/+P1z/AI+8FaXa/DbxLcRXWuM8Ok3TqJdfvpEJELEbkaYqw9QQQehFKfH15P4f8Ozvf6Nos2o6XHqN7f6khNrAGVQI1UyoSzO3GX4CHqcVqeMpri4+C3iKa9a1eeTQrtmezctE/wC4fDITzgjB74zjJ6mmmm120JumdfRRRSGc3Y/8lT13/sC6b/6Pvq8sHh3xd4q1vx/oug6jpVrot/rXkaibuNzPGhji3NCR8pJXIwwHQYIzkeg3OvWmifFPV/tsOoS+doun7fsWm3F3jE97nd5KNt68ZxnnHQ1pf8J5pH/Pn4g/8JzUP/jFK3vc3lb8U/0HfT+vP/MzdM8FXun6x4yuPOtzBrkMMVoA7Fk2QeWd/wAvHPpniuXs/hx448Lw6TeeDdT0QakmixaVqEWoLK0OYySssTKu7IJIwwA9Qa7r/hPNI/58/EH/AITmof8Axij/AITzSP8Anz8Qf+E5qH/xii2t/T8Lr9WLpb+un+SPOfHXwU1XxJ4gs9XV9E125ayitr19bNzB86ZzLGLZlHzZ5U8DaMdTXc+JNNh0bwDpGmWyqkNnqWjwIqbtoC31uABuLHHHck+5q7/wnmkf8+fiD/wnNQ/+MVz/AI08aaXc6DbJHa64CNW01yZNAvkGFvoGPLQgZwDgdScAAkgU1orL1Fu7nXeKtKn1zwfq+lWjRpPe2csEbSkhQzIQCSATjn0NLqGmSalpMujXCR/Yrqxkt55llIkUsoXCrtwRgsc7hjA4OeKH/CeaR/z5+IP/AAnNQ/8AjFH/AAnmkf8APn4g/wDCc1D/AOMUbqzKUmrNdP8Agf5GTN4R1vxFa/Y/FM1nbxW+mzWMMunzu7TvKoUzsrIvlkBeEBf75+bgEy3PhTV/Ey3H/CUtZ2Z/sybToG064eUt5u3fMdyJtP7tcKN2OfmNaP8Awnmkf8+fiD/wnNQ/+MUf8J5pH/Pn4g/8JzUP/jFO7bv/AF/Wv9WVktNv6/q39XZm3XhPWfEyz/8ACTPZ2Ui6bLYWz6fO82WkKlpiHRNpzGmE+bv8xrR0jS9auPESaz4kjsbea2s2tLeGxuJJlbeytJIxZExny0AXBxg/Mc8L/wAJ5pH/AD5+IP8AwnNQ/wDjFH/CeaR/z5+IP/Cc1D/4xRdr+u9/83/VhW0t/X9f11dzx5/yLtr/ANhrSv8A04W9amp6Ja6vJA91LfRmAkoLTUJ7YHp94ROofp0bPf1NcX408aaXc6DbJHa64CNW01yZNAvkGFvoGPLQgZwDgdScAAkgV0H/AAnmkf8APn4g/wDCc1D/AOMUhmbF4U1gGDRpWs20K31P+0EufPf7S4ExnWEx7AoAkIG7ecqv3cnI1NY07Wbm407VtPishqWnyzKLWW6cQzwv8uDIIyVbAR/uMAQV5HzU3/hPNI/58/EH/hOah/8AGKP+E80j/nz8Qf8AhOah/wDGKOlv6/rQClL4T1K58KTWFxPai71LUkvNR2sxj8syqzxISMt+7URgkLnrhc4rT8Q+GptbuILm11vUNLmt4pI0FqsDI2/GSRLE+DxjIwcE+tQ/8J5pH/Pn4g/8JzUP/jFH/CeaR/z5+IP/AAnNQ/8AjFJpNW/rawLR3/re5i6L4M1rw1pfh6ezNhq+q6ZpY06cX0vkrt+U/u5UhJAUrtwUyykZORyut6JJ4e+BHiTT55UllXSdRlfywQiGRZZCiA/wru2j2ArZ/wCE80j/AJ8/EH/hOah/8Yrn/H3jTS7r4beJbeK11xXm0m6RTLoF9GgJhYDc7QhVHqSQB1Jq3Jtt9/8AhxWR6JRRRUjObsf+Sp67/wBgXTf/AEffV0lc3Y/8lT13/sC6b/6Pvq898SeMvEun+OLS/wBG8T/2hoT69FpNzYLpUUcMDkhWjMzP5ruAS2UUrkHJGNtC1ko9/wDhv1Do32PZqK8NvPG/jSez1XxJa+IrK106PxCmjw6QLSNpIlWdEZvMPO9l3EqQcK2QRgVBqPxL8dSfEq/GjWWs3Wl6ZqosG0+00ET20salQ7vdBt6PhiwAXHCZ4Joj7zS7/wDA/wA0EvdTfb/g/wCTPea5vx5/yLtr/wBhrSv/AE4W9dJXN+PP+Rdtf+w1pX/pwt6AOkorO1DW7XTby3tbiK+eW4OEa30+edBzj5njQqn/AAIj16VwGgWVpBpPhDxJDFGmu6reKL68EeJrrzUkaSN26lVIyFPC+WuMAULV/h9/9a9h20b7f8OeoUVyHiGxs9c8eaRo+tQQ3unGwuro2VzEJIpZVeFVZgeCVDtgH+9ntXOXNnpl18OSdQ0bTtWvYNQn0nSG1CzSfy9100MWN4J2qApPqEo1tfv/AJ2/MXr/AFpf8j1KivLfFs/h/wAF+B08DWmq2mkRLpkrsZrpIJJE2twmSCXkkznaOm/oSuYdg8W6nYwQaNpXiews9CtZreK/ugtqGkaRXcYSTdJ+6VQduFG/5lzgm7dtl/wf8h27/wBbf5naePP+Rdtf+w1pX/pwt66SuF1S9tdQ+GeiXWnRzxW0mpaR5cdxIXkQC/txtZiSSRjGcnOOprb8aafPqPhW9SDUrvT0jhkklNoVV5VCH5NxBKgnqVw3oRU1JKCb7BFczSN+isHQpXh+Hemyw/6xNKiZOM8iIYrghBD4f8N+GNd8PxxjVNTsZnvbyOL95ek2Uk5klI++fNRSC2cbiBjdVz9zm/u/8H/Iim+dRff/AIH+Z63RXlWo2dt4R0nT9T8KRRw313ot3Jczwx5a8ZbfzVmlI++4kA+Zsn94wz8xqTU7K18G2lvd+Eoo7W6udBvZZ3hjy120cSuk0h6u4c/ebJPmHnmlK0ea/T/g/wCRcFz8tuv/AAP8z1Gub+I//JLPFf8A2Bbz/wBEPWRpGjaZ4d8T+HhoEEVv/aNhN9tMSYa82rGyzSt1dwzH52yf3jc81r/Ef/klniv/ALAt5/6Iem1Z2JTurnSUUUUhnN2P/JU9d/7Aum/+j76qcvwn8Dza9ca1J4fh/tK4nS4e4WWRWEisHDrhsIdwBJXGec5yauahoOuf8JVc6zoOr6fafarKC0lhvdNe5/1TzOGVlnjxnzyCCD0FH2Hxv/0MPh//AMEM/wD8mUbO6DdWZ5tqHwX1+/8AiNqGqSzeH307UNRiupL4wyLfRxI6SCJEUCIcoAX+83JJPSvQ774ZeDtS8XR+J77QoJdXjZXFwXcAsv3WZAdjEepBPA9BU32Hxv8A9DD4f/8ABDP/APJlH2Hxv/0MPh//AMEM/wD8mULRJLoEvebb6nSVzfjz/kXbX/sNaV/6cLej7D43/wChh8P/APghn/8AkyqOreHPGOs2UdrdeJNDRI7q3ugY9CmB3QzJMo5uzwWjAPtnp1oA7Ksaz8JaNYawdTtbaRbjc7qhuZWhidzl3SEsY0ZsnLKoJ3Nz8xzU+w+N/wDoYfD/AP4IZ/8A5Mo+w+N/+hh8P/8Aghn/APkygC/f+GtN1Kyt7a7F0RbMWhmjvZo50JBBxMriTkHB+bkdakGgaYtpp9slqFg02RZbVFdgI3ClQTz83DH72eTnrzWZ9h8b/wDQw+H/APwQz/8AyZR9h8b/APQw+H//AAQz/wDyZQBvXdrDfWU9pdJ5kE8bRyJkjcrDBGRyODWbqPhXSdThto7iK4i+yx+VFJaXk1tII8AbC8bqxXgfKSQSAeoqn9h8b/8AQw+H/wDwQz//ACZR9h8b/wDQw+H/APwQz/8AyZQBD4xtLew8IafaWMEdvbQatpMcUUShVRRf24AAHQV01xbx3drLb3C74pkKOuSMqRgjI9q5HVvDnjHWbKO1uvEmhokd1b3QMehTA7oZkmUc3Z4LRgH2z061e+w+N/8AoYfD/wD4IZ//AJMofvbgtNjat9NtrWO0jtxJHHZxeVDGsz7QuAACM4bAAwWyRVDTvCWjaVqDXtlbSLKVdUElzLLHCrnLLFG7FYgSBkIFBwPQVU+w+N/+hh8P/wDghn/+TKPsPjf/AKGHw/8A+CGf/wCTKHq7sForItaV4R0XRbp7jT7WRXaMxKJrmWZYYycmOJXYrEhIHyoFHyrxwMLpHhLRtCmeXTraRS0fkqJrmWZYo858uNXYiNOnyoAOBxwMVPsPjf8A6GHw/wD+CGf/AOTKPsPjf/oYfD//AIIZ/wD5Mp3YFzRvCmj6BcNNplvKjmMRJ5t1LMsMec+XErsREnT5UCjheOBin8R/+SWeK/8AsC3n/oh6PsPjf/oYfD//AIIZ/wD5Mqjrfhzxjr2gahpF54k0NLfULWS1laLQpg6q6lSVJuyM4PGQaVwOyooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigD//Z)![Table

Description automatically generated](data:image/jpeg;base64,/9j/4AAQSkZJRgABAQEAYABgAAD/4RD6RXhpZgAATU0AKgAAAAgABAE7AAIAAAAQAAAISodpAAQAAAABAAAIWpydAAEAAAAgAAAQ0uocAAcAAAgMAAAAPgAAAAAc6gAAAAgAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAEJlbmphbWluIExlYW5uYQAABZADAAIAAAAUAAAQqJAEAAIAAAAUAAAQvJKRAAIAAAADNDQAAJKSAAIAAAADNDQAAOocAAcAAAgMAAAInAAAAAAc6gAAAAgAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAADIwMjI6MDk6MjMgMDk6MTc6NDIAMjAyMjowOToyMyAwOToxNzo0MgAAAEIAZQBuAGoAYQBtAGkAbgAgAEwAZQBhAG4AbgBhAAAA/+ELImh0dHA6Ly9ucy5hZG9iZS5jb20veGFwLzEuMC8APD94cGFja2V0IGJlZ2luPSfvu78nIGlkPSdXNU0wTXBDZWhpSHpyZVN6TlRjemtjOWQnPz4NCjx4OnhtcG1ldGEgeG1sbnM6eD0iYWRvYmU6bnM6bWV0YS8iPjxyZGY6UkRGIHhtbG5zOnJkZj0iaHR0cDovL3d3dy53My5vcmcvMTk5OS8wMi8yMi1yZGYtc3ludGF4LW5zIyI+PHJkZjpEZXNjcmlwdGlvbiByZGY6YWJvdXQ9InV1aWQ6ZmFmNWJkZDUtYmEzZC0xMWRhLWFkMzEtZDMzZDc1MTgyZjFiIiB4bWxuczpkYz0iaHR0cDovL3B1cmwub3JnL2RjL2VsZW1lbnRzLzEuMS8iLz48cmRmOkRlc2NyaXB0aW9uIHJkZjphYm91dD0idXVpZDpmYWY1YmRkNS1iYTNkLTExZGEtYWQzMS1kMzNkNzUxODJmMWIiIHhtbG5zOnhtcD0iaHR0cDovL25zLmFkb2JlLmNvbS94YXAvMS4wLyI+PHhtcDpDcmVhdGVEYXRlPjIwMjItMDktMjNUMDk6MTc6NDIuNDQwPC94bXA6Q3JlYXRlRGF0ZT48L3JkZjpEZXNjcmlwdGlvbj48cmRmOkRlc2NyaXB0aW9uIHJkZjphYm91dD0idXVpZDpmYWY1YmRkNS1iYTNkLTExZGEtYWQzMS1kMzNkNzUxODJmMWIiIHhtbG5zOmRjPSJodHRwOi8vcHVybC5vcmcvZGMvZWxlbWVudHMvMS4xLyI+PGRjOmNyZWF0b3I+PHJkZjpTZXEgeG1sbnM6cmRmPSJodHRwOi8vd3d3LnczLm9yZy8xOTk5LzAyLzIyLXJkZi1zeW50YXgtbnMjIj48cmRmOmxpPkJlbmphbWluIExlYW5uYTwvcmRmOmxpPjwvcmRmOlNlcT4NCgkJCTwvZGM6Y3JlYXRvcj48L3JkZjpEZXNjcmlwdGlvbj48L3JkZjpSREY+PC94OnhtcG1ldGE+DQogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgIDw/eHBhY2tldCBlbmQ9J3cnPz7/2wBDAAcFBQYFBAcGBQYIBwcIChELCgkJChUPEAwRGBUaGRgVGBcbHichGx0lHRcYIi4iJSgpKywrGiAvMy8qMicqKyr/2wBDAQcICAoJChQLCxQqHBgcKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKir/wAARCABiAN0DASIAAhEBAxEB/8QAHwAAAQUBAQEBAQEAAAAAAAAAAAECAwQFBgcICQoL/8QAtRAAAgEDAwIEAwUFBAQAAAF9AQIDAAQRBRIhMUEGE1FhByJxFDKBkaEII0KxwRVS0fAkM2JyggkKFhcYGRolJicoKSo0NTY3ODk6Q0RFRkdISUpTVFVWV1hZWmNkZWZnaGlqc3R1dnd4eXqDhIWGh4iJipKTlJWWl5iZmqKjpKWmp6ipqrKztLW2t7i5usLDxMXGx8jJytLT1NXW19jZ2uHi4+Tl5ufo6erx8vP09fb3+Pn6/8QAHwEAAwEBAQEBAQEBAQAAAAAAAAECAwQFBgcICQoL/8QAtREAAgECBAQDBAcFBAQAAQJ3AAECAxEEBSExBhJBUQdhcRMiMoEIFEKRobHBCSMzUvAVYnLRChYkNOEl8RcYGRomJygpKjU2Nzg5OkNERUZHSElKU1RVVldYWVpjZGVmZ2hpanN0dXZ3eHl6goOEhYaHiImKkpOUlZaXmJmaoqOkpaanqKmqsrO0tba3uLm6wsPExcbHyMnK0tPU1dbX2Nna4uPk5ebn6Onq8vP09fb3+Pn6/9oADAMBAAIRAxEAPwD3bxJrd9pDaVb6VYW99d6nem0jS5umt40xBLMWLLG56QkY29TVb7d43/6F7w//AOD6f/5Do8Uf8jF4M/7DUn/pvvK6SgDm/t3jf/oXvD//AIPp/wD5Do+3eN/+he8P/wDg+n/+Q66SigDm/t3jf/oXvD//AIPp/wD5Do+3eN/+he8P/wDg+n/+Q66SigDm/t3jf/oXvD//AIPp/wD5Do+3eN/+he8P/wDg+n/+Q66SigDm/t3jf/oXvD//AIPp/wD5Do+3eN/+he8P/wDg+n/+Q66SigDjZfEfjGHX7TSG8N6Gbi6tZ7pGGuzbAsTRKwJ+yZzmZccdj04ze+3eN/8AoXvD/wD4Pp//AJDovv8Akqehf9gXUv8A0fY10lAHN/bvG/8A0L3h/wD8H0//AMh0fbvG/wD0L3h//wAH0/8A8h10lV7K9iv7fzoFnRd7Jie3eFsg4PyuAcccHGCORkUAYf27xv8A9C94f/8AB9P/APIdH27xv/0L3h//AMH0/wD8h10lFAHN/bvG/wD0L3h//wAH0/8A8h1R0TxH4x17QNP1ez8N6GlvqFrHdRLLrswdVdQwDAWhGcHnBNdlXN/Dj/klnhT/ALAtn/6ISgA+3eN/+he8P/8Ag+n/APkOj7d43/6F7w//AOD6f/5DrpKralqNppGl3Wo6lMILS0iaaaUgkIijJOByeB2o2Ba6IxPt3jf/AKF7w/8A+D6f/wCQ6Pt3jf8A6F7w/wD+D6f/AOQ6uab4q0fVprWGzuXE93C9xDb3FvJBK0SkAvskVWC5IwSAD2zWrLKkELyynakalmOM4AGTQ9NWC12Oe+3eN/8AoXvD/wD4Pp//AJDo+3eN/wDoXvD/AP4Pp/8A5Dq/pPiTTNct7K40qSe4t763Nxbzi1lEbJnHLlQFP+yxBPpWjcTrbW0s8gkKRIXYRxtIxAGeFUEsfYAk9qNtwWuxz/27xv8A9C94f/8AB9P/APIdH27xv/0L3h//AMH0/wD8h10FtcJdWsVxEJFSVA6iWJo2AIzyrAMp9iAR3qSjYDjdb8R+MdB0DUNXvPDehvb6fayXUqxa7MXZUUsQoNoBnA4yRXZVzfxH/wCSWeK/+wLef+iHrpKAOb8Uf8jF4M/7DUn/AKb7yukrm/FH/IxeDP8AsNSf+m+8rpKACiiigAooooAKKKKACiiigDm77/kqehf9gXUv/R9jXjXxP/4Qv/haHij/AIT4X3k/2TbfYTbGbb9o2ybc7ON/Xbv+X72a9lvv+Sp6F/2BdS/9H2NXLTw1Z2fi7UfEUUk5u9Qt4beVGYeWqx7tpUYzn5jnJNRKN5L+ujRSdk/66o8k8P8AhkeJfib4fTxxBPcXtn4StLqSKWV0JuFm4aQAjcQezZGc5Fcup0oeHdA/4Txbs+CjqerC9MPm+WLnz28kyeV8+PvYx3r6boqpayUvX8Xf8P8AJ9LEra3p+Ct/X3HzB8Q2hfwp4PKNM3hDyLj7O/io3ZRn3jyi32T5/wDV58vd/BnNe5fC5dRT4Z6KusXqX9wIPluUWUCSPcfLOJVV/ubfvDnrznNdbRVLRNd2J6teX9adl5BXl11a2d5+zHpcGqalPpdm+g2Xn3UFvLPsQRRltyR/MUIBDYI+UnJAr1Gub+HH/JLPCn/YFs//AEQlS1dWKTs7nhOiX0c3wP8AFNn4d09YtNt7u3N5e6JNeNBcQs6mcRpc/OjLH9/HBB9Khl07wdqGh/ESPwhb3TaDBoNrcWX2hp1XzFeVt0fmHfs3568Ft3avqCsq38O2lt4svvEMckxu722itpEZh5YWMsVIGM5+c55PaiXvf15W/wCG7AtF/Xe//D9zxbTvCng7wj8YvBGbFrNLrR91kd87h7wuCOcns7cH5Rke1e56t/yBb3/r3k/9BNTXUL3FpLDDcy2ryIVWeEKXjJ/iAYMuR7gj2rGs/D2p215FNN4x1q8jRstBPDZBJB6Epbq2PoQac/fi497/AIu4o3i1Lfb8Dx7wTpdvrc/gjS71d1ve+CruCQf7LSID/Om6Omp+IdD8TX3iKKRJ/CPhy50JN+CJLjy286UfVFiH4mvoGipavfzv+Lf5KTQ4Pkafa34W/NpHztYeFNK8YeI/DGm69FLNaL8PYJfLjnePLCRdpO0jOCc4PGQOOKrxz2N5Y/DmX4hyalNoDaIBZNamdmOpBwEz5Xzb9gG33z719I1yXjH4d6d4yv7HUJtT1fSNQsVdIbzSLvyJdjfeQnB4rScryul1v9/N/wDJfhfyFv8Adb/0n/L8beZxHhfd/wAMo6xv8zd/ZmrZ83G/O6frjjPrjivZK4fxJ4fsPCvwK1/RdIjZLS00K8VN7bmYmFyWY9ySST7mu4ok05NoSOS8cWEOp6p4RtLl7hIpNafc1tcyW8gxYXZ4kjZWHTsRkcdDVn/hA9I/5/PEH/hR6h/8fo8Uf8jF4M/7DUn/AKb7yqni34j6d4Q1m10q40rWNTvru3e4gg0u0893CsARjcDnnPpgHnOAYbSGW/8AhA9I/wCfzxB/4Ueof/H6P+ED0j/n88Qf+FHqH/x+sK6+Mvh+HStCvrOw1jUv7djla0t7G0Es26LG+Nk3ZDAkjjI+U845p7/FLT9Pt9Zn1OO8mey1NdPt7C2sf9ImlaNXESKJW8xuTz8g4xjjJb0dn/WtgNr/AIQPSP8An88Qf+FHqH/x+j/hA9I/5/PEH/hR6h/8frJ/4W5oR8MLqyWGsyXLXhsRo6WJN8LgDcY/Kz1C/N1xjvniui8L+J7HxZoq6jp0dxABI0M1tdxeXNbyqcNHIn8LD0oAp/8ACB6R/wA/niD/AMKPUP8A4/R/wgekf8/niD/wo9Q/+P10lFAHN/8ACB6R/wA/niD/AMKPUP8A4/R/wgekf8/niD/wo9Q/+P10lFAHnd54K0tfiTo1uLrXNkmk37knX74uCs1mBh/O3AfMcgHB4JB2jHQf8IHpH/P54g/8KPUP/j9F9/yVPQv+wLqX/o+xpviTxNqOkaxpVnZaS0lvd3kME9/M6iJA7EbUUNuZ+M9AoHcn5SdUu+gm7JvsO/4QPSP+fzxB/wCFHqH/AMfo/wCED0j/AJ/PEH/hR6h/8fq74m1afR9IWSxiWW7uLiK1txICUWSRwgZgCCVXO4gEEgYGM1gXHivWNLF/pV+tnd6zFLaR2s1vA8UEguXKI7IXYjYyvuAc5CjBG7AFrt/T0/zQ9Fv/AEu5pf8ACB6R/wA/niD/AMKPUP8A4/R/wgekf8/niD/wo9Q/+P1mT+Kdb0+4udCuvsNzrfn20dtcxW8kduyT78SNGXY/J5UuVD/NtHK7uFl8Va1ZtLolwLGXXTfw2kFykEiW7JLG0glaMuWG1Y5RsD8lB8y7uD+vy/zQev8AX9WNL/hA9I/5/PEH/hR6h/8AH65/wD4K0u6+G3hq4lutcV5tJtXYRa/fRoCYVJ2oswVR6AAAdAK6nw7qd/dTajp2s/Z3vtOmVHmtomijnR0Dq6ozMV6lSNx5UnPOK5/w9rEuifBHwrcWsImuZdM062t0bO3zJUjjUtjnaCwJx2Bo9ANf/hA9I/5/PEH/AIUeof8Ax+j/AIQPSP8An88Qf+FHqH/x+pdD1PUjrN9ouuyWs95axRXKXFpbvDHJFIXA+Rnchg0bA/McjB46Vj3Hi++n8VTWNjqmg2EcNyLWCy1IkXGouoBkMbCQbAN20fu3yVPbFHWwm7K7/r+kaf8Awgekf8/niD/wo9Q/+P0f8IHpH/P54g/8KPUP/j9Y99401W38YTafG2nqIr2G2i0mSFze3kL7A9zG28ARrvYnEbDETZZedr5fGOpwNf6vcPpsGjWOp/2c1myMblz5ixeZ5m/apJbcI9hyu35hu4N7ef8AwP8ANf0nZvT+vX/Jmr/wgekf8/niD/wo9Q/+P0f8IHpH/P54g/8ACj1D/wCP1lWnjC6vfGElmNVsrWxS+e0SKXRrlvNZOCgu/MEIcsGwuCegwTXc0LVJhs2uxzf/AAgekf8AP54g/wDCj1D/AOP0f8IHpH/P54g/8KPUP/j9dJRQB534+8FaXa/DbxLcRXWuM8Ok3TqJdfvpEJELEbkaYqw9QQQehFeiVzfxH/5JZ4r/AOwLef8Aoh66SgDm/FH/ACMXgz/sNSf+m+8rjfHC+I2+NWif8IdNp0WpDRLkhdTR2gkXzY8q2w7h1yCM8jHeup8cX8Omap4Ru7lLh4o9afcttbSXEhzYXY4jjVmPXsDgc9BVn/hPNI/58/EH/hOah/8AGKlq7T7f5NfqPo1/W9zl/Dfw01bRdT8I3l1f2tzLpYv5tScblMk1z8x8sbcbQxI528YOO1VtS+GOvyX2qatpOoWEGqDxAusaZ5wd4mHkiMxzDbkZG7lc44wfTsf+E80j/nz8Qf8AhOah/wDGKP8AhPNI/wCfPxB/4Tmof/GKp7p9v80/zQvX+t/8ziPFnwz8V+OPB1svim/0W/1u2v2uo7MpLHYLGV2eTvj2zYx8+4knPHTmur+Gfgv/AIQfwn/Z8tpp1pczTtPPFpjztAGICjBmdmPCjJ4Ht3Nz/hPNI/58/EH/AITmof8Axij/AITzSP8Anz8Qf+E5qH/xihaXt1/r9Aetr9DpKK5v/hPNI/58/EH/AITmof8Axij/AITzSP8Anz8Qf+E5qH/xigDpKK5v/hPNI/58/EH/AITmof8Axij/AITzSP8Anz8Qf+E5qH/xigAvv+Sp6F/2BdS/9H2NXPEekT6ummC2eNfsmowXT+YSMohyQMA81yd5400tviTo1wLXXNkek36EHQL4OS01mRhPJ3EfKckDA4BI3DPQf8J5pH/Pn4g/8JzUP/jFHVPtZ/dqJq6a7ljxFpV9rOnyQ2xhgmtbiG6spDKSJHjYPtkG35VJG0kbjg568Vi3HhTWNUF/qt+1naazLLaSWsNvO8sEYtnLojOUUnezPuIQYDDAO3J0v+E80j/nz8Qf+E5qH/xij/hPNI/58/EH/hOah/8AGKFdbf09P8kPR7/0uxmT+Ftb1C4udduvsNtrfn20ltbRXEkluqQb8RtIUU/P5suWCfLuHDbeVl8K61eNLrdwbGLXRfw3cFsk8j26pFG0YiaQoGO5ZJTvCcFx8rbedL/hPNI/58/EH/hOah/8Yo/4TzSP+fPxB/4Tmof/ABij+vy/yQev9f1cs+HdMv7WbUdR1kW6X2ozK7w20rSxwIiBFRXZVLdCxO0csRjjNc/4e0eXW/gj4Vt7WYQ3MWmadc27tnb5kSRyKGxztJUA47E1r/8ACeaR/wA+fiD/AMJzUP8A4xXP+AfGml2vw28NW8trrjPDpNqjGLQL6RCRCoO11hKsPQgkHqDR6AdBpena1Hqd/reo21guo3SQWyWsF5I8UcMbMSfMMYJY+Y5xsA4UZ6msjWPBuqXEOu6VpsWmLp2vzedcXskjJc2zMFDFUCESkbdysXTBIH8POv8A8J5pH/Pn4g/8JzUP/jFH/CeaR/z5+IP/AAnNQ/8AjFHW4dNTHvvB2szNqOlwDTW0zUtSW/k1CSVxdQEFGwsYQqzjywFk3rtGPlO35ptZ8IXms+JPOm0vQI4WnjZ9XjQ/bmhQhvIwUPUrtLeZjaT8taX/AAnmkf8APn4g/wDCc1D/AOMUf8J5pH/Pn4g/8JzUP/jFHby/r9P8+omr3Kt3oniTU5hpmqzWFxpK6gl4L4SFbkokoljh8kRhBghU378lRnGTx11c3/wnmkf8+fiD/wAJzUP/AIxR/wAJ5pH/AD5+IP8AwnNQ/wDjFHSw9zpKK5v/AITzSP8Anz8Qf+E5qH/xij/hPNI/58/EH/hOah/8YoAPiP8A8ks8V/8AYFvP/RD10led+PvGml3Xw28S28VrrivNpN0imXQL6NATCwG52hCqPUkgDqTXolAHN+KP+Ri8Gf8AYak/9N95XSVzfij/AJGLwZ/2GpP/AE33lct8V9R8c6beWM/hi5v7LRkhY3dxpelQ6hOJSwwGikdTsC5O5c45z2wr2aGlc9NoryHUPF/iPxH4ksLDwl4ssNOs7fw+uszXz6cGTUCX242SNuiT5SThty7sHPbl1i8Q+PPEnwxudT1+FvtumS3jRz6XDMiyxlS77SAMsCoBwNm3I5NVZ3t/XX/5FkuSS/ry/wA0fQ1FeZfBCLW/+Ee1i413XpNXL6tcRp5kCoyMkjKzbgSTuwDjooGBxV74jf8AI3fD/wD7Dh/9ESUv5fO342/zC+j8r/gd/RXi+i+ML/QNDsdcu7i3t9EXxLfWWppFaRRIEaR1ilJVRgq4XLd9xLZ61PZa/rmoyfD7U9ZkglbW9WuriJJbSJmt7ZoXaFFbZlTtCksDuOSCSKnm91S9Pxt/ncb0uvX8L/5HsNFeGeCvF3jy5Xwbrms+I7e+03XdQn0+XT/7PjjZdvnbZPMXkn930AAwB1OTSy+N/Gk9pJ4li8R2Nvp1x4kj0iLR/skfmQILgIT5hyS7KCSpHAYsCMAVX2uX+un+aHJcra7f8H/Jnp19/wAlT0L/ALAupf8Ao+xrpK5u+/5KnoX/AGBdS/8AR9jXN63plhrF741vtYjje60eJF0+5kTL2AW2WUSRE/cbzGYllwTsAOdowm0ldjjFydkekUVxnjGe8vPBGlwNC8janc2kF3CjCMyI5BeMkn5Vb7p77SQATgVzl/HZWmgax4ai0S20G/kuLHzLHS5TLaXCzS7VHSIKr+W6SfIDjn5+AXrdrs7fl/mQmnbz1+Wv+R6tRXlMeizNBrGgwaLbw+Rd2l9c+HdOmC2stqwKlInYIrb2jZmVljDFSp4bexFYy6jBrPh2ysdM0Kxe/sxBpeolHijJTzZIjDGxQlggcxI2CGJ3As2D/gfoN6Hq1c38OP8AklnhT/sC2f8A6ISofBFumlrqmijTNKsZLG5Uu+kWgtoLjeisH8rJKtjCkFm+6DnnAb4Ggmuvg94ZgtruSylk0SzC3ESqzR/uU5AYFc/UEexodugI6yiuQ+G0JtvDt/btPNcGHWL6Pzbh98j4uHGWPc8Vzuu2drdab428Qzxxza3o9yw0+6aPMtn5UMbxxxkfMAWYkgH5t5ByDiiPvW9L/l/mNqzafe35/wCR6jRXl1/Y2txo+v8AieaGOTxBY6qUtbsx5mgEciLHAjfeCMOCoOG8xsg7jRcWVrLpOq+KJoozr9trzRW96Y8zRKl0IkhVuoRkwCo4PmMcZYmlFp281f77f5i7272/P/I9Rory2O1t/wCwx4qWKOTxB/wkRg+3eV++8v7f5Hk7uuwRfLt6cZxnmvUqqztd/wBbf5h1CiiikBzfxH/5JZ4r/wCwLef+iHrpK5v4j/8AJLPFf/YFvP8A0Q9dJQBzfij/AJGLwZ/2GpP/AE33lR+LPhv4S8c3FvP4o0aO+mt1KRyiWSJwpOdpZGUkZ5AOcZOOpq74k0S+1dtKuNKv7exu9MvTdxvc2rXEb5glhKlVkQ9Jic7uoqt9h8b/APQw+H//AAQz/wDyZQO7WxX174ZeEfEUOnrqWg2sx0uLy7FfmRYlGMKVUgMowPlYEdeOTUXgzwHb6FoHhldYihn1nQrJrWO5glfYofG/AOAQcDkrn6Vd+w+N/wDoYfD/AP4IZ/8A5Mo+w+N/+hh8P/8Aghn/APkyndq/9d/8yWk7X6f1+hUg8Jr4S1S+v/Anh3TTPq8hm1F7vVJoNzgkgqoilHV36bfx7X4tJuNcuLS68W6RYwXOmXAuLE2eoyzhX2lSxzHF2JGCGHNR/YfG/wD0MPh//wAEM/8A8mUfYfG//Qw+H/8AwQz/APyZSG9SV/A/h2Twze+H5NNV9Lv5XmubdpXO93fezbt24fNzwRjtirdx4b0m6m0qWezBfR23WO12UQnZs4AOD8pxg5rP+w+N/wDoYfD/AP4IZ/8A5Mo+w+N/+hh8P/8Aghn/APkylZf15bfcH9ffv95LZeBvDun6fpVjZ6f5dtpFy11Yp58h8mVt2WyWy3+sbhsjn2FeYS/BfX5/iNe6pNN4ebTr3VY7+S+EEi36xo6yCFUAEQyygFvvN94knivSvsPjf/oYfD//AIIZ/wD5Mo+w+N/+hh8P/wDghn/+TKq/vc39dP8AIHqmn1/r9Qvv+Sp6F/2BdS/9H2NW9U8JaNrOoLeahbSPNtVJPLuZYknVSSqyojBZVBJwrhh8x45NY0vhzxjNr9pq7eJNDFxa2s9qijQpthWVomYkfa85zCuOe568YvfYfG//AEMPh/8A8EM//wAmUgNa80ax1C2ure9jeeG62+YjzOQpXG0pz+7IIBBXBBAPXmqMXg7Q4tMurA2sk8V4ytPJc3Us0zsv3D5zsZMrgFSG+U8jFV/sPjf/AKGHw/8A+CGf/wCTKPsPjf8A6GHw/wD+CGf/AOTKAJ4vBmhxaZc2Itp3S6lWaaaW8mkuGkXAV/PZzIGXaMENkY4xTk8H6ImivpQtZDbvN9oZ3uZWnMuc+Z5xbzN44w27IwADgVW+w+N/+hh8P/8Aghn/APkyj7D43/6GHw//AOCGf/5MoA1tJ0ey0SzNtp0ciozmR3mmeaSRj1Z5HJZj0GSTwAOgFZPw4/5JZ4U/7Atn/wCiEo+w+N/+hh8P/wDghn/+TKo6J4c8Y6DoGn6RZ+JNDe30+1jtYml0KYuyooUFiLsDOBzgCgDo4NEsbWzmtbWOWCKa5a6k8qeRGMjSeYx3BsgFuozjBIxjiqt74T0bUdWXUru2kecFGZVuZUilZDlGkiVgkhU4wWUkYHoKqfYfG/8A0MPh/wD8EM//AMmUfYfG/wD0MPh//wAEM/8A8mUDuy1ceEtFutaGqz2sjXPmJKyC5lWGSRPuSPCG8t3XC4ZlJG1eflGFl8JaNNrn9rPbSfafMWZlFzKIXkUYWRoQ3ls4AGGKkjavPAxU+w+N/wDoYfD/AP4IZ/8A5Mo+w+N/+hh8P/8Aghn/APkyndoT13Ln/CKaONc/tb7PJ9p8zztv2mXyfMxt8zyd3l78fx7d3vWxXN/YfG//AEMPh/8A8EM//wAmUfYfG/8A0MPh/wD8EM//AMmUtlYDpKK5v7D43/6GHw//AOCGf/5Mo+w+N/8AoYfD/wD4IZ//AJMoAPiP/wAks8V/9gW8/wDRD10lcbrfhzxjr2gahpF54k0NLfULWS1laLQpg6q6lSVJuyM4PGQa7KgAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKAP/2Q==)

The correlation between the price vs the living area of the home is showing a moderate positive correlation. Now, looking at the correlation between the price vs age of the home, you can see that it has a very low negative correlation. At just -7.5%, I would not use this variable in predicting the value of a home.

 I want to draw up and show a multiple regression model now using price as the response variable and living area, grade of the home, number of bathrooms, and view as predictor variables. The general form of this would be . In this model, living area, grade of the home, and number of bathrooms will be quantitative variables, while the view variable will be qualitative. will represent area of living, will be grade of house, will be number of bathrooms, will be view that backs out to trees, and will be view that backs out to a lake.

Using the coefficients here, my model will be Looking at this model, I can see that my is 0.6475 and that my is 0.6469. The 0.6475 value of measures the variation that’s explained by the regression model. The positive number here shows that the model’s prediction is better than a prediction which is just the mean of the already available values. My value here is lower because in regression models increases or remains the same as you add new predictors to the model, even if the newly added predictors are independent of the target variable and don’t add any value to the predicting power of the model and the eliminates this drawback and only increases if the newly added predictor improves the model’s predicting power. Looking at the beta estimates from this model, number of bathrooms is the only negative in it. This means that for every 1 unit of bathrooms, the price will decrease by. The rest of the beta estimates are positive, which means for each unit in their specific variable, the price Chart, scatter chart

Description automatically generatedChart, line chart

Description automatically generatedof the home will raise by their specific coefficient.

In these two plots, I have placed the residuals against the fitted values on the left and a normal Q-Q plot on the right. The spread of the residuals against the fitted values looks constant so the assumption of homoscedasticity looks valid to me. From the Q-Q plot, the residuals look to be normally distributed so the assumption of normality looks valid as well.

To check the overall model’s significance at the 5% level of significance, I want to look at the models P-value. The P-value here is and is well below the 5% I’m looking for. This means that I would reject the null hypothesis of in favor of the alternative . I will next individually carry out beta tests on each variable to see if they are significant at the 5% level of significance also. The general null hypothesis for each will be and the alternative being . Four of the variables have the same P-value: area of living, grade of house, view backing out to trees, and view backing out to lake. All four of these P-values are , with the last variable, number of bathrooms, being . All these P-values are close to 0 and far under the 5% level of significance. In all these cases I would reject the null hypothesis for the alternative.

![A picture containing text

Description automatically generated](data:image/jpeg;base64,/9j/4AAQSkZJRgABAQEAYABgAAD/4RCiRXhpZgAATU0AKgAAAAgABAE7AAIAAAAQAAAISodpAAQAAAABAAAIWpydAAEAAAAgAAAQeuocAAcAAAgMAAAAPgAAAAAc6gAAAAgAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAEJlbmphbWluIExlYW5uYQAAAeocAAcAAAgMAAAIbAAAAAAc6gAAAAgAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAQgBlAG4AagBhAG0AaQBuACAATABlAGEAbgBuAGEAAAD/4QsiaHR0cDovL25zLmFkb2JlLmNvbS94YXAvMS4wLwA8P3hwYWNrZXQgYmVnaW49J++7vycgaWQ9J1c1TTBNcENlaGlIenJlU3pOVGN6a2M5ZCc/Pg0KPHg6eG1wbWV0YSB4bWxuczp4PSJhZG9iZTpuczptZXRhLyI+PHJkZjpSREYgeG1sbnM6cmRmPSJodHRwOi8vd3d3LnczLm9yZy8xOTk5LzAyLzIyLXJkZi1zeW50YXgtbnMjIj48cmRmOkRlc2NyaXB0aW9uIHJkZjphYm91dD0idXVpZDpmYWY1YmRkNS1iYTNkLTExZGEtYWQzMS1kMzNkNzUxODJmMWIiIHhtbG5zOmRjPSJodHRwOi8vcHVybC5vcmcvZGMvZWxlbWVudHMvMS4xLyIvPjxyZGY6RGVzY3JpcHRpb24gcmRmOmFib3V0PSJ1dWlkOmZhZjViZGQ1LWJhM2QtMTFkYS1hZDMxLWQzM2Q3NTE4MmYxYiIgeG1sbnM6eG1wPSJodHRwOi8vbnMuYWRvYmUuY29tL3hhcC8xLjAvIj48eG1wOkNyZWF0ZURhdGU+MjAyMi0wOS0yM1QxMToyOTo1Ni45OTY8L3htcDpDcmVhdGVEYXRlPjwvcmRmOkRlc2NyaXB0aW9uPjxyZGY6RGVzY3JpcHRpb24gcmRmOmFib3V0PSJ1dWlkOmZhZjViZGQ1LWJhM2QtMTFkYS1hZDMxLWQzM2Q3NTE4MmYxYiIgeG1sbnM6ZGM9Imh0dHA6Ly9wdXJsLm9yZy9kYy9lbGVtZW50cy8xLjEvIj48ZGM6Y3JlYXRvcj48cmRmOlNlcSB4bWxuczpyZGY9Imh0dHA6Ly93d3cudzMub3JnLzE5OTkvMDIvMjItcmRmLXN5bnRheC1ucyMiPjxyZGY6bGk+QmVuamFtaW4gTGVhbm5hPC9yZGY6bGk+PC9yZGY6U2VxPg0KCQkJPC9kYzpjcmVhdG9yPjwvcmRmOkRlc2NyaXB0aW9uPjwvcmRmOlJERj48L3g6eG1wbWV0YT4NCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgPD94cGFja2V0IGVuZD0ndyc/Pv/bAEMABwUFBgUEBwYFBggHBwgKEQsKCQkKFQ8QDBEYFRoZGBUYFxseJyEbHSUdFxgiLiIlKCkrLCsaIC8zLyoyJyorKv/bAEMBBwgICgkKFAsLFCocGBwqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKv/AABEIAD4AwQMBIgACEQEDEQH/xAAfAAABBQEBAQEBAQAAAAAAAAAAAQIDBAUGBwgJCgv/xAC1EAACAQMDAgQDBQUEBAAAAX0BAgMABBEFEiExQQYTUWEHInEUMoGRoQgjQrHBFVLR8CQzYnKCCQoWFxgZGiUmJygpKjQ1Njc4OTpDREVGR0hJSlNUVVZXWFlaY2RlZmdoaWpzdHV2d3h5eoOEhYaHiImKkpOUlZaXmJmaoqOkpaanqKmqsrO0tba3uLm6wsPExcbHyMnK0tPU1dbX2Nna4eLj5OXm5+jp6vHy8/T19vf4+fr/xAAfAQADAQEBAQEBAQEBAAAAAAAAAQIDBAUGBwgJCgv/xAC1EQACAQIEBAMEBwUEBAABAncAAQIDEQQFITEGEkFRB2FxEyIygQgUQpGhscEJIzNS8BVictEKFiQ04SXxFxgZGiYnKCkqNTY3ODk6Q0RFRkdISUpTVFVWV1hZWmNkZWZnaGlqc3R1dnd4eXqCg4SFhoeIiYqSk5SVlpeYmZqio6Slpqeoqaqys7S1tre4ubrCw8TFxsfIycrS09TV1tfY2dri4+Tl5ufo6ery8/T19vf4+fr/2gAMAwEAAhEDEQA/APpGiiigAooooAKKKKACisy38S6Fd6g1ha61p094spha3ju0aQSAElNoOdwCsSOvB9K0IpY5498MiyJkjcjZGQcHn6jFAD6KKKACiiigAooqCzvbXULYXFhcw3UJZlEsMgdSVJVhkcZBBB9CDQBPRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFIw3KQc4IxwcUtFAHg/g+B7OHw9YWl5qMdvqGv6zDcxrfzfvVVJwozvyDwDkc7vm+9zXe/Bj7Ivwp0iOzuDM8cZS4VrhpTFKD8yHJOwjj5OMenNd3RRHRW8kvuB6/j+LYUUUUAFFFFABXz1Dda5p3g/R10W9vIF1+fUNFUwyuFt7iS+YxzgDoyp5vzDB4HPFfQtFK13/Xz/D/Md9LHgmjav4g8QzaRNqepapaIdat9BnigvpI/OMFvN57/ACtwXkP3s5+RTwQK94ghW3t44Yy5WNQqmR2diAMcsxJJ9ySTT6Kq+n9dl/wX8yba6f1q/wBLL5BRRRSGFFFFAHFeOdYbRPFHg+6udQaw0tr6eK8keby4WzbSeWr8gH5gMA98d68+07xAt1D4SPifxLqdlpt1p2pyXM/9ozW+5kuEEZeQMCCM4GSOoXvtPu1UptHsZ9bttXlg3X1rDJBDLvYbUkKlxjODkovJGeKVv6+QPX8PzueZeC59Z1vXvDUPiS+1NHHhwXcsAuZIPNkW4ASSRVIyxXGQeDkgjtXrVFFVfT7/AMW3/wAASWv3fkkFFFFIZh614ds9XvUnurjVInWMIBZ6tdWqYyTysUiqTz1Iz0GeBWd/whGl/wDP74g/8KPUP/j1dNP98fSvPZfEuoHxtJ5t1qFrpdvqMen/ACWsDWhZlXCyMxE29mcBWT5BlAcndQtXb+v61B6K7Nz/AIQjS/8An98Qf+FHqH/x6j/hCNL/AOf3xB/4Ueof/HqwNS8R6n4Y1HWFn1G41P7PpM99su7NYY0lTaVSAqqmRMMd3zSFcLlgTzbs5tVF/qmhaj4kvF+y2dvfrqaQ26yoHMgdCDEY9oMeQducE5PGaPs83Qbi1/Xp/mjU/wCEI0v/AJ/fEH/hR6h/8eo/4QjS/wDn98Qf+FHqH/x6uZOoeILTw/pbXmv6kRqU0s/nxWcEl7FDtzCgiWHDD7pdhGSpbqByGXXibXmi0q+1B9VtNOj0qC71G80WK0ltlkdjvLPLvLIoXJEO4gHPPFO2tv62uLdXR1P/AAhGl/8AP74g/wDCj1D/AOPUf8IRpf8Az++IP/Cj1D/49VjxQ5j0Ca/TWb7S4rVGneWxjhd5FC/dxLG4Oe2ADnFTeG7fVLXw7aR6/ete6js3TysqKQxOdvyKqnbnbkAZxnvSAo/8IRpf/P74g/8ACj1D/wCPUf8ACEaX/wA/viD/AMKPUP8A49W7dTi2s5pyNwijZyPXAzXDeD/EGsX8rC9nvJbu908Xtpa6jDDbwS8jJheLdIsYLqCJVLgMp9QRat/13/yYPRX/AK/rU3P+EI0v/n98Qf8AhR6h/wDHqP8AhCNL/wCf3xB/4Ueof/HqwrTXNdu9H06xutSEOo3+uXdhJe2lug8qOIzt+7VwyjiEKNwbg5OTzUNpr+va3Ha6fDqbWFzbxag093FBGxna2nEKZDqVCtkswUA5wAVFNpr+vK5Ti07f1vb8bHR/8IRpf/P74g/8KPUP/j1H/CEaX/z++IP/AAo9Q/8Aj1ZUfibWtRXwXqNv9mtdO1gxNcoAXlkZ7aSTYMjCKpUHIJJz/CAd1s39/p3j+0sLjVbi5i1BZWaCa0WK3hAGUWGQKC8mFOULucBmwoFNxadn5/gT0T76lr/hCNL/AOf3xB/4Ueof/HqP+EI0v/n98Qf+FHqH/wAeqp4wh1Y3Vkmi+I9Q0+7vplt4beKG2eFcZaSRt8LNwiscbgCQo4zXWAYUAkkgdT3qelw6nPf8IRpf/P74g/8ACj1D/wCPUf8ACEaX/wA/viD/AMKPUP8A49T/ABlqt1pPh/zNPMoubi4ito2hiEjqXcLlVb5S2CcbvlBwW4BrlZtb8Q3Gj2VrpkviC4u4tSlg1Aw2tiL23RYi4Ry2bbJLRkMMZUgAZzQtU32/4H+aB6W/rv8A5HT/APCEaX/z++IP/Cj1D/49R/whGl/8/viD/wAKPUP/AI9WXqev6mfDOg6hoF6stnPd2kdzd3kY+0SK88cbJ5YVUVjubceNpGAvOVjm1vU4PHs/9pya3Y6Ml5DaW0iQWws5neNcByymb5pH2hl+XIAyDkU7Pp3t+X+YdLmx/wAIRpf/AD++IP8Awo9Q/wDj1H/CEaX/AM/viD/wo9Q/+PVh+HdU1e81i4tdevNf02a/N0LCOe2tEg2LIdpiwhkDqm04l68nDAcavhJdTk1HVZ7nX7zVdNjl+y2ou4rdWLxkiV8xRpxu+QAj+BjzkYS1B6E//CEaX/z++IP/AAo9Q/8Aj1aOi+HbPSL157W41SV2jKEXmrXV0mMg8LLIyg8dQM9Rnk1hNBq3/CfW9taeJtQlto0a7vrSWG1MaRsWWKJSsQcZYMclicRkHkg12UH3z9KOlw2dieiiigCCf74+lc3deD7K71r7dJdXYha4ju5bBWTyJZ0ACSt8u/I2ocBguVBIJyT1Dxb2znHHpTPI/wBr9KOtw6WOXj8F2jzyNqmoahq0Rt5LaGC9kRlgikGHVWVVdiQANzszYHXk5SHwVZrpOp2d1f317LqlsLW4vJ2jE3khSqoCqKoADN/DnLEkmup8j/a/SjyP9r9KNh3e5hax4dj1SS1nt7670y8tFZIrqzEe8IwG5MSI6kHap6ZyowRVGXwNZtp1vpsOo6lBpkcC281ikytHdIOzl1LDOTkoVLZ5J4x1fkf7X6UeR/tfpQLpYyNQ0ZNTtJLa7urhoXuIpwq7F2eWyMEGF+6SnOcn5iMgYxpVL5H+1+lHkf7X6UAQsoZSrAEEYIPesHRfCNpol8t0l3eXbQ2/2S0S5ZCtpBkHy02qCR8q8uWY7RzXSeR/tfpR5H+1+lC0DdWObl8I2j6b9lgu7u2kW+k1CG6iKGWCaR2Ziu5SpH7xlwyng+vNV5vAtg1haW9ne31jJbJNGbm3dPMmWZt0wfcpHzsAxIAIP3StdZ5H+1+lHkf7X6UDu73MebQbKRNKjjDQxaTKJbaOMgKMRtGFOQeNrn8hzVVPC0f9tx6hc6pqF2lvI8traXDxtFbSMCC6nZvJwzABnYAMcAYGOi8j/a/SjyP9r9Kd2LpYyV0dDqVhfT3VxcXFlbyQKzlQJN+zc7BVA3fIOmByePTRqXyP9r9KPI/2v0pAZuraXDrGnNaXDyRgsskcsRAeKRGDI65BGQwB5BBxggjIrIj8Hi2smjstd1a1vJZ2uLjUI3hMtw7AKd6tGY+iqBhBtCjGOc9T5H+1+lHkf7X6UAYcnhqwbQbPSE86O1s5YJY9r5YtFIsi5LZzllGT1OTz3qO48NJdawl5canqElsky3A055EMAlX7r8rv4IBC79uRnbXQeR/tfpR5H+1+lAbqxz9j4aSz1cX9xqmoX7RK6WsV3IjLaqxG4KQoZjwBukLtgdeTm1Y6Qmm6RBp9lczxJC4bzfkLv8+5gcrj5skHAB5OCDzWt5H+1+lHkf7X6UB1uZ1tpkNrqd7fIztNebPM3EYUIuABx05J78k1oQffP0pfI/2v0p6RbGznPHpQA+iiigD/2Q==)Table

Description automatically generated with low confidence Using this model to predict a price for a home that backs out to a lake, has 2,150 square feet of living area, has a 7 grade, and 3 bathrooms, I would use the equation to get the estimated price to be $689,770.

On the left picture, I have the prediction interval and on the right picture, the confidence interval. Both are set at a 90% level. The prediction interval indicates a 90% chance of the next house prediction, using this model, will fit between the lower (422,684.5) and upper limits (838,887). The confidence interval here shows 90% chance that the house price, comparing to the sample data, will fall between its lower (610,013.7) and upper (651,557.7) limits. Since the sampling size is large (2,692 samples), the confidence interval has a narrower window than the prediction’s interval.

![Text

Description automatically generated with medium confidence](data:image/jpeg;base64,/9j/4AAQSkZJRgABAQEAYABgAAD/4RD6RXhpZgAATU0AKgAAAAgABAE7AAIAAAAQAAAISodpAAQAAAABAAAIWpydAAEAAAAgAAAQ0uocAAcAAAgMAAAAPgAAAAAc6gAAAAgAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAEJlbmphbWluIExlYW5uYQAABZADAAIAAAAUAAAQqJAEAAIAAAAUAAAQvJKRAAIAAAADMzAAAJKSAAIAAAADMzAAAOocAAcAAAgMAAAInAAAAAAc6gAAAAgAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAADIwMjI6MDk6MjMgMTE6NDA6NDIAMjAyMjowOToyMyAxMTo0MDo0MgAAAEIAZQBuAGoAYQBtAGkAbgAgAEwAZQBhAG4AbgBhAAAA/+ELImh0dHA6Ly9ucy5hZG9iZS5jb20veGFwLzEuMC8APD94cGFja2V0IGJlZ2luPSfvu78nIGlkPSdXNU0wTXBDZWhpSHpyZVN6TlRjemtjOWQnPz4NCjx4OnhtcG1ldGEgeG1sbnM6eD0iYWRvYmU6bnM6bWV0YS8iPjxyZGY6UkRGIHhtbG5zOnJkZj0iaHR0cDovL3d3dy53My5vcmcvMTk5OS8wMi8yMi1yZGYtc3ludGF4LW5zIyI+PHJkZjpEZXNjcmlwdGlvbiByZGY6YWJvdXQ9InV1aWQ6ZmFmNWJkZDUtYmEzZC0xMWRhLWFkMzEtZDMzZDc1MTgyZjFiIiB4bWxuczpkYz0iaHR0cDovL3B1cmwub3JnL2RjL2VsZW1lbnRzLzEuMS8iLz48cmRmOkRlc2NyaXB0aW9uIHJkZjphYm91dD0idXVpZDpmYWY1YmRkNS1iYTNkLTExZGEtYWQzMS1kMzNkNzUxODJmMWIiIHhtbG5zOnhtcD0iaHR0cDovL25zLmFkb2JlLmNvbS94YXAvMS4wLyI+PHhtcDpDcmVhdGVEYXRlPjIwMjItMDktMjNUMTE6NDA6NDIuMzA0PC94bXA6Q3JlYXRlRGF0ZT48L3JkZjpEZXNjcmlwdGlvbj48cmRmOkRlc2NyaXB0aW9uIHJkZjphYm91dD0idXVpZDpmYWY1YmRkNS1iYTNkLTExZGEtYWQzMS1kMzNkNzUxODJmMWIiIHhtbG5zOmRjPSJodHRwOi8vcHVybC5vcmcvZGMvZWxlbWVudHMvMS4xLyI+PGRjOmNyZWF0b3I+PHJkZjpTZXEgeG1sbnM6cmRmPSJodHRwOi8vd3d3LnczLm9yZy8xOTk5LzAyLzIyLXJkZi1zeW50YXgtbnMjIj48cmRmOmxpPkJlbmphbWluIExlYW5uYTwvcmRmOmxpPjwvcmRmOlNlcT4NCgkJCTwvZGM6Y3JlYXRvcj48L3JkZjpEZXNjcmlwdGlvbj48L3JkZjpSREY+PC94OnhtcG1ldGE+DQogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgIDw/eHBhY2tldCBlbmQ9J3cnPz7/2wBDAAcFBQYFBAcGBQYIBwcIChELCgkJChUPEAwRGBUaGRgVGBcbHichGx0lHRcYIi4iJSgpKywrGiAvMy8qMicqKyr/2wBDAQcICAoJChQLCxQqHBgcKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKir/wAARCAA4AMIDASIAAhEBAxEB/8QAHwAAAQUBAQEBAQEAAAAAAAAAAAECAwQFBgcICQoL/8QAtRAAAgEDAwIEAwUFBAQAAAF9AQIDAAQRBRIhMUEGE1FhByJxFDKBkaEII0KxwRVS0fAkM2JyggkKFhcYGRolJicoKSo0NTY3ODk6Q0RFRkdISUpTVFVWV1hZWmNkZWZnaGlqc3R1dnd4eXqDhIWGh4iJipKTlJWWl5iZmqKjpKWmp6ipqrKztLW2t7i5usLDxMXGx8jJytLT1NXW19jZ2uHi4+Tl5ufo6erx8vP09fb3+Pn6/8QAHwEAAwEBAQEBAQEBAQAAAAAAAAECAwQFBgcICQoL/8QAtREAAgECBAQDBAcFBAQAAQJ3AAECAxEEBSExBhJBUQdhcRMiMoEIFEKRobHBCSMzUvAVYnLRChYkNOEl8RcYGRomJygpKjU2Nzg5OkNERUZHSElKU1RVVldYWVpjZGVmZ2hpanN0dXZ3eHl6goOEhYaHiImKkpOUlZaXmJmaoqOkpaanqKmqsrO0tba3uLm6wsPExcbHyMnK0tPU1dbX2Nna4uPk5ebn6Onq8vP09fb3+Pn6/9oADAMBAAIRAxEAPwD6RooooAKKKKACiiigDMk8S6FDqb6dNrWnR30bIj2rXaCVWcgICmcgsSAOOcjFaCSxylxFIrmNtrhWztPXB9DyK8Q2yaT4i8SXGnXl9BJN420+3kK3spDRuISykFsYO4j6YXoAB2Pwkgs7Oz8RWlvcyPdQ65dieCa7eZ4l81thKuxK7hzngt1OetEPejf+tov/ANuCWn32/wDSv8j0GiiigAooooAKgt721vHnW0uYZ2t5DFMIpAxicAEq2OhwQcHnkVPXiGo6vf8AhmLxR4lsHuGi03xZKLq3hkIE0clrHGAVHDESNGRnpSvrbyv+KX6jtdf12b/Q9vor53TU/F1v4f13StS1rVBeeFLFYZr5bl0a5muZ0dG6ndsjBUE9Nx4r3/TrGPTrFLeGS4kUEtuuLh5nJJycs5J79M4HQYFVYlO7sWaKKKQwooooAKK5H4nXt1p3gv7bZ3M1r5F/ZvPNFIU2Qi4j8wsR/Ds3Z7YznivPr7xSb3Up5j4hvF0aTxglubi2vZFQWpsQxCup+WLPzbgQB97I+9RHV2/rdL9fwHb+vk3+n4nt9FeM6LdXur6r4f0861qs2i3GranHbTpfyq95apHmMmUMHdQ24K+ckAcnqfZQNqgDOAMcnNHS5KdxaKKKBhRWdrWlQavZJBdS3kSLIHBs72a1fOCOWiZWI56E46HHArD/AOEI0v8A5/fEH/hR6h/8eoA62iuS/wCEI0v/AJ/fEH/hR6h/8eo/4QjS/wDn98Qf+FHqH/x6gDraK5L/AIQjS/8An98Qf+FHqH/x6j/hCNL/AOf3xB/4Ueof/HqAOtorkv8AhCNL/wCf3xB/4Ueof/HqP+EI0v8A5/fEH/hR6h/8eoA62iuS/wCEI0v/AJ/fEH/hR6h/8eo/4QjS/wDn98Qf+FHqH/x6gDraK5L/AIQjS/8An98Qf+FHqH/x6j/hCNL/AOf3xB/4Ueof/HqAOtorkv8AhCNL/wCf3xB/4Ueof/HqP+EI0v8A5/fEH/hR6h/8eoA62iuS/wCEI0v/AJ/fEH/hR6h/8eo/4QjS/wDn98Qf+FHqH/x6gDraK5L/AIQjS/8An98Qf+FHqH/x6j/hCNL/AOf3xB/4Ueof/HqAOtorkv8AhCNL/wCf3xB/4Ueof/HqP+EI0v8A5/fEH/hR6h/8eoA62qWoaRY6pNZS38HmvYXAubY72Xy5ApXdwRnhjwcjmuf/AOEI0v8A5/fEH/hR6h/8eo/4QjS/+f3xB/4Ueof/AB6gDraK5L/hCNL/AOf3xB/4Ueof/Hqt6X4WsNN1KK6t7rWJJI84W51q8njOQRykkrKevcHB56igDoqKKKAI5/uD61xvxB8QX2h+F706JtGp/ZJp45GUMIEjQs0hB687VA5+ZhxjNdlP9wfWuc8TeDdB8XWMsGuaZa3EjwtDHcvbxvNAGHWNmU7T3+tIqLSepR1PU9bg8S+GYopLaPTL2Yx3HBaWdvs8r45GEUFFORksT/CB80clxq1j42trWPWn1FbhJpruykhiSGyhwfLkBVd4O4BMO7bsuQBt42m8PWONIWFDbxaPJvtooQqoP3TxbSMdNrngY5A+lZ2m+DRpt/dzDXdTube+mkmubO4S2McxcEYZhCJCAMAfPwFUdBirlZ7eZKtZX8v1MTwZ4g17UvM826W/nm08XIhuwkEcdwTykLomZLfkYlAkHTDMSRTLjXvFKfCfUtUgu7JtUtJL8S3bRbVjWGWUAxxchjhFUBjx1JbGG6PQ/CFtol+l1/aF9fvb232O0W7ZCLWDIJRNqKTnamWcsx2DnrmZvC9k3he/0Iy3H2W/NyZX3LvHnuzvg4xwXOMg9s5p3j/Xq/0/p7lRavr3X5a/iX72G6u9NaKzvDZTyAAXCxq7RjIyVDfLuxnBIIBwSCBg4/g68vru31EXV9JqdnDeGOx1CVI1e5jCruJ8tVU4k3qGCgEKOvU3Nb0Aa7pV3p82pXltb3USRMLfysoASWxuQ53D5WDZBAxgZOZ9G0ybSrM28+q3epDI2NdRwIY1AwFURRoMcdwTUdWQvhSNCuXOqa1D4u1G3upLJLOPTjcWsQJwCHI3yOQMZ9BwoHU9a6is270Kyv72e4vFaUXFm1lLCxGx4ySSMdcnJHWokm9vP8nb8Slbr5fmv0OR8JeKr4x3s2tXlxdQxWMFyy3EEcUyzuWDxRKqr5kWQoRxuDEkB37TaTqOtap4f1W417XRoZsdRmE81tHCfIiVFYRhpFZcLk5YqScfw1q2ngXTEab+2JZ9fWSBLVY9VSKVI4VbcECqig84O5gzHAyeKoH4X6LBD5ejTT6Mv9of2htsIbcKZAuFBR4mUqn3lBHytyDkDFuzlfpb9V+n+V+862X9dP8AP/PyWLd+J/Eb6bYJI2q200OnG+upLCygaVl3MEkkSbAVdqbmjQeYS2FxtNXdV8TaoviWE2GpA23mWQhiiijNrPHKyiVppGBMT7Wyi713fLgSEkVv6h4QXUrWKO51rVBOIWtp7uMwpLdQscmN8R7QPdFVh2Iycx3PgXTp7stDdXlpZSNC9xp1u0YguGi2hC2ULjARBhWUEKMg85Fo1fv+r/S34+QW/L/L/g/h5j/Ht/rGl+C9SvfD720Nxb28krTzgt5SqhbKpjDNkAYJAGc842noUJMak9SBVDUdHTVdBv8ASr65uJIb6OWJ5BsDoj5GFwuOAcDIJ4GcnmtBRtUAdhinpYp9Pn+hm+JNUbRPDGpamihntLZ5lBUsCVUkcDk/Qc1zOi+Ir2wt9Rt9Un1O91GLyTb2eowW8U0jSZVCpgO3y2ZT94bk2uWOOnZXtlb6jYT2V7EJbe4jaKWM9GVhgj8jWDB4E0h1uDrynxHJcGPdJrEMM21YwQiqoRVAG5znGSWOSaS6gYM3iDxR/wAKfutXt7qzOqwLdtNdSR4WMRPIAUjAwx+QABiAM5O7GG1fGeoaho1nDq1vqtzBHGY1W1js1eCQlvna4kKkxxhf490YXBJJyBVyz8D6Np/g288M2ERtrC8WZZDCqI370nJGFxkA4HHAAHOKl1rwumtsUm1XUYLSWMQ3VnC6eVcoD91gyMVyCQTGUJB5PAxWmgvspev6GFBrOqR+PJxq82t2elyXwtbD/R7UWUx8lcBmKmfJfeQ3CEgDPY3NJ8Q6hqfxBmtgUTRjp7S2qhRumKyhTLu/unJCjoQA38QxpHwvFJrEd5calqE9tDL50OnSOhgikxjcPl3nGThS5UZ4AwMVbb4f+HdO1ttW0XTbXSr02r2ySWVrDH5e45MgGz7/AGycjHBBqI3ur9P8v8xSu07eX5/5fqQ+JZdX0/VrKfT9alea5u4YrfR1gi8uaLK+czMVMmVUu24MqjCjaed3Xxf6wVzT+EpD4mm1uDxBqlvNMsaSQolsyFE/gBeFnVSckgMOWJGK6WL/AFgprYb3LFFFFADXTeuM45qPyP8Aa/SiigA8j/a/SjyP9r9KKKADyP8Aa/SjyP8Aa/SiigA8j/a/SjyP9r9KKKADyP8Aa/SjyP8Aa/SiigA8j/a/SjyP9r9KKKADyP8Aa/SjyP8Aa/SiigA8j/a/SjyP9r9KKKADyP8Aa/SjyP8Aa/SiigA8j/a/SjyP9r9KKKADyP8Aa/SjyP8Aa/SiigA8j/a/SnJFtYHdn8KKKAJKKKKAP//Z) If I were to change the view on the property from backs out to a lake to backs out to a road, the equation would be resulting in a price of $461,070. Printing off the prediction and confidence intervals at a 90% level would look like this:

Again, these are setup with the prediction intervals on the left, and the confidence intervals on the right. With a 90% level, the next prediction house, from the model, should fall within the lower (184,268.1) and upper (641,354.2) limits. The confidence interval, at 90% level, says that the house price, from the sampling data, should fall between its lower (401,996.2) and upper (423,626.2) limits. Since the confidence interval only takes from the large sampling size, and not having to account for both the uncertainty in estimating the population mean, plus the random variation of the individual values, it is narrower.

Chart, histogram, scatter chart

Description automatically generatedChart, scatter chart

Description automatically generated

In this next section, I’ll be analyzing these two scatterplots above. The one on the left is of appliance age vs the price of a house and the one on the right is crime (per 100,000 people) vs the price of a house. As you can see, both scatterplots have a negative correlation. As the appliance’s age or crime rises, the price of the house falls; however, it’s not a clear linear regression, but instead, seems to curve. In this instance, I would use a second order model for this as it seems both predictors have diminishing returns at a certain point.

![A screenshot of a computer

Description automatically generated with medium confidence](data:image/jpeg;base64,/9j/4AAQSkZJRgABAQEAYABgAAD/4RD6RXhpZgAATU0AKgAAAAgABAE7AAIAAAAQAAAISodpAAQAAAABAAAIWpydAAEAAAAgAAAQ0uocAAcAAAgMAAAAPgAAAAAc6gAAAAgAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAEJlbmphbWluIExlYW5uYQAABZADAAIAAAAUAAAQqJAEAAIAAAAUAAAQvJKRAAIAAAADNzUAAJKSAAIAAAADNzUAAOocAAcAAAgMAAAInAAAAAAc6gAAAAgAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAADIwMjI6MDk6MjUgMTU6NTg6MjQAMjAyMjowOToyNSAxNTo1ODoyNAAAAEIAZQBuAGoAYQBtAGkAbgAgAEwAZQBhAG4AbgBhAAAA/+ELImh0dHA6Ly9ucy5hZG9iZS5jb20veGFwLzEuMC8APD94cGFja2V0IGJlZ2luPSfvu78nIGlkPSdXNU0wTXBDZWhpSHpyZVN6TlRjemtjOWQnPz4NCjx4OnhtcG1ldGEgeG1sbnM6eD0iYWRvYmU6bnM6bWV0YS8iPjxyZGY6UkRGIHhtbG5zOnJkZj0iaHR0cDovL3d3dy53My5vcmcvMTk5OS8wMi8yMi1yZGYtc3ludGF4LW5zIyI+PHJkZjpEZXNjcmlwdGlvbiByZGY6YWJvdXQ9InV1aWQ6ZmFmNWJkZDUtYmEzZC0xMWRhLWFkMzEtZDMzZDc1MTgyZjFiIiB4bWxuczpkYz0iaHR0cDovL3B1cmwub3JnL2RjL2VsZW1lbnRzLzEuMS8iLz48cmRmOkRlc2NyaXB0aW9uIHJkZjphYm91dD0idXVpZDpmYWY1YmRkNS1iYTNkLTExZGEtYWQzMS1kMzNkNzUxODJmMWIiIHhtbG5zOnhtcD0iaHR0cDovL25zLmFkb2JlLmNvbS94YXAvMS4wLyI+PHhtcDpDcmVhdGVEYXRlPjIwMjItMDktMjVUMTU6NTg6MjQuNzQ5PC94bXA6Q3JlYXRlRGF0ZT48L3JkZjpEZXNjcmlwdGlvbj48cmRmOkRlc2NyaXB0aW9uIHJkZjphYm91dD0idXVpZDpmYWY1YmRkNS1iYTNkLTExZGEtYWQzMS1kMzNkNzUxODJmMWIiIHhtbG5zOmRjPSJodHRwOi8vcHVybC5vcmcvZGMvZWxlbWVudHMvMS4xLyI+PGRjOmNyZWF0b3I+PHJkZjpTZXEgeG1sbnM6cmRmPSJodHRwOi8vd3d3LnczLm9yZy8xOTk5LzAyLzIyLXJkZi1zeW50YXgtbnMjIj48cmRmOmxpPkJlbmphbWluIExlYW5uYTwvcmRmOmxpPjwvcmRmOlNlcT4NCgkJCTwvZGM6Y3JlYXRvcj48L3JkZjpEZXNjcmlwdGlvbj48L3JkZjpSREY+PC94OnhtcG1ldGE+DQogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgIDw/eHBhY2tldCBlbmQ9J3cnPz7/2wBDAAcFBQYFBAcGBQYIBwcIChELCgkJChUPEAwRGBUaGRgVGBcbHichGx0lHRcYIi4iJSgpKywrGiAvMy8qMicqKyr/2wBDAQcICAoJChQLCxQqHBgcKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKir/wAARCAD0AeoDASIAAhEBAxEB/8QAHwAAAQUBAQEBAQEAAAAAAAAAAAECAwQFBgcICQoL/8QAtRAAAgEDAwIEAwUFBAQAAAF9AQIDAAQRBRIhMUEGE1FhByJxFDKBkaEII0KxwRVS0fAkM2JyggkKFhcYGRolJicoKSo0NTY3ODk6Q0RFRkdISUpTVFVWV1hZWmNkZWZnaGlqc3R1dnd4eXqDhIWGh4iJipKTlJWWl5iZmqKjpKWmp6ipqrKztLW2t7i5usLDxMXGx8jJytLT1NXW19jZ2uHi4+Tl5ufo6erx8vP09fb3+Pn6/8QAHwEAAwEBAQEBAQEBAQAAAAAAAAECAwQFBgcICQoL/8QAtREAAgECBAQDBAcFBAQAAQJ3AAECAxEEBSExBhJBUQdhcRMiMoEIFEKRobHBCSMzUvAVYnLRChYkNOEl8RcYGRomJygpKjU2Nzg5OkNERUZHSElKU1RVVldYWVpjZGVmZ2hpanN0dXZ3eHl6goOEhYaHiImKkpOUlZaXmJmaoqOkpaanqKmqsrO0tba3uLm6wsPExcbHyMnK0tPU1dbX2Nna4uPk5ebn6Onq8vP09fb3+Pn6/9oADAMBAAIRAxEAPwD6RqhBrukXWsTaTbarZTalbrums47hGmjHHLIDuA5HUdxVq7ErWU4tjiYxsIz6Njj9a8/8N67p0Pw5h0vQGtX8T6fpskn9lkBrmG7WNt5kjzuUmQnLHG4v1O4ZV932/wCD+XUaV2l3/r+vmei0V5XZ6qYzPJ4D1i+167Gi3Et7DLfPdiK6AUw7kdj5MhbzB5ahQcMNvyjFjwJPdatdXkNl4ktBE9mPOFn4hfVbqGbcMSFLiECHjcCm3bnHyjFPrb+uv+X9a2m+if8AXT/P+uvcWHiPTtU1O4sLBrmaS2LLJKLOYQblO1lExXy2YHggMSCD6HC6Z4i07WLy4t9Oa5lNuWV5jZzJCxVtpCSsoRyCCPlY9DXKfD/RtQbwVNnxPqu6e4uVR/LtcwEXMmWX9zyWwc7tw5OAOML4CtVsPhnHc674hvJLGW2YyNdSxW62q7m3MssaIy9c7ixI7EUrjWp1+j61p+v6f9u0i4+0W3mPFv2MvzIxRhhgDwykVbllSCF5ZTtSNSzHGcADJrzLRvEy3Xwt1FfDmvf2hdWd9NHLPFd/bbi2tWvHUSZJdiRCCyls5Cg81v2l14LXwlfPa+KhNpPmKtxfHxJNJ5T8YX7QZi0eePlDDOenNOXupjtrr3Z02k6rZ65pFrqmlzefZ3cSywS7Cu9CMg4YAj8RVuvK4/FEl98FdGu9L1aO+YfZoNUuxqbIYF2gyebcIrvEegZ8blDE5X7wfpk17f6DYW8fiCKSyutcEMUuka49+yQGFi8TXTqHYlgx5+ZQwwwIUhtWk152++3+f5/Mtbf+rX/yPTZ7iG1hMtzNHDGCAXkYKMk4AyfUkD8akry/WNMjuPAmt215d6pLbaLq37uQ6lceYkIaKR97h90gVWcgsTgAY5ANXPEF5osfguyfQfF1iunfbMmW98TTRreYDboheh3kQgkNhSfubSME1N/0f3iWv4/geiUVxj6rpl58LLe/vr/U9EsGWEfaobqSWdcSqqlZsM0iucYc53I2TjPHZ1TVhJ3VwooopDCiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAorzvw5oQm8Z6pqZ8LaBPs1af/ibyyf6bHgAfKvkHp0/1g4/KtJdR1aw8eCPXrnUobG8uTBpywratZS/u9yo3y/aFkwrk5OzK9eQKmL5lF91f8tPxB7vyOyqCG+tLi8uLWC6hlubXb58KSAvFuGV3KOVyORnrXFeDdHvYPFviWSXxLqdwsGqL5lvLHahZ82sJDPthDDrgbSo+Udec2tMjm0zxF4v/ANKa5lEENws8lvAkgJSTClo413hQoA37iB3qpNRjzPtcdve5TsqK8r0DxL4hTV9Lk1fXWurWeeNZ4jaRIoElg1w2Nq7sKyjaM5wW3Fsjbb8O+I9W1XxVBYNe6xHZ6xpc15bzXsVijRgNHskgWPcyriQ/LOpPC9SGBpxd7f1pf/IlO6T76/I9Jorzjwx9v8O+AdX1pdZ1DVjZ/wBoslhPHbiPzEnlOf3cSvuJXkbsfMcAcY1PBd54lub4nVotTl06e1Ey3Wo/YRiXIwIhau2YypJ+fJGB8xzStrYL2V3/AFt/mdnRWb4h0yfWfDt7p1rdmzluYiiz7S236gEEg9Dgg4JwR1rh7W1ij0PxL4ctNGsvCuqW1klxcSeH0haK4R1cLgtEDklHBVkyAflY5zUSlyxb7IpK7SPSqjjuIZZpYopo3khIEiKwJQkZAI7cEGuJgkv9C+HljNDr91eyX/2O3hubqO3ItBKyR7kEcaBsb8jfu5AznkGz4O22WteK1uNak1P7PdxCa7uTCGUi3QkN5SIox9AfWql7smu39fqTF8yT7nY0VDaXdtf2cV3Y3EVzbTKHimhcOjqehDDgj3Fcr8RrP+0LHRrX+zbHVPM1WMfY9QbbBL+7kOHOx+O/3TyB9aTdreqX3uxS1Oworhb2HVdG0/w1pGh2+l+GHvtRkhuINNjWaGOPyZpCUzGg3/IGB24DdQwyC/Uf+Ersf7B0ka9GZrzU5oZb9raNpHthFK6/KFCCUbVGQu3IyVIypqwnok3/AFv/AJHb0VxDf8JD/bGn+Gr7xHJbStBdXX9o20MPn3KJKqxqQ8RjBCyAvtTkgYwM5oafrPiLxDc+HbO31sWUd3Y3sl1d29rGXuBDNGkcsQcMq7g27kMu1zgfdYJa7f1v/kHWx6NRVPSI9Qh0e1i1qaK4v0jCzzQrtWRh/EBgYz1x2rlvFWlXd3468PvB4i1HTVkW4REtktiFYR5O3zImJJAOQSeF4A5pN2A7WimRI0cKI8jSsqgGRwNznHU4AGT7ACuS1zVtWsNV1TTYLoiW/tom0h/KVvIlZvKfjHzBSySfNnhm7Cn1sC2uzsKpf21pf9s/2R/aVn/aXl+Z9i89fO2f3tmd2PfFcJ4z8W3+lXt1JpV1qrro7QR3Xlx2a2hd9pCSmUiVmZWH+p6bgOTkV1Gr/wDI6+HPpdf+ixSb0uLrY6CiuG1PxTeWlnrRGoRxy2/iG0sLcMEyEkNsWjAI5JWSQ9zg5HQYprr3irUPFl22k22pTW1lqi2b26CxW0EQKh2kLP8AaN+1i4wAPuDaRktSV7ef/A/zQ+l/O35/5HotFFeS+CNDNzeaffaX4a/syaDU7yW81z9whvIvNlXyvkYySZJXiRVA2Z6hcpauwmetVGbiFbpbYzRid0MixFhuKggFgOuASBn3Fcb4Y/4SrVGh1a61yOS3XUruGSxFuiRm2SWVEO4KXMoIXkMFKjBGcsdLwqour7XNUnQ/a5b+S1JbqkUJKog9B1fHq5NHW39dP8x9L/11/wAjpKgtr23u5LhLeTe1tL5Mo2kbX2hsc9eGHT1rm9D1K/XxdfaTbvNq2kxb3a/cgGymzn7MW/5ajBJBGSmArZyCLGjwSXL+JoYbqW0kfUmVZ4QheM+RDyA6sufqCPaiOuvlf8Uv6+/YmTs0vO34N/odHVe3v7a6glmhlBjhkeORmBUKyEhuvoQeelcr8NdOubXwvbTT65fahGwkQW9wluEhYSMDgxxK2cgghmPfitfwr/x4X3/YTu//AEc1Ja/cV0v5/ozZjkSWNZInV0cBlZTkMD0INOrm/B4FrJrelQLts9N1Ew2qjoiNFHLsHoFaRgB0AAA6V0lU/wCvmHWwUUUUgCiiigAoormPDKLq99q+t3LSNLJdTWEKliPIhhcx7V9CzKzk9Tlf7q4A6XOnorz7QIjoVn4y1GC61G6l024njt0v9TublFRII5Au2SQj7xPPXnGa0tN1bxNcag9hfT6TFPeacL2zeG1ldbY7gGSTMgMo+ZcMPLzg8CldPbsn96b/ACTFeyu+9vudvzZ19FcB4f1rXtG+GX9u67f2uqrHZCSGKKzlSUvnADv5khfJIHyoD7HpUcXjfXofDviG6ntBdz6bYfara4fRrvTYpXw2Yik5ycFQdytyG6DHLVmN6HodFcdd694o0PTb271my0+43rbrZC1LIqTzS+X5MjEsWClkJkCrkE/KDxUus6xrnhjwy1xql1ZX9/PcxwW72elzhI95xkwrJJJJj5jhSM4A4+9Q9Py+YeZ1lFcHbeMNek0Nn+xxNeDVIbKK4utPubCK4STb+8EUvzrtLEYywJXqM4WtreseKJvDOu2qajYW2o6RfRQS3cNlKEnR1ikUovnZjI8zB+Z8gHpu4Ojfb/gf5oOtv66/5HotFY76Re6j4fmsPEF7b3Fw5ytxYW723lkEFGUNI5DKwBzu7dKf4X1KfV/CunX92FFxPArTbPu78YYj2yDj2oA1aKKKACiiigAooooAKKKKACiiuRm+3W3xW01JdTuZbe60+8f7Lu2wxhHgC4QdSNzHc2TljjAwALV2/ra47aGx/wAIp4d/tr+2P7B0v+09/mfbfscfnbsY3eZjdnHfNPtvDOg2Wry6rZ6Jp1vqMxYyXkVpGszluWy4G457881p1ydqL23+KUkNzqVxcxTaU8wgLbYo8TAKFQcZAPLHLHJ5xgBLdR9fyv8AoTJ2Tfp+dv1N2XQtIn1mLV59KspNThXZFevboZo154DkbgPmPAPc+tVbPwd4Z06+a90/w5pNrdMGDTwWMSOQ33gWC557+tcloeqalPrNlrur2d0bbULyW0gkXWJNsHzOqK1ooERXCffLM+W5Ax8uv4fa8svGXiODUNTub8RW1rOTK2ERm83cI0HCLhVGBydoJLNliJpx5h9bHSR6RpsTxvFp9qjRMGjZYVBQhNgI44IQlfpx0qvpnhnQdFlMuj6Jp2nyHdl7W0jiJ3Y3cqB12rn1wPSuR8M+PdT1a9gnu7OeXTry3kuQINBvoWtFC71BldStxuXj5ApLYwGB4Lf4lNe2fi021neCfSfONkJNJuolZUtklAlZ0AV9zN8p2kjbgcglu6u+yuOKu0l3sdlBoWkWurz6tbaVZQ6jcLtmvI7dFmlHHDOBuI4HU9hTNM8N6HotxNcaNo2n6fNcf66S0tUiaTnPzFQCefWvNbfXdU8OO2p2i6rcWM2hXN2Tq148j3k0Sq4mSFifIQ78FRs+8B5YCg10vhGS+07XzYa5BdC81C0N3FcyaxJeLKEZQ+6IqscDZkQ7YgU5IBwoy7O9l/W/+Qvs37/8D/M6+/06y1WxkstUs7e9tZcCSC5iWSN8HIyrAg8gH8Kh0rRNK0K1a20PTLPTbd3LtFZ26wqzYA3EKAM4A59qvVheMmv08LznTPtG/wAyITm0UtOIPMXzjGF+bf5e7G35s9MnApbD3LNv4X0C0s7u0tdD02C2vs/a4Y7SNUuP99QMN1PXNWLTSNNsLNrSx0+1trZkCNDDAqIVAxt2gYxjjHpXN+CbwvqmsWVp/ax0uEQS2p1YzGYFwwcfv/3u3KAgSc8nHyla6fULea6s2ht7t7QsRuljUF9vcLngE9M4OO3PIUtFqJaj7S0trCzitLG3itraFQkUMKBERR0AUcAewqHU9I03W7P7JrOn2uoW24N5N3AsqZHQ7WBGa5Lw/wD2hqvwa0qVtVu4p305ZJ7kOWnlAQkjzGyQScZb72M4IOGFe61PVpfAfhCzsWmmvNZjhimm+1+S7AWzStmXDMu4pgsoLgElfmwRVr38rfjf/Ib91pev4HZWWhaRpttb2+naXZWkFq5kt4oLdEWFyCCygDCkhmBI9T61bkt4ZpYpJYY5JIWLROygmMkEEqexwSOOxNeet4sudF0W30u0tprTUlv5LSYzC81vytqCUsu399KCroBuKbd3P3cGxf8AxCu9L+Hkur32nXaakqzLGv8AZF2IpDG20SMmzdCrDDAORjOMtjJCTsNV0TStdtVttb0yz1KBX3rFeW6zKGxjIDAjOCeferC2Vqk0UqW0KyQxmKJxGAY0OMqp7A7V4HHyj0rgfEHiAa7rml6fawa/Jbz2k9wlnaLcabcTSo8aAs7mJkjUOxOSAxK43EAFkQ1TV/hxYXN7aazqOsW5ntg2las1sN6O6CVyJIhIv7tTkqTzwnJFLVR5v66od03b+u56PVPU9I03W7P7JrOn2uoW24N5N3AsqZHQ7WBGaj0C8XUfDenXiXQvBPaxyfaRGU83Kg7tpAK564wMVheNlvoZtHu7fU7m3hXU7SI20DbFkLzAMXYcsNpwF4Xkkhjt2tx97lfe34i5vdcvK51UUUdvCkMEaxRRqFREXCqAMAADoKjmsrW4ube4uLaGWa2YtBK8YZoiRtJUnlSQSOOxrk/iDBizWWz1PUodbnXyNHtbS8eJWuOWDGNSBIBwW8zcoVDwMnMfjbRorz7JDFf6tbazqsiW0L2Wr3UKRADMkojRwnyoGPK4LbQetLf7x2S0Oku/DOhahqQ1G/0XTrq+VPLFzNaI8oXBG3cRnGCePc1FeeEPDWoap/aV/wCHtKur/Kt9qnso3lyuNp3lc8YGOeMVrqu1QuScDGScmuK8XpLYa5Zajax6zb4uLc3Gopfs1lFH5gV0a283ksvy5ERA3hiwwSBbpB0bOln8PaLc6mdRudIsJr4qqm6ktkaUhWDKN5GcBlBHPBAPakufDeh3urxareaNp9xqMOPKvJbVGmjxyMORuGO2DXN+ItFt5/Fml21hf6xBqF3cfa5zFq90Io7eIqX/AHXmeWAxKR7duPnY9qzptU1OTxFda1fWV1LpVhqgsU8rWJLcxDcse/7MgCTKWbJ8184ztXAG5ReqX9dFf72Er2/r+uh6PUVvbQWcIhtII4IgSwSJAq5JJJwPUkk+5qWimBHBbw2sXl20McMe5m2RqFGWJJOB3JJJ9Saz7TRRY+IL3UbSbZDfqrXNts4aZQFEoPYlAFI5ztXpg51K5jw1rl54l1S9uw/2Kxs5HtBp0keLkuCP3kwIzHkcog6qwYk7gqi3DodJDDFbxCK3jSKMZwiKFAycnge9VNN03+z59Qk83zPtt0bjG3Gz5ETb15+5nPHWuPs5ho3irUZ9N1LUtR07TbCZtYa6vHnU3Q2uioGJVHC+YWWMKoDpx90Cfwh4u1jWNWSDU7V3gntDcCSPRbyzS1YFf3RknGJshuGUL9wnbyMONunb+vyv/wAOEl37/wBfmdRa6FpNjqVxqNjpdlbX11/x8XUNuiSzc5+ZwMtz60abprabaXMUcwdpriadWKcKZHLYxnnGfUZ9qgsdbh163uo9LF9azRrgSX2l3FuFJzggSom/GOx9M9a5Sz1bUNE8F+LblLq61G6sNQnjt3uZA752pj72FABYnHCj0AqfLy/C6/zBu1r9X+jOx0XSU0bTFtRM9xKzNLPcSY3Tyscs5xwMk9BwBgDgCtCuR8JfatO1i90rVba5jvHhS6E8msS3yTKWKk4kCiJs9URQnIweMDotXtrm70meCwl8m5cARy7yvlnI+bjrjrt6NjB4Jpt6XWoLV6lyiuJ0Lw34ksvh2dKvdWMursiiO+zs8ngY/dL8nyYxsBKybfmI3GjTPDfiO2+Gn9j3GqFtZ8tQl+Wx5Z2rg+UPk+TG3ywdj7csfnah6J+QHbUVg+DNL1PR/DFtZ65dm8vY1G+cnG/5QPuD5UxjbtXI43ZyxrepyVnZExbauwrG0/R7jTtY1MxTK2magfPEW4rJBORh9pH8LYDdQQ2487vl2a4mz+IsNx4muNIcaTK6QzyItjq63M0ZixlJ4gg8pjk9C4BBGemZbS1fb8C7Nmtp3gjRNLS/S2S/dNRRkuludUuZxLuABJEkjYYgAbhzgda1Y9Ls4r6K7jhxPDbm2R9x4jyDtxnHVRz14rlbfx7eC3SfU9DS0iutKl1OyC3okeRY1RmSQBAEb94uNpcYznBGDf0nxHeanqq6ZrOlLpv22ya7tPKvvMkaIFVcPtVfLceYn3GccnDcc1Z3st/+H/yf4k6OPN0f/A/4BctfCOjWkV9DHbSva3wZZ7Se6lltyGJLBYXYogJJ4VR1pLbwjpNtpt5p/wDp9xa3sflTR3mp3Nz8uCMKZJGKdf4cZ49BVPwmtxbaRq1vayTXj2uoXEdsL+8kkJAxtVpX3vjPf5seh6VF4Ovp4fBt5dXzTPPb3l4JRdah54VkmcECZkTEYxxlRtXHpUxfu3W1k/1Ks399v6+46S+sbXUrCayv4Entpk2SROMhhWavhLSRo8+lzLeXVrO4kYXmoXFw6sMFWSSR2dCCAQVIwRkYPNczafFGO503U5orXTtSudPltFMei6st3FKtxL5agSlEAcENlWAH3fm5yNQ+M7qzstRGsaSkOo2dzDbRWtpdeclw823ysSMiYyWwcr8u0nkU2rf1/XcXS4/VfBUNzocGl2VzfeSNQhupXudUuZJdqMCwSVnMinA4AYDPpk1qQeGdJt9EuNJS032d1u+0CaV5XmLdWeRiXZunzEk8DngVmat4qvfDfhptQ8SWml2Vy9wsEEa6r/o5LYw0k0kSbAPmJ+VuBxuJC1P4P8WW/izT7qaFrNpbO4NvM1heC6t2barApKFXcNrDPygg5GOMlrVNff8Ah/wBW1T/AK6/8Esto02n+H5dP8P3U0cshws9/dzXTRbiAzBpGZiQMkLnGcdOav6dp9vpWl22n2SbLe1iWGJc5wqjA/lVTxHrI0HRZL8tYpsZV36jei0gXJxl5SrbfQYUkkgY7jnLT4hvqmk6a+kWNjd6hqF7NZxoupZtS0SszOtwsbFlKrkYTJzyBgkK+/8AX9bjtY7eivPm+KBg8P6Vd6jbaRpl9qbTmOK/1kQW6pE21mM5i5JJGAqHOc5wCa63w3rtv4l8PWurWm0R3CnhXDqGVirYYcMMg4YcEYPejzFc1KKKKBhRRRQAUUUUAFYNz4M0i78Qx63MdRN/Gco66rdKiAlSVEYkCBTtXK4wccg1cm8RaJb6zHpFxrGnxanLjy7J7pFmfPIwhO49PSub1HxFqk/jTSotMnEWjLqJsLghFb7XL5EruASDhYzGoyCCW3A/d5I6tWHZ2Z0w0LTl8Rtrwt/+Jm1qLQz725iDbgu3O3qc5xn3qivgzSF8Rf24DqRv8k7zq10UwTu2eWZNmzPOzG32rerkLqfWNP8AHWl28etSX66hLM1xppt4ljtbZUYrKpC7wQ4jUlnYMXbCjgKLdCeqdzWt/CWjWusHU4baQXHmNKqNcytDHI33pEhLeWjnJyyqCdzc/Mcx6d4N0jS9ak1a0Oom8lGJHm1W6mVxzgFHkKkDccAjjPGKwtC1mb/hJ54td17WoLhry6jg06601ILSVFd/LEcxtwZD5YD4WUk4J6A1B4W8WXmpanZahrD6xa2erxM9hFJb2yWTfLvCqRun3hFY7nKq21ioxtFH+Q5LVp9zqdK8K6Vol41xpi3kAIYLb/b52t4wTkhIC5jQem1RjtirlrpNjZy30lvbhW1Cbz7rcxYSvsVM4JIHyoowOOPrXHaB8VtL1nVI4JLjR47a4hlnhkt9YjnkiRBuJuIwo8n5Mn7zAYIJBxmSD4raBe23iNrDUNNuZtHErwQwX8cjXkaQLKZFA525Zl4yPlPPYGtn6fh/w4K7fz/E39K8IaJovmCws2CyRmEJNPJMscR6xxq7ERx9PkTC8DjgVJo/hjStBleTToZhIyCMPcXUs5jQdEQyM2xP9lcDgccVxmgeL7u21qJtS1i51XSbnTpLma/mtI4beKaPaxFuVVWkiKufmO8cKA5O4VueEtU1u+8QatHrjGJDb211b2RRQbRZDKNhIGS21FLZJwxYDjFO2pGh1tQXtnFqFlLaztMkcowzQTvC4+joQy/UEVPVe/F41jIumNAl0QBG9wpZE5+8VBBbAycZGcYyM5C3KIdP0ax0uwazs4mEUhJkaSV5JJSRgs8jEs7YAGWJOAPSqlt4U0mx8Lw+HrCK5s9NgULFHbXs0ToA27AlVw/X/a56dKg8D395qPhOC41O5a6uRPcRNMyKpcJM6AkKAM4UdAK0taDHRrkpe3tiUTeZ7CBZplA5OxCj7icYxtJ545oYo2exmW3gbRLPw8dEtf7Si0/IIiXV7sMoAxtV/M3KuP4QQvtUkXgzRYfD8eipHdmyidXh3ahcNLAVwF8uUv5iYAwArDAyO5rK0Ke/1/w3ch/EmoWb2d7IguxbwRXRiABAnikhKxsQ27Hloduw4GTnOhv9dHgS2v5ta1iZLzUPMjvLXTop7uOybPlny44CpJAVj+7yN+O2aT038vxtb+vJj319f1v/AF5o6iXwfok2kw6e1tKIoZfPjmS6lS4WQ5zJ54YSbyCQW3ZIJBJBNWT4f09/D76LOtxc2MiFHW5u5ZpGBOSDI7Fz/wB9cdK5m68c2Gg+GbCaPWYdTlurh4Eudcuo9OCsuS4mIiXy2XG3b5e7OAR1ISb4q6Ha+BT4gubvTopv3yRWp1GPbcyRNtYQyf8ALRc8hgM4IyAeBXdAdLrPhzTNe+ztqMU3m2rEwT21zJbzR7hhgskbKwBHUZwcDPQVFd+E9JvLS0tCl3bW1onlxQWN/Pax7eOGWJ1DDj+IHv6muZ1/xraX+oadZ6F4j8q1ubea4F1oqR3s9w6MiCKNNkgI+csx25AUcgZNRtr2q33w+sdXur/WdN1KPzoJYNL06O586eNmT94vlS7FzGeQyqN33uhqdo81v61C6b5bnoEEEVrbxwW0SQwxKEjjjUKqKBgAAdABWRrvhPSvEkkL6r9ubyCGjW31K4t1DA5DbYpFBYHkMRketXtIumvtFsruSS3lee3jkaS2fdExKgkocnK+hz0qHVvEeiaAYhrus6fphmz5X2y6SHzMYzt3EZxkdPWqkmpWe4o6x0KGoeB9E1LUbe/uRqK3lvbfZY7iDVrqFxFnO0skgLZIBJOSSBknFaiaPZJqMF/5bvdW9ubaKWSV3KxkgkfMTySq5bqcDJrm/H2oXuk2Iv8ATdX1O1uFiZobeCxWa0kdec3EhiYxR88sZIxtyQRjNYXinxjqS6prS6JqdwLnRo4mg02yto5luiYxMz3Dup8uIqdoIeP7r4LNgBXSV7/1/TKUW9v62O+u9C0691uw1e6t999pyyLay72HliQAPwDg5AHUH2qC68L6Zfauuo3gu55VdXEMl/ObfcuNp8jf5WQQCDt6gHrzWlazi6s4bhQVEsauAeoyM155r3i+60/XdUaTxALS60+5iW20BYo3N7AQhaQgqZWzufDIwVdg3Zw2XqpWJuuXmO9i0y0h1a41NIv9MuI0iklLk5RCSqgE4UZZjxjJPNUJvCOi3Gtf2pLayG4MqzOguZRDJIoAWRoQ3ls42rhipYbVwflGMCXV54PHl5Dq+va1ptqt5DHZQDTUFjOjRRnDXDW5ALSF1x5oOcAc4zoSX+sw/EuxsLi7i/s66srqVLWKIceW0IVmc8lvnfgYABAwSNxI3urf1pcprdM6miiikIKqNpVk2rDVPIC3vkm3MyEqzRk52tj72DyM5xk4xk5t1z+g+IpfE17NdaVHF/YUJkgW6ckvdTK21iig/KikMMtyx6AKAzHUfQTRfA2h+Hm/4lSX8cfz/wCjy6pczQneSWJieQoSSSc46kmrWj+GNM0CVm0v7ZGhTy1gk1CeWGJeypE7lEAxgBQMDgccVhWuo6no3i6e11DXJdXsodNkvNQL20Ua2LhlKBNighWXzMK5dsIDu6kt8JfEi08TawNP3aUJJrVruEafqyXjIilQyzhVAicb14BdT82G45a12f8AWv8AkxPz/rY7K4hW5tpYJDIqSoUYxyNGwBGOGUgqfcEEdqxNM8E6HpUd9FbQ3c0WoKwuorzULi6SXdwxKyuwyQME4yRVmx8R6Vr1vdf8Ixq+mapcQLyLe7WVY2Odu/YSQCQfyNc7ZeJdS0zwl4m1DVbj+0rnS76aGIpb7Q2Am1Qic43NgDJbHcnmp2b9L/LT/MG7W9fx1f6HSaN4c03QTK2nxztJKFV5rq7luZSq/dXfKzNtGThc4BJOOTWpXK+EtRvZL+8sNan1c34RZxFqMFtGnlkkbofIz8mQRtdmccZ65O9q/wBt/smf+ys/bMDyfu43ZGN27+H+9jnGcc4pt6XBauxcoridC/4TT/hXZ/tPy/8AhIdi+TsH7joNu7f+82/89M/Pnfs/ho0z/hM/+Faf6YVPiTy18vAAhztXbnd+82f38/vM79v8ND0TfYDtqKwfBn9uf8Ixbf8ACUkHUto83YP3f3RjZn58eu/5t27tit6nJWdiYu6uIyhlKtyCMGuQtPh/BpVtD9m1TU7wWFrNb2FrPJEI4UdNuwBEXd0GGclvfk57CsHSvFS6w0k1lpOoHTAjvFqb+SIZwpx8i+Z5hB5wSgBAyDggmJJNNM0V7qxh2Pgm7tvBji8vb3U9X/sVrGCO6eELbFowGjTy0ReWVRubcflHzYrW0XwpJYQ/aLzWNRu9SazFql1ceTutUxkrGqRrH94A5ZWJ2rkkACo9A8eWfiN7Q2emanDDf2jXdlPcwpGtyq7dyqN+4Ebx94KD1UsOar6L4nmtfDeu6v4ga/ZbG+m3W01rCsttGApWICF3WTAYfNuyfSrd+eTe/wDwX/m7/wDB1zVowiv62v8Ap/VtL+keFJ9Hg1COPxLq1w18zSGSdLXdDI3WRNsAGfZgy8dKq23gKGLw/qmjXmt6pqFrqTO7/aBbhondy7OhjiXks2cNuHAGMcU2y+IunXM1xHdadqenm3gnmf7TChyYXVJEUI7FmBdOmQdwAJIYDV0XxENWup7S50y+0q9gRJWtr4R7mjbIVwY3dSMqwxuyMcgZGVbTyt+BW33/AImcngS2aS7mv9X1TULm7NqZZ7h4gf8AR5jLGAqRqqjJwcKMj3yTfv8AwtY6j/aJmluEe/aGQyRSBWhkix5boccEEA85BxyCMitqih6juYMnhhrrR/sWo65qd5Ok4uLe/fyI57d1+6V8uJUIHPDKwO4g5BxQ82p+HbKKIW+teKpJHYtMpso3iHGAcmFcdcYBPXPat6igRzFzYy+MLaBr6w1jw3c6fci4tZ3e0eQPsZSVCtMhG1mHzDvx61zXizwAzWen2sFpqWuWgu57u6P+hT3BmkAw2y7XySv3u25cgLhSRXplFKy/r5f5IPX+v6ucbpHhfULvQdPfVL270nVLHzY7W4tBbiaK2YjEUiiMwE7VTIVNoKjaeMnrLOCS2s4oZrqa8kRcNcThA8h9SEVVz9ABU1FUK1gooopDCiiigAooooAK5e++G3hDUNStr+Xw7piXMN0bppI7GENO5VgfMO3LDLbv94A9q6iuTv8AxDe2Hjiy0pdW0i7F5KFGkxwMt5DFsYmZn80gqCp/5ZqDkDOeot0D2ZuDSceI21f7ffHdai2+xGb/AEYYbd5gTH3+27PTisiw8FtpviW91m38RasXvpxNcQSLbOjgcLHuMPmCNRnChxjJPUknp64iw8cNqfiwW8d9a2um/a5LONH064kNxIhZSPtOVhjbepxGQ7EAH+IAC30B7Ns3IvDW7Wo9Q1LV9Q1LyJWltba5EKxWzMCuVEcaFsKxUby2AfXmoNO8F2en3lu5vb26tLMubGwnMZhs9wKnZtQOflZlG9mwDgYqq954ptPGGnafLqGkXltdGWWaGLTJYZIYEH3vMM7Ane0a/dGck8YNUPDnjDVdV8Rw2txLYyJIkrXmnxWcsVzpJHKCd2kIOeg+RN+dy5UGktgZv6J4afQZFjttc1KfT4kMcGnXHktFAv8ACFcRiU7RwNznjrmrFr4esrVtYz5kyaxOZ7qOUgrkxJEVGAONsY655J5qnpXi+31TUIbY6dqFnFdq72N1cpGIrxV5JTa5ZePmAdVJHIHBxK/iqySx8QXPlzBNAd0ucqPnKwrMdnPI2uBzjnNPo79tfS/+dhpNuy7/AIlWw8Dadbr5epXF1rcCW5tIINU8uVIICVJjACDeDsTJk3t8o565l0fwL4a8P67catoujWNjczwpD/o1rHGEVSSdu1QRuyM887V9KxdA8Y6neeJxomo3Wl3E9xZvMG0+CQpYTrjNvK5crI2HB42NhSSoDCtDwl4iu9X1PUrObUtK1mGzWMjUNKjMcQkYsGhZTJJ867QxO7o44HUvW/8AX9f5/MnS39f1/XkdVUF7by3dlLBBeTWUjjC3EAQvH7gOrL+amp6r38t1DYyPYWy3VyABHE8vlqxJx8zYOAOpIBOAcAnikMy/Dfhj/hG9MmsU1jUL+GR2dPtYhDRFmZmKmONOrMTznHbFSWugTWXheHR7bXtWEkKhRqUskc903zZyzSIysT05Xp+dM8Iatea34ZhvdSEAuTLNFJ9nQqh2SumQCSRkLnqau61q0OiaRPf3CvIIwAkUYy8zsQqRqO7MxCj3NDFFJ7GafB9rJoN9plxfXs51J919duyCa54VSrYQKAUUJhVX5emDzWlqWnTXtilvY6ndaSUYES2SQltoGNuJY3XH4Z4HNcn/AMJbrkXg83uoLYWl4upSWdzdCCSW2sUVmBlkUOGKjaFLblA3bjtUEVYs/Euu3Pgi71K3hsby4ieYQ3qI8NtPEoLLOIyzMVOMABiGxkMFORLkuVy6b/l/n/WpSWqXy/r7v60NBvBloNNtoLXUNQtby3ne4XUo5Ea4aV8+Yzb1ZG3ZOVKbRxtC7VxbuvD41HwtPomqajeXq3EbRy3cgiWZgTn+BFQY6cL279arDxO0PhrSL6SwuL6+1KGNo7OxVdzu0e9sGRlVVAycsw7DJJALz4tsU8JXOvyQXSQ2of7RbsgE0ToxV0IzjIIIyCQeoJBBrRpptEJqUVLuP1rw1Hq95Z30GoXul6hZq8cV5ZGPf5b43oVkR0ZSVU8rkFQQRUcnhcx6baWGka3qek21shUpa+S5mycku0sbtnOTkEHLE9cVT8WeJrjSry3s7O+03S90D3U9/qkZkhjQMqKgQSIS7M4A+bseCSKqR+J9b1fwLb+INNk0zSxFbzSXy6jBK4WSIlWQDdGYxlWyzZI4yvXENrlu9v8Ah/8Aglbuy3OtsLG20vTrewsYhDbW0axRRgk7VUYAyeTxViqmlXralo1lfSQNbPcwJM0L/ejLKDtPTkZxVuqldN33FFppNGNrWgS63JsbXNSs7N4/Kns7XyVSdTndlmjMi5BxlHU46YPNVNQ8D2F9dyyR3l9ZW91Ctve2ds6CG8jUbQrhlLL8pK5QoSOCTgYZ4z1XXdC0y51fTJNMWysLfzpILqJ3lumz/q0YOojJGADiTJb7ox80Hirxde6VcWdto9tFJL5ts981wpKwQyzLEF4I/eMWYjsAjEjoCJaq3crW/wDXl/wDdudHFxrOn6gt9fQCxWRRaQTbYJ94A/eJj5tuPl6YqG70A3+q/ab3Vb6azDK66YfKW3DLggkqgkbkZwzlc9umNeuF1zxfq1h4oksLeSxhKTwxW2mz2kj3Gpo20vJDIrgALuYH5H27CzEA8Ld2F0Zv3nhr+0dUFxqGr6hcWSypMmmN5K26uhBU5WMSHDANhnIz2xgVXu/CMl34sg14+I9Wilt1ZIraNLbyVjYoXTmEuQxjXJLbh2IqPWtX1zR9csZHfTZNNvL6Ozjs1if7S28cyCTft+XBYpsPyqTu9ItavPFVhrlhFZaho80N9erGlo+mSiVYR80jGUT4yqA87MFioxzRHpbv/l+jXy3Dv/Xf/JnWUUUUAFZsWhWltrs+q2hktp7lNtzHEwEc7cBZGXGN4AwGGCRwcgLjSrH07xCmr6vPb6XbtcWNsGSbUN2IzMCB5cfH7zHO5hwpG3JO4KdQMzQvAcehrdRHXtV1G0vGle6tr1bZluGkGGZ3WFZGOOBluAAOgArT0TQZ9FbZ/b2p39qsYjhtrzyWWFR0w6xrIxAGMuzE98nmsu013WrHxUNM8RS6ZLDNYS326yidDZBHUbXZmbzAQ5w+I87D8vPF7RvFcWr36WsumahprzwG5tDfJGv2qIEAsoV2K43JlXCsNw464a8v6tdfhZ2+dtAe+v8AW3/ANq4jaa2lijmkt3dCqyxhS0ZI+8NwIyOvII9Qa5vTvA0NnZ6raX2tanqttqpdriK78hRvcAM6mKJGBwB3wOwzXSXEkkVtJJDCZ5FUlIgwUuewyeBXKWXjC5tvC/iDVfEUdrG2j3U0RW2ZghVFUgbm6nLY3YAPXaOlTpd+n4af8AH0v3/HU19G8PDSrqW7utTvtWvZI1i+03xj3LGCSEAjRFAySSduT3JwMbFcz4S8QXGsTXkOoX1tJdRbX+yx6bcWbwo2cHMxzKpIIEiqqnaeOw2tXubm00meewi865QAxxbC3mHI+Xjpnpu6LnJ4Bpt2VwWrLlFcToXiTxLe/Ds6rfaV5erhFMVj/rPO4GP3q4T5+u8DbHu+YHaaNM8R+JLj4af2xc6WF1ry1ZLAKW8w7VIHmjCfPnPmAbE3YIOw5Hom+wHbUVg+DNT1TWPDFtea7aizvZFBeADOz5QR8/3XznduUAc7eqmt6nJcrsTGSkroCAwIIyDwRXOaH4e1PRbUaWuq2s2iwwNDawGxZbiNeihpRLtYKOP9WCeMnOSejrmPD3iHXNW8Qapp2paPp9nFpkixSzW+pPOzO0aSLhTAnG1+STwR0PWpsnoWr7o19K0yTSPDVnpcFwry2doluk7xnaSqBQxUHpxnGfx71zsHg7WpNL1yx1bXLCePVnaUtbaY8JikIUE/NO+Vwg44OT17VtaRrE2qXGo3O2KLS7eVreCRs75WjJErk5wEDDaBj+AnOCKjh8ZaLNBfyme4gXToDc3AurKeBhEM5kVXQF1+U8qCKrmbk5dX/wAORyJpQtp/S/4BkXvw5t9Se6W9vmaG5ivY2RYFyPtEscgPzEg7THjBBDZ5HY3fCHhEeGDcsbbw/E8wQb9H0UWBbGfv/vH39eOmOfXieDxx4euLS9ukv2W3sYPtMsstvLGph5/eoWUCSPg/Om5feprHxFZa/HeQaFd7buFAVN1ZyqoDZ2SBW2GSMkHDKdrYOGpJcqsuit8im+Z6mzRXOeH9fu7nwjNqWshJbi2uLqCQ2FpKQ/lTvGCsSl35Cg4BY9afoHiCSfwPaa1rcsDyPFvlawt59rHcQAkbr5pPQbdu4ngCh6OwdbHQUVhL400E6S+pSXrQW8dwLWQXNvJDJHKcbUaN1Dqx3LgEDO5cdRT4/F+iyaHNqxupIrWCXyZBNbSxyrJkAR+SyiTeSy4XbltwwDkUAbVFY7+KdMi0VdUm+2w27yCJI5dPuEnkcnAVYCgkY/RTwCegq5peq2es2C3mnSmSFmZTuRkZGU4ZWRgGVgQQVIBB6igC5RVHVdYtNGt1mvBcuGbaqWtrLcyH6JErNj1OMCqV34w0Wz0yzv3uZpoL5S1uLW0muJJABkny41ZwAOpI46HBpXQG3RXODx54fbR7DU4ri7mt9QRpLVYdOuJJZEXrJ5SxlwnI+YqF+ZeeRmTU/FCQW1rLotuNYNxELrbbyj/j2AyZVIB3Eg/Kv8R4yOSG9NwN+iuY17xZeabpB1vSdMt9T0WG0+2T3f24Rs0XJPkqEbewUE4YoOVAJ526GoaxLp+oaa7xo2m3riB5ckPDK3+rJ7FWOV9QxXqCcOzA16KKKQGbN4d0S41mPV7jR9Pl1OLHl3r2qNMmOBhyNw6+tUdR0LVNX1SL7fqdn/ZMFzHcx20NiyT7o2DKDMZSCNwycICRxkc56CuQu/G9xBrTww6day2EOpRaZNJ9u23SzSbcEQeWQV+cNkuDtDMBwMi+JJb/APBX62B7O5viz1EeI2vDqmdMNqIhp32deJd2TL5n3unG3p3rFj8H3SXgt21SNtES+OoR2YtSJll8zzdpm34KeYS2NgOMDdgc9VWBLrmqWXie00/UNLtVsr+Z4bW5tr1pJcqjPmSIxKFXCEZDtglR3yBbq39dQeqdyzY6IbbWtT1S5ufPub7ZHGQmzyIEHyxjk5+ZnYnuW6cCuf0X4fzafeaYb/U7e6tdISaOzEFiYJ3WQEMJpfMbzMg7jtVAzgMegFaw13U7XxJFp+r6baQ2t15ptri1vWmfEY3EyRtEmwY7hmwSB3zWfpfjt7zWtJtb6wgs7XXYpJdLk+2bp5VRd2ZISi7Mp8wwz46HBIpLXRf1/WoNlbwz8MrDw7cGNrLw7c2SwPbqy6CkV26EYxLOHKvlchv3Y3e1T6V8LvDOlza28ek6co1R3CGCxjia2heFImiVhzg7WbjAy547nZ03xZo+r6i1jY3MjTAOyGS2ljSdVOGaJ2ULKASMlCw5HqKnbxBpi22qz/acx6OzLenYw8orGshHI5+RlPGRzTvdN+X4DSd7Lv8AiY2g+EL3R/svn6pbXH9mWb2emLFYeQkSNt+aVVfDt8i8r5Y+9gDPF7SND1CDWJdW13Uba9vWgFtH9jszbRJGG3cq0kjM2T1LYAHAGSTnaX40u7nXF0nVtIis7y6086jZW0N8s0zxggFZVKoI3+ZehZSd3zfLze0TxBf3muXeja3pkFhfW9vHdL9luzcRvE7Oo+YohDAxtkbcdME9nre/X/h7/qK3u+X/AA1v0OgqC9S7kspV02eG3uiP3cs8JlRT7oGUn/voVPVbUJL6OxkbSre3uboY2RXNw0KNzzl1RyOM/wAJ/rUsEY/hPQNU8P6NLp+oapaXo8ySSGS3sWgKF3Z23BpX3ctx04HfrSjwsdS8O2Fh4r1G41W8s3Epv7aR7B3kG4BwIXXbwxGAcUvhvXNU1a81S21bTLWzbT5Uh8y0vWuI5GKBmALRRkFQy54IycZ4NW9f1h9HsoWtrX7Zd3U6W1tAZPLV5G/vPg7VABYnBOAcAnALfn1t/wAAS8vP/gnNp8NxZWATSdXuFuY9UOoxNqDzXsO7LYV43ly2A5O4MpLBWOcYq1D4Q1Ky8M6jYadqtlDeapcSz3czacxgHmLtYRQrKpTOAcl2yxYnJbi5Z67rN9Y3sUGk2S6zYXAhntZdQdYCCocMswhLEFWHWMc5HbJdY65qur+Gxe6Xpdob5Z5LeW2ub5o4g0bsjlZViYsuVODsGR1x0pWXK49Nvy/yRWt+b+uv+bMe9+H02q+GNJ0/V7vSb+70ggW73OkebbOmzZtkgeUknHO5XU5A7ZBkv/hrpOreCRoeoadoSzokiwXFpo6RRW7O2S0cRZihPGcNyRn2rStPGVmfDcGq6rFLaPLPJai2gje6eSVHZGESxqXkX5GYELnaNxA5xeHiTSW8Ovrou/8AiXRozvL5bZTacMGTG4MCCCpGQQQRkVbvdt/MhJRSSMW98A2tvqGl6h4RTTdEu9MWaOJTpqyW5SXG/wDdo0ZVsqCGVh/EDkGq+qeBNRuNP0ix0zXII7Owka4uIL+xadb6ctvEkmyWPgOWbb93JBI4GNnXdfu7C+t9O0exgvb6aGS5YXV0baGKFMBmaQI+DllAG3nk5GKypPiHFJ4R03X9N0yW7gvnhVz5qqkG+ZYTlxkMQzHAXOdvUAg1N9v67/rf5ldTrLRblLOJb6WKa5CgSyQxGNGbuQpZio9ix+tU9W8OaJr5iOu6Np+pmHPlfbLVJvLzjO3cDjOB09K0qKOtwOV8SeGNa1jX9PvrDWrK3tLBd8dheac88ZnzxMdk0eSo4UHIByeuCINc+G+m66k00t3fW19dT29xdS2t/dRRSvE0eSIVmCqSsYUHqvBySM1p694kl0bUdOto9NluI7u6it5bhn8tIvMJAxwS7ZGdowAOpHAOb4l8dSaDJqU8OnwT6boyxtqd1Pe+QU34OyJdhEjhSpwWQHcoBJJwR8u/+T/y/AevNpvp/wAA3ZdOvxqumyWWqtBp9rG6XFm8Ila6yoCEysdylSCe+7PNc9qvgK41LUtSK6rbrp+q3ENzcxy2PmXMbRhQvkzeYBGBsBGUYqSxB547KORZYkkjO5HUMp9Qawn1jW5vElxYaZpVhLZ2jxLPcXGovFINyhjtjELA4B7uMn060Xs1ff8Apk2TXkUZfC+vN45fX01zT5IQqxW9rdaZJI1rFx5ixus6gM5GS5QnoOgxWxHopPiqXWrm4ExW2Ftaw+XgW6k7pDnJyXIXJ4wEA9ScLU/Hr6ZfPM+nQ/2JFqEemy3sl5slaZmCny4SmHRWYAneD8r4U7edMeJZT42h0E6ZLHDNbzypeSuF3mIxghUxkr+9xuJHKnAIIJI62t8vuv8Ak/xKa3N+iiigQVi6Z4cj0TU5pdGm+y6fOrNJpoTMKykg+ZGMjy887lHysTnAO4ttVmw67aXOvTaTaeZcTWybrmSNcx27HBWN2/vkHO0ZIHJwCuTqHQ57RPBmsWbakmua5Y6rFqokF7KumyQ3EgYFVUSGdlVVBwFCAdT1JJf4R8BQ+FrxpFt/D5UQeQk1loa2lyy5H+slVyHyByAignnA6Vc0/wAS6ifEUela9pEWnG6tZLq1eO9887I2UMso2KEceYpwpdfvfNwM3NG8V6Pr9w0OmXEruIxKnm2ssKzR5x5kTOoEqdPmQsOV55GWlbVdvw1/4IPzHWPhvStDt7oeGNK0zSJ7heZLeyVFZgDtLqm0uASeMjqeRmsTTvBmqLp2t2Gt61aXUGrSvOWstPa3khlbb8ylppAQNoIBHXueldbcTC3tpJikkgjUtsiQszY7ADqawNM8XC50PV9S1WxbT10u4lhli80SsQgB7YG47gMAkZ6MetT1fp+Gn/AE7aX7/jZ/pcn0bRNRttTl1PXtSgv714Ft0NraG2iSMEt90u5LEnk7sYAwByTuVgeFfEjeJIrqU/2VshkCBdP1QXjoe6y7UCxuOPlDMOvPc6er6h/ZelT3vliXyQD5e7aX5A2rwcseijucDjOabdkNavQuUVxmjePJdS8BSeIZtKnt5YgoaxlHl3DnjgRckM2f3abvnBTkbuF0/wAdzXnw7PiWXS5YpkUZsGOLhjgfKI+cO2cpHnLBk5G7geib7AdlRWH4Q8QP4n8OQalLaNZPIAGt5eJYztB+dP4Cc5C5PylTnnA3KbTTsxRkpK6CuT8M6d4jsvE+t3usWOlw2uqTJODa6hJM8ZSJIwu1oEBB2E5zxnGD1rrK53Q/Fj63rV9pp8P6pYPYMEuJrprYorlVdV/dzMSSrA8DHqQeKXUrWxS0CK7h0HV/DVvP9h1Wza4+zTsN/wAkzu0M4B+8OcH/AGkYVy134S1nSfD3iTVNWaNV/wCEcurUxnWLrUGZ9u7fvnACg4Pyqoxjqc/L6Lpusf2pqF/HbQf6JZyeQLot/rZRnzFVcdF4BbP3twx8uSWviXQr2a8hsta064lsQTdpFdo7W+CQd4B+XBBznHQ0lpr5fpv+I0+VpdE/1Tt+H9anEeIdO1mfwhreta1DY20sehSWlta2ly8ysCA5d3aNOSVUABTjBOTnA6PT7DxB/aV9rmoWumx372iWtrYwXsjxEKWbc8xiBBJbGBGdoHVs4GtF4h0WZr1YdXsJG09d94EuUJtlwTmTn5BgE5OOlU9A8UQav4dOsXjWVnbG4eKOWPUIriJ1EhRGEinbluPl6gnHWqbv/Xf/ADuzNRt87L7v+GRn+GbLxTo3h+9t7rTdIe6N1Nc2yx6nKY5POneRldjbgptD4BCtux0WqUGgeLB8Pxo5+w2V9DMhU2epzBbiLzNzoZhCrwkqSu5QxHUEduotvEmh3kE01nrOnzxW8IuJpIrpGWOIgkOxB4UgE5PHBpE8R6RcaHJrFjqFvfWMYP76zlWZWI42qVJBbPGPU4pS1d2Xu79zk9G8D6rZ29z9qlgV59attRCG/nuykcaRhkMsw3u2UOCcDGPu9BevPCeotdahfWklq1ydZj1SzimdxG4W3SEpIQMrnD4IDY+U4OMVsxeIkuNB/tG006+uJQ5iawjRPPSUHDRtlgikHqS23HIJBBMVv4m+3+HbnUtP025ee0laK40+Yqk0bIwEi8FlLBeRgkNx8wzmne39f4f8l/TEt799Pz/zf9IzPEWg634l0fT5bmG2tNRsbsz/AGW11e4ijmUoybftMaJIhw+chCMjBBByF0vUNC8D6Wtr4j1DS9Cu7qR52iutde5Mp4G8S3G134A7YHSups7uDULGC8s5Vmt7iNZYpF6OrDII/A1NRqmGjscTrpl8aQ2V14M1iy1TT7eSRLqG01uW0WRyq7SZ7YM2Vyfk4B3gnoK4/XdPvfCUPhizm16z0q8tbW9U382pLZxSCSVDsE08M+5iMHaV3cE7+OfZqKlrsHW55haeG7nWtB0DU9CsXt4baxayGnvrl3YgorfLKk8A3SKduRvT5lZW+Ugg+g6Jp6aVoVlYx262y28Kp5KTvOsZA5AkcBnGf4iAT1NXqKq/9fiL1OQ8XaV4l1fV7KOwtdLvNDhHmz2d1fSW7XMwOVDlYZAY1xnbxubGeBg2fEvmap/ZGi+Xi7uLqC7n8olkgjgkSRjuIHVlVBwCd2cYBx01FJaW9bj63CiiigArz+78Ga3c+Knvh9gD/wBoJcQ619rlF3BbgqTarDs2mMgMpHmbTu3lS3X0CshvEG/XDptjpl9eiJxHdXcIjWG2YgHDF3UscEEhA2MjOM0LSSYN6WJx/bH/AAkbbvsP9i/ZRtxv+0+fu5z/AA7Nv45rBfw5fXfjWLVm0nR9M8mbe+p2lwz3l7GFKrFIPKTCn5SQXcDYABnDDrqxG8S+T4hh0u+0jULNbqVobW8lMLQ3DqhfaNkjOuVVjl1UfLjrgEW6H0ZlL4ZvLzxgNUn0rSdICyO015p9wz3OooUaNY5v3SYXBVsFnwUXHTNZnhn4d3GkS2Fvdw6ekGmsWXUIJXkutQIjeKMzb1+XYkjYG9wOAu0DFb9v40tp9Vt7Y6bfxWl1cSW1tqTiLyJpUDFlADmQf6t+WQA7evIyul+NbPVNStrZLG+t4L5XawvplTyb0Jydm1yw4+Yb1XcASM0dLCv1MHwv4CutKnt7fVoDPDZ27wQX6eI7+SQ5XZuW3f5ISVJ5RyVP3T6TaX8M7a0bxMlzd3zRavJIsO7VbqbbE9ukR8xXcqz5VsMdxA288ADrLLXdI1G/ubHT9Usru7tDtubeC4R5ITnGHUHK8jHNTHUbIR3cn2uErZEi5IkB8ghQxD/3TtIOD2IPehvRt9V+A1o9O/4nG+HfCGraQ8dxJaaRDdWNrKkLW80j/wBo3DKq+fO7JvU4jAxmQ4Y/McDN7wVpPiHTJLuXxNa6c17eES3N/bX8kzTOOAgjaFBHGoyFUMcd8ksxmsfHen3DSHULK+0iIWbX8M1+iKtxbrjdIoV2K4BUlXCsNw+Xri1ovimLV9Qaxm0zUNLufIFzFHfJGDPCTjeux2xg4yrYYZGQM09b/wBf1/w3kTpb+v6/4fzN2obw3IspjYJE90I28lZnKoXxwGIBIGepANTVW1C6msrGSe2sLjUJFxi2tmjDvzjgyMq8deWHSpexS3KegaQ+h+HYbESi4ulVpJp3GPOnclnc/V2Jx2zWfd6brOq+CI7bXbLTL3WDseWO2vZ7SASK+Q0cyq0qEAAggZz3HWregeJDrl3qFrJpF/pk+nsiSpeGFsl13AAxSOM4IJGQRuHrWhqV62n2L3Ednc3rggJb2qgySEnAA3EKOvViAOpIpyJRy1n4TuNN8NX8A0rS9WutUnWW7s7+7kMBUIqhWleOR5SAi/M65Y5PyjCiSHw5fWng19LfR9F1QXE5dtKup2SytoicrFGTC+5UIXAKKM5IC8LV+HxhZy6LNfPZ3sU8FwbR9PaNWuPP4xEArFSSCDuDbcHJYAEiS68STWej295caBqa3NxOII9OD2xnLHODnzvLxgE/f/Xik7fkvyt+nn95V/1/r+v0ObuvAuptoGmx28sQubK6lnFhBqNzZwJHICPIjni+dVQEbfl2kAjYoI2v1L4e/wBq/D6XSfLl06/dZmVItevJojI7ZLSSHa0uevzqcZIHv1P9vW1pof8AaniBf7AhU4kGpzwp5XzYG51dk54x83cd+Kv2t1b31pFdWU8dxbzIHimicOjqeQQRwQfUU+4jidc8AFr7S7vSreHV47OOWGbT9d1G4kjnDlXVzI4lJKMgIVlYc5G0gGjWPC2vjwXa6Ho8emXcrXS3l3c3V1JbDzRcrcMERYpMhm3DkjHHWuj1rxEmkXFtaQWF3ql/cq7x2dl5fmeWmNzkyOihQWUdc5YYBqldePNIttEsdTRbq4ivmjCJFD88e+RYsuDgJh2AIJzkEAEii+iX9f1cErO63N+0a5ezia+iihuSoMscMpkRW7gMVUsPcqPpU1FFAHK+MdP8RanNpyaHZaZNBaXcN4z3l/JCzMjE7AqwuMEY+bP4Vk6v4F1G91/UNQt7fS5G1eBVkmuZ5GfS5fK8p5LddhVyUwM/uidoySDgegVzmueMrfQ57pW0zUL2CxiE1/c2oi2WiEE5YO6s3ygthFY4HTJAKSW3d/1+SHre69P1L7warbalpcGmCxGjxRul4Jt/njCgR+Xj5cZzuz2xisDxF4TuNc8RJcR6LodsUkiZdeErHUI1QhiqKIhjOCmfNxhiSDyp7MEMoI6HpXN634un0KdvtHhnV57QSxwreQPamN2dlVcK04kPzMBjZnPaq3kr7kqyjoYNx8P7xte1Hy4dNmsdRuxcNfzySNdWsbMrS28cZUrtcqeQ6ffJKsV+bVv9O8TTfEKw1a3sNJbTrOCa23SajIszpK0RL7BAQCvlnC7uc9RVq88Z21nqTwHTdQltIbqOzn1GMReTDM5UKhBcSHl0GVQgbuvBxNdeKY7LXILC70vUYre4nFtFqLInkNKVJCY3+ZzjG7ZtzxmlHTlt6L+vR/j3Y+7/AK8/+D2N2iiigArntC8Oz+Gbya20uZH0SYyTrbzMTLbzM25tr8l0YlmO75lPQkEBehqodUshq40vz1a9MJnMKgkrHnG5scKCeBnGcHGcHB1H0OP0jw94nuLrVX8VW+lmbVIZLdr+z1CR3toSCEiiiaBQFGcklyS2SewEvhDwheaRqST6taI0tvatbxXo1+9uy4JXdiCcbYg2wHCuxGAMnrWxpniuLUNaGmXGl6jps8sLXFqb2NFFzErAMyhXZlxuT5ZAjfMOODi/p2u6Rq89zBpOq2V9LaNsuI7a4SRoWyRhwpO05B4PoaErbdv8/wDN3/ET3/r+v60ILHQ4tDt7ptJa8uZ5VyqahqtxOpYA7RulaTYCTyVH4HArmLTwrr1/oXiTStfttJtotXmkuYpLe7e6CO23CujwxgqNuTzz0wOtdzcXEVpbSXFy4jiiUu7nooHJNZOl+KrDU9Kv9QMdxZ2+nzSRT/a49jDYAxbbkkDBBwcN2IB4paXb8vw0/wCAD6ev46/pcraHpWqnXp9Z1y20+yuHtEs0gsJmmUqrFtzOyIerYC7eOeTuwOjrO0jVZtVSSSXSL/To1I8pr0RAzKf4gquzL9HCsM9OuLGo30emadPezo7RQIZJNgBKqPvNyR0GT68cAnim7Ja/11BavT+uhNHDFDAsEMaRxIu1Y1UBVHoB6UJDFHAsEcaLEq7FjVQFC4xjHpjtXMaR8QNL1jwK/iu2SY6ZGheSUKcAL/rGAOGKodwPygnadoPGVsPH2mX/AIBPi+OKcaYsRleTb0RR87gHDFVO4fd3HaSFORkeid+m4djp440ijWOJFREAVVUYCgdABTqyfDHiK18V+HrbWNPSQWtyu6JnGN4xyRnnGcjkAnGcYwTrU2mnZii01dBXHeFDq6+LfEM+oeHNQ0621K4jnhnuJrZlASCOMqRHMzAkqSOMY6kHiuxopdblX0scf4etprnwbrHh+Od7TUreW7t3kPDI0ju8cox2KurA/UdQaLWLUbnwLeaD/wAIzcaVJBpjWsIM1u0Er+WUCxFJC23PQuqcEZA5A6wW0C3TXKwxi4dBG0oQb2UEkKT1wCxIHufWnSMUiZlRpGVSQi4y3sMkDP1IqZRTi0+q1/H/ADCLs1bp/wAD/IxNP0Oy0LS7Oex0km60/T/ssVvasqsU4Yxjcypkso5YjnPIya5W30rWdU8HahpV74bu7OSTWlvQl3LbMssT34mYfJK3Kp1Bx6DdXaaDra67ZSz/AGG6sJIZ3t5be68sujqeeY3ZT+BNS6Rqn9r2T3H2G9sds0kXlXsPludjFdwGT8rYyD3BBrTm97m+f43FH3Y2Xf8ALQ85uPBGunTrpLO2+zSMZJv3Tw7pT/aDT7RuDJuaPGC6lckBsc46fwjojqb+91i21drq6nikb+2xYli0a4SRRa/ICOBk/N8o7AV1tFTH3VZf1rcVk/68rGH4ibUNK0a9vPCmix3+rXDLlEMcZdsBfMcsyh9qgcFgTgDI6in4aePQfCdxPqtnfab5LPPdz6nJA0lw5+Z5SYpHUZPAXIxgAAACuoqOe3huYxHcxRzIGVwsihgGUhlOD3BAIPYgGl3/AK/r+vIre1zJ8HWk9j4P02C7iaGbyt7Qt1i3Ets/4CDt/Ctqiinp0EFFFFABRRRQAUVQ1PVP7NlsU+w3t39suVt91rDvEGQT5knPyoMYJ9xV+gAooooAK81uvB0//CQXPleHPMvptVW9tvEXnx/6NEXV3TJbzVOA6bEUo24ZI3Nj0qs0eINLbxD/AGGl4j6l5TSmBQW2qu3O4gYU4kQ4JBwwOMUL4r9f6f6Bq1b+u36jheaifEbWZ0vGmC1Eo1H7QvMu7Bi8v73Tnd07Vzs+n31947tb610jVbI205869vb5JLWWEIUIhgEr7Gb5Tu2RnAbJ5Kt2VZKeJ9MfXBpDNdQ3bMyR/aLGaGOZlGSscroEkOAThWJwCegNC3X9f1/Vw6P+v67+uxxGl+GNaHiS2ml0qe1uEvLmS9vGltzYyxSbx+5iVi6SEMnz7EY4bezdCzwz4H1KG90NdVsrpb3Qwyvq1zdpKkyiJ4kW3RWzEpDKzDZHnYu7efmrt7Pxbo1/rB0y1uZGuNzorm2lWGV0OHRJiojdlwcqrEja3HynBp/i3RdT1Y6dZ3UjXGHMe+3kSOYIQHMUjKEl2kjOwnFKKsuVdQb1v/X9f8A43wj4V1m1urC31mTxBDPplpLBDd5002qsyhWaPYgmIOA4Ei4yBuBIqfTPAes7PGFvqOv6jJDq0sqQidbXbcK9rHH5zeXEGBDAjAKjCD5TnJ9EpGYKpZiAAMkntTb381b9RrRq3R3PK4/Auq63az/bbGfTtTGk3FlNqN/dJcNczSKqqYihOyAFWbZtjGWBCA5rZ8JeG7pPE8Wuajpd5Y3cNi9tcT6hdpcTXcjtGxKsjMFiXyztQBAC7YjXv0WkeLtF124kh026kZ0iE4M1tLCssROPMjZ1AkT/AG0JXkc8jNnRtf0zxDbzXGjXa3cMMphaRFYKWAB+UkDcpDAhhkEEEE1Sundf1uv1/InpY0ahvJpbeymmtrZ7qaONmSBGVWlYDhQWIAJ6ZJAqaorq6t7G0lur2eO3t4ULyTSuFRFHUkngD3qHqiluZfhvTLnSPD6relZ9SnLXN4ynAedzuYA/3Rwo9FUDtVS71fxOPAv9oWnhnHiCRBjSjeROImLYyZCyqwA+bAIz0yOo2NJ1az1zTI9Q0yVpbaUsFZo2jOVYqQVYAgggjkdqdqWpWuk2L3d87rEpAxHE0jsScBVRQWYkkAAAk05eYl3OAfwzcX3hmx+1+HtQuZrPUje39pqMtt5mql4nSRvkmaPH7zhGZV2pt6Yqza+HTZ+F7mGXw1qItJtS+02Wj6Vex202npsA4dZo0TLh2Ko5H7zvzXSjxfop0X+1VuZTb+d9n8sWspn83OPL8jb5m/vt25xzjHNObxbow0WPVBcSvbyymFEjtZXnaQEgx+SFMm8bWyu3I2kkDBo/r8v8l+g9XZ/11/zf6nI3nh7xOdD0e4WTUjNY300620FzbT3kMLqyxqJLlWjd0DYYs2cFsO2Bu3tB8P3MPhBLOC/1rR7iS4luJJJlsmuQzyMzAhEeEAkk/KO/Y5rc0rVrPWrEXenSO8W9kYSRPE6MpwVZHAZSD2IBq7QLf+vX/M4TxR4d1Q6tpN7GNU1y0htJbO/htLqK1uZ8lHRy2Yl25QhlVkzkcFcrVHUtB1bSvhvY+H9L8PTXk7Xcd28dhLAkNqBdrOYx5kkfAGVXaMfL/CK7fWfEGn6DHC2ovOWmYrHFbWstxI+BkkRxKzYA6nGBkZ6iobrxboVnpllqE+pRfZb8xi1dMv529lVSAoJxl1BOMDPOKL6W8/1v+Y9nzdTStJpLmzimmtpbSSRQzQTFC8Z/ukozLn6Ej3qaiigQV5r4z8OaxqfiDUZbXSLm5kntoY9Ou7aa3SCJlJJF2jsGlUMc7SkoCnKBXJJ9KrNvPEGl2GsWelXV4iX1622CAAsx+VmycA7QQj4LYB2kDkUdUPowmvNUh1bTrWPS1ubSdHN5fLcKgtmVRtAjPzPuORx0xzVO+sb3U/F9gZojHpWmobkOWXFxcNlFGAc4RSzcgcsmPumt6sa+8W6LpurLpt5dSJOWRWYW0rRRM5wiyShSkZY4wGYE5HqKOqFbQ47U/Dmt3Hi65uYdJn+1PqcNxb36TQCxECBBiaItveQAOA/lswJXa6jpp3za5qPjyL+0vDWoyaLp8ytZPbz2vlyykYNxKGmV8JkhUCnu3J2hdi/8a6Ppl/8AZL8alC/nJAJTpF0YS7sFUecI/L5LAZ3Y5qd/FWkR64mkSXEqXUknlIzW0ohaTbu8sTbfLL4BO3du46Uo6JW/rb+vxB9b/wBf1/wDYooopgFcx4b0S+8NanfWrL/aFneyPd/2k7L9pMhI/dzdN/HCMOAqhSBtBbp6KPMDz7TIPEWt6nqV1r+gX+l39xbT2ljO01s9vYRHpjZMzs7kKzNsHQKMBcl3gjw/qVlqdrJq8Wuwy6fp5s4vtLad9kCkplYvs6rIR8gK71GB2BOK6bTfFujavqbWFjdSNOFZk8y2ljSdVO1midlCygEjJQsOR6itaaaO3gkmndY4o1Lu7HAUAZJJoVkrrt/n/mwd27f10/yMyxsL7SLe6luNW1PXWK7o4bhLZGBAPypsjjGW4HznHA5HNcfa6TrWs+G/FelXeg3ulvqdzLdWz3VzAEcMEwhaGV2UnbyccA8HNdbp3i3RtTivJIbqSAWUYluFvbaW1aOMgkSFZVU7Dtb5sY+U88Gn6P4m0zXLiWCxa6SaJBI0V3ZTWrlCSAyrKillyCMjIotrfyt/X3A9Ur9/6/MxPCGitZ65e6ha+HD4Zs57dI3si0OZ5gzEzFYWZOhA3E7m7gADPXTQRXEfl3ESSpkNtdQRkHIOD6EA/hVLS9d03Wpr2PTLnz2sZzb3GEYBZAMkAkAN9RkZyOorQo0toHUpw6Rp8FqLeOzi8oFDhl3ElAAjEnkkbVwTyMCki0fTobMWsdnCIQUO0rkllACsSeSwCrhuvA54q7RQBBaWVtYQ+VZwJCnGdo5YgBQSepOABk88Cp6KKNwtYRiQpKjJxwM9a8c0O31CTxGNSbQ49NaexvBqAg0Oe0ZHKgqk1xI+LpsjiQLgkE5G7B9kpksSTwvFKNySKVYZxkEYNRKLaduxUXZr1PHtJsrSTw9/aOgabd2kSeF549Uu7mzlgN5M0cZjy0oDTEbZCH+YANgHnFb/AIPt7C21katoOk3tlp0ekkajNLp08Ut7cblZG2uokncKJMvtYnzAASciu6/suz/sX+yfJ/0H7P8AZvK3H/V7du3Oc9OM5zVmKNIYUijG1EUKoz0A6Vo377kvl/5N/mZxT5IxfTf8P8ji/DOqWV3p3iFL7TdT+zPdTzyQ3ejXK+dC/YI8Y8zIz8gBPtzWb4cvBYfDrXbXRNAvke1uLyW3sJdMuLRWiknkaMIpRSw2EHYnPbgkV6RRUpWjy+SX3F3f43/P/M8WsNDvZbHXrK10t7fTbmXSnhTTdEn0iNmF2fOdYmcurBVXc/ynCqemGPRah4dk0ux8RWOg6XNa6U13ZzyWlhDsE0PyfaViUYBLIpBC8nkD5jz6PRVN3t/Xbfy0C+ljznW7CwuPAbQ+CtCFhp/2+Nr60OgTQiWMY3k2uInmX7mQv3gpXDfdOz8O9P8A7P0S6EUo+zy3TPDbR6NPpcVsNqgrHBMSwUsC2RwSzYrraztX0K01sRC8mv4vKzt+xajcWmc46+S67unfOO3WhO1/P/gf5C3t/XcxfiE8x0CCBNMi1C3uLpUufP0+W/jhTDHe1tEQ0wyFGOgLBj92vO7iG8s/Dei2V/oUd9aprF5KNIuNOuI4JoNrbCLeNJ5EQFwygqyr0O1toHr+k6Ja6LHIlnLfSCQgt9s1Ce6Ix6GV2K/QYqPWPDuna61u9+twstsW8qa1u5baVA33gHiZW2nAyucHA44FTbe39bf5fiPe1/63/wAzyv8AsKKLwh4dttMtrO50S3N19vt5PD9xfRx3TMCoe0Uxy/L+8UMykjgkDII7SPT7WD4Z2VprNtqGvW6yQkRW9lNBL/rwY/3Lt5iLH8uQxJCpzmup0vSrPRtPSy02HyoVJbBYuzMTlmZmJZmJJJYkkk5Jq3VE22OM8Z2ltNr2ly+IdMuNW8PpDMslrFYveILglPLeSFFZmG0SAHaQpPOCQaivvC+l6/4q0LztKd9Eg0edUtJLZorcZeHZHJCQBwASEYcFc4BUY7iiktPx/G/+Y3r/AF6f5HnniSy0fQZPDFuul6jf3WkzQ+Vex6RPeSxW6hlI86OJsdBlc5PBxWb4k8MDWvF0t7No891FNebd8lu5UwnT3yCCOFMgQEd2Cg5IAr1Wipcbpp9b/irFJ2d/Kx4vquh6nd3Ft/bEZgdtMtEsb2Xw5danNaSCMb2jeKQfZ5Vk+YllBPy8ttwvsyArGoZtzAAFsYyfWnUVo5Xv63M4xskuyCuEv9Rtrf4raV5OnamIoLW6gmmh0i5MIlleBl/eLHsIO1iWzgYOSK7uipWkrl9DPGrZ8RtpH9n3w22ouftph/0Y5bb5YfP3++3HTmuYvJJdR+IFg9jJrF0bO6bzLa80xobO1Ty2R5Y5miTe5zgfPIDvbC4+Ze3ooQu55rY6TqF1q1hpFjc3L6Xo95LMhm0eWz8pdkqKhmlOJ+ZMAxKBhSWY5G7P8KaJq8t14ZivW1NNR0FXS4iltGtrK2UQPEFiONsxclCW3SEbSR5edtetUULRWQ27nkvgTRdRg1iGWR4tN1lLaVb3Hhi6h+0zEcme6MpjuMP8wKtk87SoJq7pfh7xdcReOrW8vbILqE8yIU0yWAzu1nEiyRu0zAICACMNyrfMOg9Noo6Nd1b8bgm07+dzzLw5Yz6hrllqmrQatK1lpk0GoRXlg8EMO4Rj7PBDtxKuVc7lMhO1RvIKitrwLqSXWqeIUFnqdv8AaNRa6ha80y4tleMxxLkNIijOVPy9eM4xXZ0U7638v1v/AF/nqTbRLt/lYKq6lPbW2nyXF7DJPDCVkKRWzzvkEEFY0VmJBweASMZq1RSGcf8ADq93eE3hez1C3mt7i4keO7sJrdiHmkddvmKu7KkdM4zg4q5d+LpIfAv/AAkUHh/WJJnQGPS3s2F1uLbQHRQxUdycHC84PSukooYloeZw26Hw1DrCXWoRazb6mb2W4k8N3kimeSIxsq22xJDEI22hgRjaCWJyCy607VbTRLa+v479pLzWzfTXlpZs1zYIYSgkjt49x5KhdjCTasn7wMQ1en0U722/rb/IGr7+f43/AM2eQ3mm6tP4SslurFrjThqs8ty9/o09492jAmOeayEiyElz93GFIVhGqgBLuo6Jrp+DlxZaDfRTRtHP/o0ug3MMhQuSsUULyh4lXkAMG4xgAAV6jRS2D1/rf/M858Q2niCx8QaRqGqXszQNaXFpdX+g6O8k0JZ43RVizMyhghDPhug+6SGFDU7I6F8L7DTJNL1N76W7injigsZ7ySGEXyzbHkjV8FUP8TZJBxk16rRR0S7f53/UasnchtLqO9s4rmFZVjlUMomheJwD6o4DKfYgGpqKKACuF8aahb2nijw6U07U5WttR+1XctnpFzOoQ28sYJeOMgnLKMZJGRxiu6oo63HfczrnV/s2s6fp40+/mF8sjfaooMwwbADiVs/KWzgcckGvNfEGi6pdal4m0WZdVVdUuluNPSxtGEFwXjjXzJ7kAhfLaMnYWTIUcSbgK9boprR3/re/6EtXVmc7ew3OreMbO1eCVdN0pBdyyuhCz3BysaqejBBuc9cMY+4rF1XWf7X8d22l31hq1tp2l3UcqSrpNzIt7cY+QiVYyixJuyWLDLDsoO7vKKS3X9f1b/Ib1TXy/r+urCiiigAqG8ha4sZ4Y22tJGyK3oSMZqailJcysxp2dzyrwZpWpz6j4Y/tBNVivNDhaK7hmtDbWdoohMXlQ8bZtzbW3hpOEPKBgp9AtteW4h1WR9M1OBdNleMiW1ObkKobfCBkyKc4GOpBGK1aKqUnJ3ZMYqOiPMrG9n8RaX4l1afQ7+XWL7TWhh0i8065to1gUPshaWREV5GaRi21uM4U4XcYtKtfEF22qf2BNfXc02mxW8eoa5bT6e9swfmKPfGSw2lmD+WzBgu95OMepUUtP6+f+Y7v+vl/l9xxPgTT9Y0vV9Ytb3RLHS7BfIW3+y3kky/LCigLuhTcMDls5zkYPWu2oooAKKKKACiiigArNsZ9bk1CdNT0/T7ezXPkTW9+80j88bkMKBeOeGbB4561pUUAZumz65LNONY07T7WNf8AUNa37zl+v3g0Kbe3QtRpM+tzGb+3dP0+zAx5X2O/e539c7t0Me3t0znJ6Y5t219aXkk8dpdQzvbSeVOsUgYxPgHawHQ4IODzyKnoQBRRUFnfWmoQmawuobqJXaMvDIHUMpwy5HcEEEdiKAJ6KoWWu6RqN/c2On6pZXd3aHbc28FwjyQnOMOoOV5GOav0AFFFFABRRUcNxDcKxt5o5QjmNijBtrA4KnHcHqKAJKKKKACiiigAooooAKKhmvLa3nghuLiKKW5YpBG7hWlYAsQoPUgAnA7AmntLGsqRNIokcEqhblgOuB3xkfnQA+imGaMTCEyKJWUuE3DcVBAJx6cj8xR5sYmEJkXzSpYJu+YjpnHpyKAH0VF9rt/tv2P7RF9q8vzfI3jfszjdt64zxmpaACiiigAooooAKKKKACiobW8tr2Iy2VxFcRq7Rl4nDgMpKsuR3BBBHYjFPiljnj3wyLImSNyNkZBwefqMUAPopkU0c8KywyLJGwyrowII9QaZaXdtf2kd1Y3EVzbyjdHNC4dHHqCODQBNRRRQAUUUUAFFFQ3V5bWUQlvbiK3jZ1jDyuEBZiFVcnuSQAO5NAE1FMkljhCmWRUDMFUs2Mk8AfU024u7e08r7VcRQ+dIIo/McLvc9FGepPpQBLRRRQAUUUUAFFFFABRUIu7Y3rWYuIjdLGJWg3jeEJIDbeuCQRn2NTUAFFQpeW0l5LaR3ET3MKq8sKuC8atnaSvUA7Tgnrg+lTUAFFFFABRRRQAUVDa3ltexGWyuIriNXaMvE4cBlJVlyO4III7EYqagAoqG0u7a/tI7qxuIrm3lG6OaFw6OPUEcGpqACiiigBGBZSASpIxkdq888KaTH4P8R2Wkaro2lyapewTCHxDZIouLwJhna4DDerHKkkPIrN125Ar0N0WRGSRQysMMrDII9Ky9L8K+HtEMx0XQtM08zrslNpZxxeYvo20DI9jRrcfSxzOjXM/h/S/HExuI7yfTruSVZ7mKGAykWkUg81okQHlsbiM4xzxWNYav4oTRde1g6zrc1tZ6C00Y1XSYrTZe7HZtqmFGZV2r6ryRl+3YS+AfDsWl6hbaHpFhodxfWklq15p1nHDKiuMcFVHfBx7Vm+HPh1b6Nqc93dx6KI5bRrR7TSdHFjBOjEFjMpkk808YGSAAz8Hdw1a/yS+5Nfj/AFsVzJNO3X9V/wAEsaQ2tLrtxpmo67Ndi70xLpJVtoYzaylmVvKAU/LyCBJvI28ls0zwhBqC+Dby2028tYryHUryJLm4sUKttuXG544fKUsQOSNuScnNdPc6XYXkciXdjbTpLCbeRZYVYPEeqEEcr7dKraR4a0LQDKdC0XT9MMwAlNlapD5mM4ztAzjJ6+tLdP5/np+BC2+78rP8dTnfhUNUX4eaZcate2U0MtqksSwWjQtHnLMXYyMHJJzkBe/rx11lfWmp2UV5pt1Dd2sw3RzwSCRHHqGHBpbeztrSzS0tbeKC2jXYkMaBUVfQKOAPaksrG00yyis9NtYbS1hG2OCCMRog9Ao4FMHvoZPjDU7rTNEjNhMltLdXcFp9qkUEWwkkCGTB4JGeM8biMgjis3WG1PR4dH0hfEN68uragbdtUuIrfzoVETybUCxCPJMe0blP3j1OK6u5toLy1ltruGOeCZCkkUqBldSMEEHggjtWdF4W8PwaNLpEOhabHpkzbpLJLOMQucg5KY2k5A7dhSXn/Wwf1/wf+AcpDrWsSuNBOsSiRtbfTk1kQRCZ41t/POFKeUXyDGSEx8p+XPTGtNZ1Gy0m003Rb7UNQe/1q/Vr6x+xG4m8t2bCmXZBuJ5OFPCthf4l9Hk8OaJNoq6PNo+nyaWmNti1qhgXByMR429eelOudA0e901tOvNJsbixdg7WstsjRM2c5KEYzn2pW1uu1vy/y2Dpb+uv+Zy083jWbwlpzNb6hBeLcyJeC1ay+2tCN4jcCQtb7mwhcA45O3HStU6muo+BrK+0/wARHT0mEBXUr6CMM/zqCroQqhn5TgDBbgdKuXHg/wANXenW2n3Xh3Sp7K1ybe2ksY2jhz12qVwufar82m2NxYpZT2VvLaJs2QPEpjXYQVwpGBggEemBVX1fr/X/AAwFmiiikB5Z41t11nxlrNhe2djN9j0iK5t7zUnAj06MmXzJ4lHzmXcq8goAEHzrwD6B4amu7jwppM2pZF5JZQvPu67ygLZ/HNS6hoek6vNbTarpdnfS2j77d7m3SRoW4O5CwO08Dkegq9QtE1/XX/MHq0/66f5f11qXWl2d7e2V3dQCSewkaS2ckjy2ZChOOh+ViOfWuc1zwRJrHjGx1salLbx2uS1pGSIbg/Ljzk/5ang4OVxheDiuuopNJ28gOQvvA0l58QLbxH/aUiRQrzYqSLeRsphnjzh3wpw+RgpF8p2clz4GkuPiDF4k/tKRYkUZsBn7O7Ar87R/xSYBxJkYKx/KdvPX0VSbVrdBSSle5V/sy0GsHVPJH20wfZ/N3H/V7t23HTrz61aoopdLDPGtAinuNS8O69BZ2dpfz6tLb3l20ge91B/3omifbwsSBCVVixHloNqbc16vLqUEy39vp11BPfWafvII5FZ4mK5QMoORnqM9aIdD0m21ibVrfS7KLUrhdk16luizSLxwzgbiPlHBPYelTQafZ213cXVtaQRXF0VNxNHGFeYqMLuYDLYHAz0qbe5y3Hf3ub+up4zoRvYbXQde0Gzs7O51HTLlpXRxJeakwty7T3G3C5WYKADvOZOqHKHV8GWYTxFoF9o9vaaZb6tpUzS/Z5Vlub1dsbC6uGHyNIHYAff/ANYxL87a9LstD0nTb66vdO0uztLq8bdczwW6I85yTl2AyxySefWm2WgaPpst3Lp2k2NpJfNuungtkQ3B55cgfMfmPXPU+tW921p5ff8A5/8AA2tNul/+Dt/l/Wt+e8C2UOna34utbbeUj1SP5pJGd2P2SDJZmJLE9SScmuxrI0rwl4b0K7N1onh/S9OuGQoZrSyjicqeSMqAccDj2rXoey9F+A3q7mWugWdroV1pemwxQw3DTSFZVMqF5WZ3YgnJyzE4yPQYFYPhzwHJoXhm90qbVZ9Qe7Yk3d+TcTr85IzIducAgqMDaxY85rsqKT1TT6itqmc54J8Kv4S0H7BPfz6jIzbmuLqQyzMfRpDjcB0HAwOPetjS9Ls9F0q303TIRBaWyCOKMMW2qO2SST+NW6KBnF/EeVvL0GzeyGoWl9qYgntJJFSGcmKQxrKzZHl+YFJGGJxgKxO0x+AWbQ9G16LVZbCz0/T9RkMfkMUtbSPy0d41Zj9xHZ1z8o4PyoPlHY3tjaanZS2epWsN3azDbJBPGJEcehU8Gol0jTV0f+yV0+1GneWYfsYgXydh4K7MbdvtjFC0v5/8D/L+uo9bf13/AM/66cj47mj1DUPDVkbG21mw1GWXZa3EyLa3Moi3ReaxDbkxvYAK5yqkA4456fSmk+CPiK2vbkTW+m/2itslq7JAVXeAmMklI23IqkkfIpxkAL6deaNpmoaX/Zl/p1pdWGFX7JPArxYXG0bCMcYGOOMVBe+GdB1LTrfT9R0TTruytQBb209pG8cOBgbVIwuBxx2pWtfz/wCB+JUZNOLfT/g6empes/8Ajxg/65r/ACqLUtKs9Xtkt9Rh86KOeO4VSxGHjcOh4I6MoOOhxzS6dplhpFillpNlb2NrHkpBbRLGi5OThVAAyTmrVU3rdERVlY5Xxr4Nk8W/YRFqdzpv2WZXaSzkMUsi7gShcZynGdmOWCnIxztPo1nc2enw3sEMn2B45YREpjRJEGAVUHgDJwpJx74rQopLRW+YWTd/kFeP+NYJNV1rxcZbOz+1aTbwzWmp3rhn0+Lyt6vbRj5vMMocbsoOF5fbtr2CqN5omlajfWt7qGmWd1d2Z3W1xPbo8kBznKMRleg6UrFp26BBqUEYsLXULmCHULuLclu8oDyFVBfap5bGecDivJ/E63F/qXiu+hsrMapo99ELfU7tx59uPLiaCG2VfmAkZmBJZQTIeJOVHr0un2c99BeT2kEl1bBhBO8YLxBhhtrEZXIHOOtQz6HpN1q0Gq3Ol2c2o2y7YLyS3RpohzwrkZA5PQ9zVXXNzf1uRb3bXOJ1TSotC8aT+INW8M6JqMV9qVstvflw19bsyRQqqI0WCA6luJAQCSBkYPolZyeHdFi1t9Zj0ewTVHGHvltUE7cY5kxuPAA69K0aL6JDeruVF0uzTWZNVWEC+kt1tml3HmNWZguM46sxzjPPsKfHf2ct/NYxXcD3cCK8tusgMkatnaWXqAcHBPXFWKrx2FnFfzX0VpAl3OipLcLGBJIq52hm6kDJwD0zS/r+vmAyHS7O31W61KGALeXcccc0uTl1TdsGOgxvbp61LeNKljO1uMzLGxjGM5bHH61NRSkrqw1o7nj/AIHjkOreENYsLOzsxqttL9rkWQPd6iPK3ST3BXCgrKFAHzkeZ1Q5Q+qpd2mqRXdvYahG8kLNBM1tKrPbyY6HrtYZBwR6cUyy0PSdNvrq907S7O0urxt1zPBbojznJOXYDLHJJ59afHpWnwpdpDYWsa3rs90qwqBOzDBL8fMSBgk54qpO+yJirdTnPANlBp0niS1tVZYo9ZcDe7Ox/cxElmYksxOSWJJJJJOa66snSfCvh7Qbh59D0HTNNmkXY8lnZxwsy5zglQCRntWtR0XovwVgStf1f4u5U0zSrPR7RrbTYfJhaaScruLZeRy7nJJPLMT7Z44q31oopPXcZU0vS7PRdKt9N0yEQWlsgjijDFtqjtkkk/jTdXsI9S02S3nkmWI/M6xSFPMA52kjnae4BGRwcgkG7VXUtL0/WbFrPV7G2v7VyC0F1CsqMQcglWBHBqZLmTQ07O5h/DcAfDDw2AMAabBgf8AFdNVHStD0nQbZ7fQ9Ls9Ngd97RWdukKs2MZIUAE4A59qvVpKXNJsQUUUVIBRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFAAeFNeWeBfF+pXsltcX2sahqFsukNfaqt/YpbC2bjyzBiKMyI22b5h5i/IPmBPPqZ5Fc7b+CtMt7bSoEkuCmm2b2IDMp+0wOoVkl+XkZVW4wQR6EgrXW39aP/gFpxtZmT4X+Jdr4i1NrILprySWjXkEemaol9IEUjKTKqgRyfOuAC6k7gG450fCHiufxXptxeRRaUAir5cVrqbTyI5BPlzqYlMLjgFfmIOfTm5pXh650mOSFfEWrXVv5PlQRXP2d/s4/hKsIg7EDjMjPnvk81Hp/hU2V3d30+tajfajc2wtlvrhLcSQxgkgKI4lQ4ZifmVufbiqdun9f19xmrmX4f1ebSPCutahq63Us9tqFwZIDfG7w5YYjidkjwmSAoIAGeT3qnF4k1zTdb8S3mv2MEX2LS7OaKxtdQeeP5pJwTuaJNrHABwp+6OT217PwQkGm6nY3uu6rqMGpFnkFz9nQxyMcmRDFEhDZAPOQMdKWPwNaGPVf7Q1PUtRn1a1jtrm4uZUDbULlSoRFVCPMP3VAOASCSxJF2WvZff1G9pJdf87lm+8TCz1HV7QwQqNNsYbwz3FyIoz5jSj52Iwir5WS3PBPHGDn+HvEVr490rU7SV7cfZpVikl0TWHljcFQ4KXEYjcHsRgHgjkHlZPh7aXEeoNf6xqt7dX62wku55It6NBI0kTIojEakFum3accgksTctfCT2cGoGDxBqwvdQaN5r9jA0oKDA2qYjGoIGCAmO4wTmpls0v6/r+vJt6q39af5i+A55rr4e6DPdTSTzSWETPLK5d3JUZJY8k+5qx4p17/AIRvQZNR8lJdsiR5mlMUUe5gu+SQK2xBnJbacCl8M+H/APhGdEh0uPUrzUIIFCQteCLdGgAAQGNEBHHUgnnrVvU7Ke/s/JtdTutMk3A+faLEz49MSo64P0zVTd22g0ucvrviPXx4EttX0SHR5Z5pYt0kGptLAEaVVBjk8g+ZuBwflXGSRnAzo6r4i1DQ/Da32swaJYXRl8si51kxWqg9MztCDkgdBGefbmpIvB9jH4YutFa4upFu5HnmuyyLM0zNvMvyqFDBsEYUDI6daju/CMl7b2Bn8Raqb/T5Xkg1EJa+cN6lWUr5Pl4wf7mfepd7uwuhnWXj251jTdIl0HSre+uNTFwB/p4W3jaBwjnzQhLITnayqSfl+UAkrYi8YX+o2OmLo+kwS6pexSyy21zemKK3ETBJP3qxsWw5AGE5HPFXtI8IWOjGyNvcXcrWbXLI08gcubiTzH3HGTz0/XNQN4JtVSz+w6nqNjLaecomt3j3yRyyeY8bbkIwWAwVAYY4Yc5b3dv6/p/gH9fj/l+Ji23jC50P4d6De30+k/arqD95JrOs/ZEZgMkLIyMXb0+UcAkkcA3R46u9Q/sNPD2hm9k1rTW1CNp7oQxwKvl8SMFc8+ZgFQ3IHGCWFn/hArOFdL/s7VNSsH021eySWF42eWBmVijtIjHqg+Zdre9XtI8K2Oi/2X9lluH/ALMsDYQ+a4O6MlDluOW/djnjvxRG1tf60f62/rce2n9ar/g/1tz+u+LdZu/Dd4mi6OILyPSDeXovbxrZ7IurbVXbGxdwUc/wj5Rzzx2WnMz6Xau7FmaFCSTkk7RWPrfg621y8uJ31LUbJby1+yXkNnKqLcxjdtDEqWUje3KFSc4ORxW7BCtvbxwoSVjQICeuAMUlu36fr/mgfT5/ocT4r+J1j4Y1m4spG0vbZRJNdC81VLadlbJ2wQlSZWCjOCUBJUAk5xd1HxjqcWqaja6R4dk1GLTYoZ5pvtGwyI6lisSBGZ5QBwnAP94EgVo3vhlp9Xk1HTta1LSZpwouVs/JZLjbwpZZY3AIHGV2kjGc4GNC20yG11O9vo2kMt75fmBiNo2LtGOPSjWyB7nOy+MdVfWtStdP8NyXVrpd5Fb3Nx9pwzrIkbboowhLMokJZSVGACCSSAs3jK9W4luoNHjl0OC/+wTXhuys4fzBEzLCUwyLIcE7wcAkKeM79hpMGnXmo3MDyM+o3AuZQ5BCsI0jwuB0xGOuec1kSeCLOTUWl+33y2El2L2XSgY/s0k+7fvOU8wfOA+0OFLDOOTl9V/Wun/B/rZu1tP63/4BBF4u1S51S4jtvDkklhaal9gnuvtGXOSoEkcYQ7lBYbyxXaASN2DjfS6vjrktq+n7bBbdZEvvPU75CxBj8vqMAA7uhzjtS6dpkOmfavIaRvtVy9y+8g4ZuoGB04pE03Zrkup/bbtvMt1g+yNLmBdrE7wmOHOcE56AUo35Vffr93+Yu/8AXX/L+rluQssbFF3sASFzjJ9K858K+L577WdHSTxEuqXGprIuoaWsUeNJlCFwmUQOmCrJtlJZsZGNrV6RWRYaAba/a9vtVv8AVJwGEDXflAW4bqEWNEX/AIEwLY4zgnLW+oPbT+v6/rywbbUdV0fxbcWt5rU2tWsWmyXl+Gt4oxZSBgY1TYoIV18zCuXbCA7upNHRvFGsvDNeXsOsSXt7psl5p1hcW9vFaTMqhtkRTMytyo/ekE5JC9ht+HfBA8OyTiPxBqt/b3Mkktxb3i2zCd36s7rCsjHoBluAAOgAqfSfB8OlXEUv9qajeC1haCxjuXjK2UZwMJtQFjgKN0hdsDry2Vrb5f5/8C3oO/vX8/8AL/g3ONt/H7afbXFzaeJIvFEZ0a41CRisSx2k8Xlny90Sjap83lXLOuBk81q+EvEd/P4uXTZdSvdZ0+7sGuYr+5s44EMsbIHEJVULxESoQxDA9nbnHQW/hO3MF2mtX15rj3cDW0kt+YwRC33o1WJEVQepIXceMk7Vw/RfDMej3P2mbUr/AFSdIfs8Mt86FoYsg7F2IuckAlmyxwMk4q1ZP+vP8rr7vvm2mn9bf8H+npb13V49C0aa/lieYoUSOJOskjsERc9ssyjJ4Gc1gT+M9S0uDUE1vQo0vrRIJY4LG+EyXEcsnlja7pHhgwPDKB0+bk46LV9Ktdb0qbT79WMM2MlGKsrAhlZSOhDAEH1ArIj8FWzQ3X9panf6ld3RhD3lz5SyhIn3pGBHGqBQ2T93J3HJ6YjX+v6/pFaWLOg61faheahY6xp8Nhe2TRkpb3RuEeN1yrbiiEHIYEY4x1Oa0dStrq7sXgsb59Plcj/SI41d0GedoYFc4yASCB6HpTbfS4bbV7zUUaQzXiRJIpI2gR7sY4z/ABHPNVvEugx+J/D9zpE99eWMNyAsktmyrIVzkrllYbTjBGOQSO9NiXmccvizV4/C6JbXFzqc19qslhpuoRW0ZluYQjP5oX5Iy3yOquQsfCuQVzmS48RXqeFoFTUdYgni1P7HqUt1DatqEGVLhY440MUjHMZARXJRjgFunQDwhnR4rG41zUZ5LaZZrO7MdtHJZsq7QIxHCqYwSMMrDDEdKil8DWklpDt1PUI9RhvDfDVVaI3DTGMxFiDGYjmM7MbMAdADzT0/L9P+Df5WD08/1/4FvQ56DxZq0/hnT4LG4vNQutRvriCC6hgga68iLccsp2wxy8AYcKFJ+ZdwK12HhbUBqGgxs019LPDI8M/9oxxpOsisQyuIgEyPVeCMEE5zVIeCbVLBI4dT1GLUFumvP7UVozcNMy7GYgoY8FPl27NuMYAIBrX0fSYdGsPs0Ek07M7SyzzsDJNIxyztgAZJ7AADoAAAKX9fl/wfw0F/X5/8D8SlretX1pqFrpmiWEF9qFxG8226ujbxJEhUMxcI5zudQAF7nkYrkLf4hHQvCfh6G+uNLOpXlkbiWTWNZFpHhTg4kZGZ2JPA29ASSOAey1jw6mrX1rex6hfadc26PF5tmyAyROVLRtvVhglVORhhjhhVEeCLe3s9Oi0jVtT0ubT4DbR3VvJG8kkWc7HEqOrcgHJXcOcHk5nW6/rv/wAD8fIr+v6/H8DPu/iFJNp+n3Hh3TILx7zS5NVZL2+FsqQptyAypIGbL44+XjJYZGZF8Za1c/2fbaf4bSe+vdLGosj3xjhhBIHls5j3Z54wnJ4OBzWP448I3mqa5p80+najrUNrZCOO4totNll87dlmdbtdiZAUgxKCTnIwFFdfoelXka2epa7KH1gWK21z5RHlk7txI4HOe4wPQCnq9fN/+3W/T+mS7p/d+n/B/pHO678ULbRmto3i0+2newS+nttX1RLCZFbOI40ZTvk+VgQdgBAy3PEeu/FrTNIusRvpht4rWK7nF7qqW1w6SLuAghKkyuF5wSgJIAJOcdLqnho32qf2lp+sajo928QhmksvJYTIpJUMs0brlSzYIAPzEEkYw278MNLqjahp+uanpc8yotyLXyGW52cKzLLE4BxxlNpIxnOBilv8/wDP/gD/AK/L/glS98YtB4ytdBt4tOQzxxSB9Q1BraSdXLZ+zp5becVC5I3LgkZxnNdTWDrPhb+3bofbtZ1A6fvjd9MVYBC5Rgwyxi80fMoPDjp2repdBdTkrvxjfQ3NzcwaNHNolneCzuLtrzZNu3BWdIdmGRWbBJdSdrYU4G7JvtTvtY+KA0q60TxClpY20ciG01KK3jJeZl8+QR3Cs8eI+FOT97KcjO/ceCLOfUZZv7Qv0sbi5W7uNLV4/s80wIO45QyAEqpKq4Ukcg5bOqmj28fiOfWg8v2ma0jtGQkbAiO7AgYznMh7+lJbxb/rT/Pb+rU7Wkvu+/8AyL9efaVqV9r/AMRr0ahoniG0i09oUhH9oxRwQZQuTLHFcYk3Ejqr8Y6c16DVGz0mCy1XUL+J5DLqDRtKrEbV2JtG3j0HfNHW4t1Y5/SPGOq6tdRSf8I3JDpb31xZPdm53OrRNIvm+WEx5RMeNxYEE42kYY0fD3xS07X9bt7OOTSzDerI1t9l1RJ7lQgLfv4Ao8rKgn7zYPBweK6/StKg0jTzZ27O8RlllJkIJzJIzsOAOMsce1Z+j+GP7FkEVtrOoyaZGhjh0uYQtDCp6KreX5uB0ALnA46Yph0Oc0X4s6Xqt+Ekl0v7NLbzXMBsdUS6nRI13Hz4VUGIlOcAuMggkHGVPivVbXX11TxDYrp2mx6Hc3q21teNcSOFeI5dNiqJADjCs4+YgNjk72m+EV063ksv7Z1K60loGt00y5MLRRRkYChxGJSAOBuc8dc1WtvAFgFlXVtR1LWVksJNOZb6VMfZ325QCNEAPy/e+8c8k4XDXxeX/Af/AAAauref6r/g/gVrrxvqejw3P/CQaDDBcJYvfW8Vnf8AniZEZVdCzRpscGROxU5+9xUvh3xnfatr/wDZepaNHYPsucSRXnnAvBKiOANi/L+8Ug9chhjADNKPAltNb3Karq2papLNbfZEuLowiSCEkMVTZGo5KqSWBJ2jJ4q/ZeFrKw1pdThluGmX7ThWZdv7+RJH7Z4MYxz0znNCtzK+1n9/T/gi/wCB/wAE2qKKKQwooooAKKKKAIL64+yafcXPH7mJpPmOBwCea4iy8eag7aAl7BbbrjzE1PykYFHEMkieWC3AIiLfMScMvrmu11K0N/pV3ZrIIzcQvEHK7tu5SM4yM9emayL3wlbXcWnJE6WxtJxNM8UIDXGLd4OT2O1xyc8KBU6+98reuv8AwCly6X8/+AWbbxDa39xp1rCtxHJqlg99C5VfkRfLBzyfm/erxgjg/jneHb7UoNN1pbua816fT7+SGHKwJNKoRGC8COPOWPJxUGjeENW03UrO8u9egujp+myadaRJp/loqsYyrv8AvCzN+6AbBUHjAXBzd8M6HrOj3WoSatqthfR305uCltp725SQhVPLTPlcKOMZz37Vo7Xduz+++n4GevLG++l/ud/xIfCXinU9f8OJf33hy+tZfs/mr89vsuW5+WMCZiDx/HtHPWoNC8TSW3gW91vXpr24+yXNyJlktYkmiVJmXy9kTsrbcbchiWxnqavaLoes6Jps+nw6tYy20aMmn+Zp774OSV80ibEoAIHAjzjrWDe+Gtf034e+IbGbULXVJbszXEC2mmyRMsksjSMCPOfeMtwBg4HU9albfIqVlH5/p/X9WOgs9b/4SB7/AEtYtT0K+hiSQNLHD5nluWCSpzInJRhhhuGOVHFVtG8Qy2vgGy1PVWuNRun/AHQEUaebcyFyigKNqAnjn5VHJJABNSWnh/WYJ7/U5tXsZdcuoYreO4GnMtvDEjMwXyfO3Eku5J8zuOmMHN/4QG6vPBA8P65qOn33kTLNayDS8RBlbcBLE8riRSSQRleDwQcNSd7q39a/5B/X4f5/gdHomuJrUdwDZ3VhdWsvlXFpdhPMibaGHKMysCrAgqxHOOoIGd421+bw9plnNBqGnaaLi8S3kvNTQtDCpVjkgSJ3UD7w61Y8KeHV8N6bLbC30aFpJfMP9j6X9hjPAHzJvfLcfez0wMcVc1XSv7Tm06TzvK+xXYucbM78Iy7evH3s556US6W8v0uC6/P/AIBS8H6xea5oH2u/EDMJ5I47i2Rkiuo1YhJkViSFYYI+Zh3BIINWNe1+LQorXda3F7cXk/2e2tbYxh5X2sxAMjKgwqseWHTAycCqtj4SsodHu9H1OK21PSZblpoLO6tg6Qozb/LIYkMA+4rwMDAx8uabrPhaO68OxaJo1poVrYKw3Wd9pIubYqDkARLJGAd3Oefp3pv/AC/4P9fcC3+//gE194lNjDZJ/Y+oXGo3qF00yEwmdFUDeWYyCMBdygnfjLADOaTS/FdpqraWkdtdQyanbTXEaSqmYxEyKyvtYjOXGMZHB5rMh8F3+n22jNpOtpFe6bBLbNNcWhmjeKVlZlRPMBTaUUJlmCqMEN1qnonhjVToHh+6tNQ/s/UtPhngkN9Zeb5kcjgsSgaPa+Y1IPTr8pyMG0vv/wCAC8zdbxQZNFttR0vRNT1NbjcRDbCFXRVJBLGSRV69AGJOeBwcVZ/HunqdKTTrHUdUm1eya9s4bSFcvGuzO4uyqhw4PzEDjGdxAOTe/DI3ljo9rNf2N/Hp0EsMiarpi3Ucu9w3mrHvVElGCAxDD5jxjg7Xh/wiNBGiAXvnjStLOnD9zs83JjO/r8v+r6c9evFEdve/rR/rb+th7af1qv8Agkcnju0NlbXWn6Vqmoxy2a3s32aJN1rCehkDupJ4b5U3N8p46Zo+M/G8lh4c1N/DdneX9zDprXX2y1WExWgZCY3fzXXdnG7aoc4HI5GX+KPh7b6/4gGsRxaJNcNbrbyprWjLfptVmKlPnRkPzsDyQeOARkrrnga91KDUrTTNZh0uy1SyW1uoksA7LtQopiO8BFwQCpVuBwVPNOO+vf8Az/4BUbKSvt/w3/B/rfo7nVDa3um2psry4N8zIZ4It0cG1C2ZGz8oOMA9yQKv1RurO+kvtOktNR+zW1u7G6t/IV/tSlCFXceUwxDZHXGKvUiFeyuFeeah8Qruz1lZFn077ANS+w/2cIZHvJI1k8qS53K+I0WTP3kIwv3wWAHodcevgMxapfC2v4YtI1C/XUbq0WzAneYMrY84MPkLIpIKM3UBgCABfF/Xl/wf+H1VO3L5/wDD/wDAOwrhbfxfq0vjCPTmksQWvZIH0j7JILuK3XcBdGXft8s4Ug+WF+cJuLdeqFnqI8RteHVM6YbURDTvs68S7smXzPvdONvTvXNW/gG4i1SFptVt5dPt9Tk1SJfsOLvzXYsQbjzCCvzFeEBKALnGci3X9df8v6TFL4Wl/Wn+f9Nb0bL4gXkviDS1mm06Sy1WcxLYQRObqyjYN5M0sgcrhyoAUonLgAttObHhzxhq2reIobWZ7GVZEla702GzkiudKI5QTO0hU7ug+RN+dy5UGrOk+ApNKuIbaPUov7FtbyS9trOKyEcwlfd/rJQ2HVS7EYRW4TLHB3M0XwBcadeaYbzVYJ7fR0mSyNvYmC4IkBDedL5jeZnO44VAzgMRwBSV+XXf/gfnf+ugPy/rV/pYj8LeL9V1jX4bW6lsZRJA8l3YQWksc+kuMbY53Z2DE5IHypuwWUFa7muM8PeBLnR77SpLzU7a5h0aCSCy8iw8iZ1cYPnSGRvMzjccKgL/ADEdBWr4b/t6S61a413fHbTXedOtZhF5sEIQAhjGSpywYjknBGcHgU7Xsv6/r5+otbtm9RRRSGFUtZ1OPRtDvdSnBZLWB5SoGS2BnA9z0q7WV4j0JPEmkjTp7iWC3aeKSbyXZHdUcPtDqwK5KjkHI/Wk9VYa01M3TvFM1v4fvJvEKI2pafcC2ngsoyPNlYKY0jVmPLCRAMtjJPIFQ6R4m1a6m16WfQtSL2dzFHBpha1E6q0SEncJfLIyS3L5x+VQy/DxIZL1tJ1a7g+0m2mQXsst7suIJN6OWlkLFSMKUyOBwQavWdtJ4Vj1LVdcvrjU5r+aN5fsOmSPsIQJhIog77flzzuI7k0Pv/X9NiV9it4Y8TvNo8MuqvezXF1q9xYqs9vDG8DK8mI2EbspChCu4ElsA96v3vi+zs7S6lW1uriSC/XT1t4/LV55mCkBS7quPm6sy9D7ZxNF8Pahf+FlnikbSr061c6rafbbUvtV5pCoki3K3KPnbuVgSM4IIq6PCOoLoGoWD6lpt/NqV61zctqelefAysqgx+SsicAqMEseBzk/NQua2vl/7b/9t/wRyspe7td/+3f8D/gC+JvFuqaLoNhfWvhq+ea6u4IZLeR7ctAHmRMNiYDcwY7SrMAcbsDNX7nxNJa6faSS6Dqn2+8dki0xTA0525JYsJfKVQBnJcdQPvECqMPglofA66FHqISaK4W6gnSDEMEizCVFSLccRKyhRHu4UYDDrUfiDwVP4n0/TzrU+kXmpWMjsrXGkedaSBhghrd5Sc4xgiQHI9CVNdPn+Gn/AAQ0sWz41t5bKzfTtM1DULy6Mg/s+ARLND5TbZd5eRUGx8KfmOSRtyOateD9QutW8HaXf6gWNzcW6vKWCg7j6hePy4rLh8G3lhHpkmi3ul6Vc2cMtvKtnpOy2eOR1dvLhEn7t8oCCWYZJypzxu+H9J/sLw9ZaX9oa5+yxCPznUKZMdyBwD9KT3Ecz418XXmha5bWNprGi6X5tlLcJ/acDStcyKyhYows0Z3Hd0AY+grrdMupr3SbS6urZrSeeBJJLdzzExUEqeByCcdKztW8MW2s6jLNfPvt59OlsJIAuCQ7K24Nngjb6e+eKRvCmnanpVhb+LbHTvEF1ZxhBc3dijZbABYK27aTgZwaI/Dr/Wr/AEt/Vxa83l/wF+t/6sO1XxINO1e30u10u91S8miM7RWjQr5UYYLvbzZEyMn+HJ9R0zV13xpBoc10q6TqOopYxCa9lsxFstVIyNxkkTccAnam4gYJAyuYvGHhG58VCKAT6VDbRoQj3Olme5t3PWSCXzVETgYwdpwRnnpWX4z8Lav/AGNr0ujakzQX1mPtFn9j864nkRNo2SbsDcAoYbGJwcFScgj0uOW2h0l54nsrK31eaWKcrpOzzwqrltyBht554YdcU3WPEo0W7RbjSdRls96JNqESx+TAXYKNwLiQjLDJVGAz14OMvXPBmoarNqaWetpY2WqrGbmI2XmS70AX5XLgBSFAIKk9cMM8UPEHwxXX/EV1qU15YEXEsMqSXOlrPdW3l7cJFMz4SMlSSoTOXYggmkr6XFrr6Grd+PrG11a9sRpupzLp9zFbXt1HCvk25kCFGJLAsv7wZ2hmXBJAGCbFx4xtrfVmtm06/NnHcraS6mEjFvHM2AEOXDn5mVdyoVDNgkYbF/StI/szUNXufP8AN/tK7Fzt2Y8vEMce3Oef9XnPHXHaua/4VxaxeLpNYht9BnSa7F3Ib/RFnukfIJ8u4DqVGRkblYqSecYApbq+1tfXT/glStZ2J77xfcz69plppVheixk1Q2k2pEQ/Z5dqSb0UF/M4dcbggGVPOOvRw6l52tXWnfYryP7PFHL9qeLEEu8sNqPnlht5HbI9a5628GX0GoWudbU6ZZajJf29qtmBIWkMhZZJCx3AGQ7dqqRxndXQw2t8mtXVzLqPm2MkUaQ2XkKPJcFtz7+rbsrwem33qY7a9/0X63E9/wCu7/Qu1HPMtvbyTSZ2RoXbHoBmpKbLGk0LxSDcjqVYHuDRK9tBq19TgvD/AI8vL7xJpllqE+mzJq0LSLbWcT+bprGPzY4p5N7IzNHk9EPykgEZI7bUbmWz0u6uba2e7mhheSO3Q4aVgCQgPqTx+Ncz4Z8DS6B/ZttNqUVzp2jK66bbxWYhdNwK7pXDESOFJGVVM7mJBJ4030K/vdL1uw1XW5Z4tSaRbdoYFheyidNoRWGdxBydx559qc9ny+f9f194ob+8czpnjy/Fnqt7cz2Gt21jYfaC2nWklqYJ84+yyeZI/wC86ZB2smPmUZFLZ+OtTjvNW06V9P129tLB7qFtIt5UQyxttktzlpN7qWTO07vmwVBxmzH8Oft0N5H4jvrWcXGlHSQul2H2NRAe7BpJNzLj5egXLYHzGpP+ECur3R7m01vV4ZpX07+zbd7KxFtHDDwTmMu24sVUNgqpUABV5JcrdPP9bfp/nveVd7+X6X/X+rWTQfGU8kOrXWqX9hqmm2EEcq6jpdpJEjOd26DY0km6RcLwGzlwpANang/WdU1i31H+3LaC2ubW8MIhhB+RTFHIFYknLDzMEjAJHAFZ0Pw/S9uru78T3cV1PcrAmNJil05FELFo2JSVnLgng78AAAAc50vDPhC28MXeqTWt3e3H9oXAl23V5PP5YCKuP3jtk5UndwSCB0UULd37fqgd9Ld/0/z/AOGsdBRRRSKCiiigArnfDWt63rqJeXWk2FppsocxSx6i8sxw2BujMKqM4PRzj3roq5rwl4L0vw3axzLpWmxasyuJ722t1WSXc5Y5k2hj2zn0pa83kB0jusaM8jBVUZZicAD1rGs/FmmahYXN7aR6k8FsgdmOlXS+Yp6GMGMGUcfwbu3qKktNAttLS8ksTeXMtwhzFf6ncTxsecACRnCA5wdq9Oxxisjwb4e1XRLm5+0pDp+nGJI4NMt9Tmvo42BPzK0qIYxjCiNRtAGRijUGWvDHjWx8S6ML9be9sgsHnS/arKeKNBz92SSNVfp/Dmnp410ibT765gGoM1iqtNbPplylwA2dp8lo/MKkg/MFI+VueDjPs9G8UWvg6+0CCSws5IbZ4dN1GC6dnY5OxnjMWIzjGSGfnJAqHwn4R1PS9Z1S+1MpFHfWUNssI1W51B4yjSknzZwDghwQAAAc8dytXH5FK19f62NLQvGtnrvhn+1orPUoNttHPJE+mXWQXXOI8xAzY9Ywex7inaL4k3eBLXXfEFxbBmj3TPZQTBGYttVUjdfNLE4AUruLHAHSotBtvE2j+F002Ww0mefT4IrezddQkVbkKNpaT9wTEcAHA8zk4z3qlYaDrY+H8miaxo+j3cynakK6pMscql924yCANGynkFVJyAcg9LnbmfLsRG9lzF/WvG9lpPg+419LLUpo4w2yF9NuYpGYAn5lMe5F4++yhfen33iuI+Er7VtNhvUkhRkiF5pF4uJdvylohH5pTJGWVcYzzxVGz8LaxN4F1fRdVvlWW+Eq2yNdSXgtEZQAhmkCySjdubLAEbto4UGtCdvFFz4ZuIpNK0hNRkzEIl1SUw7CuN/mfZ9wOc/LsI/2qU9Iu25UfiV9ixHr9vZ+FLPV9ZuYVE0ETM9vG7LJI4GFjTG9ixOFXBY5Axmlm8UaXbeGp9fvHubTTrdS8r3VlNC6AHBJjdA//jvNYieHtck8K6DHPDp0WraFNHJDEt1JJb3GyJosM/lqyEq7HIRtpx96tuaTxHL4ana3ttLtdcKnyYnuZJ7YNnjc4RGIx6KPxqpW5nb+kRC/LG/z9f66muCGUEdD0ooGdo3de+KKkpbGP4g1LV9Og83R9Jg1BY43lmNxe/ZwqqPurhHLMecAgDjlhVPUPEuojw9b6zoOjx39pJZ/bZPtN59nZY9oYKoCPucjsdq/7VQeN9K8Ra0tnZaRFp8+lMxbUre5vZLZ7lRjbFuWKTEZ53DALDjIBOa/ijSfFGtWmm2dtY6QdO2btTsH1GSITEY2xCQQNmLruG1SwwOBkFa2/r+v68x6XLOt+J9YstDGuaPpOn3mmfY1ug11qMkEzZGQgjWCQEnKgfNyTjFSa54l1fRLBdRl0KJrCCBJr5zfYkiyfmWNAhEhXvuZM9s9p7/SdQ1ifRVvUtbaytZBdXkEMzPumTBiRSUXKBvmydpyi/LycZvinSfE+qeIrN7S00q+0O0CzCzudQkt2muQcq0m2CQMi8FVyPm5OcDFaX+f4f1+mupNnbfp+J2PWsTUfF+i6VqX2G+uZUlXZ5kiWsrwwbzhfMlVSkef9thwQehFbSlig3gBscgHIB+tcTq3hTW55PEGnWLWB0vxFJvuLmWVkuLXdEkUgSMRlZPljBBLLgtgggci3sx9P6/r5GzN410CDWG0yS9b7UlwlrIFt5WSGVwpRHkC7ULbl27iNxOBk1vVyV34UvZ7HVoI5bcG91i2voizNxHG1uWB4+9+5bGOORz6dbRpyrv/AMBfrcSv18zAsdY1u/1y5hi0qwXS7a5a3e6bUH884UHIi8nb1OP9Z7+1b9cbP4TnvPGkWqLouiaX5NyJ21W0kZr67UDHlviJNobjdl3GBjHII7KkvhVx/aZkJ4p0l9dGkebOl0zMkZktJkhlZQSypMVEbsADlVYkbW4+U4h0rxpoOt6glnpl488ksbSRv9mlWKQLgMFkZQjMpOCoJIOcgYNcxa+C/Eb+LbDUtTu45ks9SmuWmbVrmTzomSVUUWxUQwlQ6D5d2cHnru2LLwpeQWHhu3mlgzpaSrcFGJ3b4mQbeOeWHXFK7tcb0dv63JLbxra6n4tstK0oSzQSxXDy3EllMkbGMoB5UrKEkGWPKlu1dO7FUZlUuQMhRjJ9ueK43w94d8QWd9on9qnTUtdFspLJPs0kjyXAKoqyHcqhOE5T5sZ+8a7GUyCFzAFaTadgc4UntkgHA/Ch6XEtTmrTxXdW+o3ln4n06DS2t7E6gskF4bhDCCQ24lE2suBkDcOeGNVLD4gR3Wk61qc0em/Z9LiMr29nqqXNzH975Z0VQsLfLyN7AYbnjNU9K8KeIL7TtbtPF9tpn2nWrWSG61Kzv5JnGQVSNImgQJGoZsDeeck5LE0+Xwr4i1GGWaaTTtGvYNKfTbN9NmkYOGZDvJ2IYgPLwFXcV3khsgUdNe3+f/AX47B/n/l/wX+BoWXjOZP7UTXrG1t3061iuy2nXpu45Ek3bFDNHGQ5KcLjBDKc81c8J+JD4mtLi4DaS0ccgRf7N1QXu04ztkKooRxkfKCw9/XnLfwDe3Ol63az2ul6Pb6hBGsem2c0l1a+cjbvOcMkYyx2hlVRuAyWJPHQaHpeqf2/ea3rlvYWdxPbRWq29jM067UZ23tIyIScuQF28AdTuwK6i/r+v66dSz4o1u50LS4Z7Gzivbi4u4bWKKa4MKbpHCglwjkAZz901j3Hja/stP1GO80aCPWrCa1jNmt8WglW4lEccizeXu253ZzGCChGCME6fi/StQ1XSbZNIW2e6tr63ulS6maJHEcgYqWVHIyB/dNYd94L1LXrLVJ9dGnm81SaySSzV2ltora3nEnl7mQGQsDISSij5guMDcSPn3/DT/g/1YpfEr7afm7/AIWOs0qXVZrVm1yzs7OffhUs7trhSuByWaOMg5zxj8fS9WBe29n4P8J3v/CMaTb2bKrNBbWOns6NMwwpMUIyQTjJGMDkkAZrU0mS+m0Wyl1iCO31B4Ea6hibKxylRuUHJyAcjqaN9iS3WbrHiDTdBWD+052ja5YpBGkTyvMwG4qiICzNgE4AJOK0q5PxfJqMXiLwy2j2trdXX2mfbFdXLQIR5D5+dY3I/wC+fyqWDdjodL1Sz1nTo77TZfNt5MgMUZGBBKsrKwBVgQQVIBBBBGaU6lajVRpplxdmA3AjKnmMNtJBxg4JGRnIyPWsPTvCCf8ACPLZavc3PnyXc17M2nX09qBJK7Oyho3Vig3kDPXGcA9HeI/Dl3f29gdEuRb3Vqr25mnlZn8iRNj/ADkMSwIRxnOWjAJGchvy/r+mPS/9fl6Fm48YaPb6Ta6n5t1Pa3SeZC1rYTzsU/vlI0LKv+0QByOeRUGt6xfW50a+0e6sZdNvLqCGVXgaRpUlYAPHIJAF4OeVbPtWf4o8L6vf3FhBosirpkFq0BthqtzYeU2VCyZgG6UBQR5bMo9+citL4e8T2fhHwzo2m2uk3TaUlo1xLcahLCGkh25VQIHyp2/eJB9qate/mvuu7/h+fcUr8rtvZ/fbT8f6sddNrFjBd3VtLPtmtLYXcy7GOyIlgGzjB/1bcDnj6Vn3vjPQtPnhiubuTMsSTFo7WWRIY3OEeVlUrEpwcGQqOD6HGXrmheIrrU7u70ldMDanpS2Fx9pnkxaspkIZQqfvQfNIwTH90HvgZWo/D/UJrtj5Sala3dpDBc27a/e6eqFIxGw2whllVh2ZVI55IOFS31/re/6feU7X0/rb/g/cdzc6xYWmr2Ol3E+y81BZGtotjHzBGAX5AwMBh1Iz2q7VCZNTj1TT0sRZjTFSQXYl3+cDgeX5eOMZzu3e2Kv0CM681y0s9WtNM/eT310crBAu5kjHWR+yoPU9TwMkgVo1z48Oy6f4pl1rRJkQ6i6f2pb3BZlnCrtV0bko6gAY+6w4wCdw6Cjp/X9f18hdTnJfEepWXiSzstS0eO3sNQuXtbS5S83yl1RnBeLYAqsI2IIdj93IGSF6OuNtNL8Ut47m1XV7PSbq0RzFYsuoyK1nAerCLyMNK38R3gYwowM7uig/tj+3rv7T9h/sjyo/svl7/tHmc79+fl2/dxjnrmjohvdmbF4h1KLxPbaZq2kRWlvf+d9jnjvPNcmMZIkTYAmVyRtZ+mDirWn+K9H1TU2sLK4keYb9jPbSpHNsOG8uRlCSYPXYTisTR9I8UDxfdap4gs9JnExeCC5g1GQvZ23VUjiMAG5iFLtv5IHZVUVPCXgW60DUbFL63W6g01GS2vm168lY/KUB+ySAxRkqSDtYgdgBwCPS/wDX9f8ADA9L2O8kcRRNIwYhQWIVSxOPQDkn2Fc9o/i0X0GuT6pYtpUejy7ZRNKHYJ5KSlm28KQHwQCw46mtCz0K2029ub20kvpJ5wxKXWp3E0WSc/Kjuypz/dUYHA44rl7Hwz4gv18VWniG00y1s/EIYmSyv5J3hJgSHG1oEBGELZyPTHel39PxKjy397ua/hTxWfE096FGloluQPJtdUW5uIiSflnjVdsTcdA78gjPFdJXLaHoerLrttqWtQabZmxsGsIYtOlaRZlZkbc25E2AeWMIN2Nx+aupqnbp/X9b/gQm3uFFFFIYUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQB/9k=) The general form of a complete second order model for price using age of appliances and crime per 100,000 people as predictors would be . Writing this out in R and getting the summary looks like this:

Chart, scatter chart

Description automatically generatedChart, line chart

Description automatically generated Using this information to write my complete second order model would be . The and adjusted would be 0.8088 and 0.8084, respectively. The value, again, is representing the variation that’s explained by the regression model. The value as well, again, is a bit lower that the value since its value only increases if the added predictor improves the models predicting power.

The normal Q-Q plot here looks a bit right-skewed, or positively skewed. The graph on the right, residuals against fitted values, has a bigger density on the left side when compared with the right side. To me, this is showing a heteroscedastic pattern. That is, the standard deviations of a predicted variable, monitored over different values of an independent variable or as related to prior time periods, are non-constant.

With the P-value of this model being , it is safe to say I would reject the null hypothesis of for the alternative of at the 5% level of significance. All of the variables besides one (the interaction term of the average appliance age to crime) have P-values of -16 and are all significant. The interaction term, however, has a P-value of 0.284. Even though this variable is higher than the 5% level of significance, because the individual variables (average age of appliance and crime) are significant, I will leave it in the model.

![Text

Description automatically generated with medium confidence](data:image/jpeg;base64,/9j/4AAQSkZJRgABAQEAYABgAAD/4RD6RXhpZgAATU0AKgAAAAgABAE7AAIAAAAQAAAISodpAAQAAAABAAAIWpydAAEAAAAgAAAQ0uocAAcAAAgMAAAAPgAAAAAc6gAAAAgAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAEJlbmphbWluIExlYW5uYQAABZADAAIAAAAUAAAQqJAEAAIAAAAUAAAQvJKRAAIAAAADNTQAAJKSAAIAAAADNTQAAOocAAcAAAgMAAAInAAAAAAc6gAAAAgAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAADIwMjI6MDk6MjUgMTY6MzI6MzcAMjAyMjowOToyNSAxNjozMjozNwAAAEIAZQBuAGoAYQBtAGkAbgAgAEwAZQBhAG4AbgBhAAAA/+ELImh0dHA6Ly9ucy5hZG9iZS5jb20veGFwLzEuMC8APD94cGFja2V0IGJlZ2luPSfvu78nIGlkPSdXNU0wTXBDZWhpSHpyZVN6TlRjemtjOWQnPz4NCjx4OnhtcG1ldGEgeG1sbnM6eD0iYWRvYmU6bnM6bWV0YS8iPjxyZGY6UkRGIHhtbG5zOnJkZj0iaHR0cDovL3d3dy53My5vcmcvMTk5OS8wMi8yMi1yZGYtc3ludGF4LW5zIyI+PHJkZjpEZXNjcmlwdGlvbiByZGY6YWJvdXQ9InV1aWQ6ZmFmNWJkZDUtYmEzZC0xMWRhLWFkMzEtZDMzZDc1MTgyZjFiIiB4bWxuczpkYz0iaHR0cDovL3B1cmwub3JnL2RjL2VsZW1lbnRzLzEuMS8iLz48cmRmOkRlc2NyaXB0aW9uIHJkZjphYm91dD0idXVpZDpmYWY1YmRkNS1iYTNkLTExZGEtYWQzMS1kMzNkNzUxODJmMWIiIHhtbG5zOnhtcD0iaHR0cDovL25zLmFkb2JlLmNvbS94YXAvMS4wLyI+PHhtcDpDcmVhdGVEYXRlPjIwMjItMDktMjVUMTY6MzI6MzcuNTM3PC94bXA6Q3JlYXRlRGF0ZT48L3JkZjpEZXNjcmlwdGlvbj48cmRmOkRlc2NyaXB0aW9uIHJkZjphYm91dD0idXVpZDpmYWY1YmRkNS1iYTNkLTExZGEtYWQzMS1kMzNkNzUxODJmMWIiIHhtbG5zOmRjPSJodHRwOi8vcHVybC5vcmcvZGMvZWxlbWVudHMvMS4xLyI+PGRjOmNyZWF0b3I+PHJkZjpTZXEgeG1sbnM6cmRmPSJodHRwOi8vd3d3LnczLm9yZy8xOTk5LzAyLzIyLXJkZi1zeW50YXgtbnMjIj48cmRmOmxpPkJlbmphbWluIExlYW5uYTwvcmRmOmxpPjwvcmRmOlNlcT4NCgkJCTwvZGM6Y3JlYXRvcj48L3JkZjpEZXNjcmlwdGlvbj48L3JkZjpSREY+PC94OnhtcG1ldGE+DQogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgIDw/eHBhY2tldCBlbmQ9J3cnPz7/2wBDAAcFBQYFBAcGBQYIBwcIChELCgkJChUPEAwRGBUaGRgVGBcbHichGx0lHRcYIi4iJSgpKywrGiAvMy8qMicqKyr/2wBDAQcICAoJChQLCxQqHBgcKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKir/wAARCAA5ALwDASIAAhEBAxEB/8QAHwAAAQUBAQEBAQEAAAAAAAAAAAECAwQFBgcICQoL/8QAtRAAAgEDAwIEAwUFBAQAAAF9AQIDAAQRBRIhMUEGE1FhByJxFDKBkaEII0KxwRVS0fAkM2JyggkKFhcYGRolJicoKSo0NTY3ODk6Q0RFRkdISUpTVFVWV1hZWmNkZWZnaGlqc3R1dnd4eXqDhIWGh4iJipKTlJWWl5iZmqKjpKWmp6ipqrKztLW2t7i5usLDxMXGx8jJytLT1NXW19jZ2uHi4+Tl5ufo6erx8vP09fb3+Pn6/8QAHwEAAwEBAQEBAQEBAQAAAAAAAAECAwQFBgcICQoL/8QAtREAAgECBAQDBAcFBAQAAQJ3AAECAxEEBSExBhJBUQdhcRMiMoEIFEKRobHBCSMzUvAVYnLRChYkNOEl8RcYGRomJygpKjU2Nzg5OkNERUZHSElKU1RVVldYWVpjZGVmZ2hpanN0dXZ3eHl6goOEhYaHiImKkpOUlZaXmJmaoqOkpaanqKmqsrO0tba3uLm6wsPExcbHyMnK0tPU1dbX2Nna4uPk5ebn6Onq8vP09fb3+Pn6/9oADAMBAAIRAxEAPwD6RooooAKKKKACiiigCnqesaZosCTaxqNpp8UjiNJLqdYlZz0UFiMng8U+21OxvYo5bO9t7iOVmSN4pVYOykhgCDyQQcjtg1wvxHsIbzxp4AMr3C/8TeRf3NzJFx9nkb+FhzlRz1xkdCQeR8MzLeeKvA+p67qV0ZZJNXt0muL+VRI63WI4/vAMccbf4goBBCjBHV287fgmD0X9ef8Ake40UUUAFFFFAEFve2t4862lzDO1vIYphFIGMTgAlWx0OCDg88ip68Q1HV7/AMMxeKPEtg9w0Wm+LJRdW8MhAmjktY4wCo4YiRoyM9Kxk1Pxdb+H9d0rUta1QXnhSxWGa+W5dGuZrmdHRup3bIwVBPTceKUfeSfkn96T/VL5hL3fv/Wx9EUVW06xj06xS3hkuJFBLbri4eZyScnLOSe/TOB0GBVmmAUUUUAFFFeOePvE91pGpeMLE6zcWd040uTToFuWRihlCytEAenBDFfx60btLuD0Vz2OivE7nW7keJtVW113UW1yLxbFb2GnC9kKSWxEPnL5OdrIEaRicfJwcrnntfhws12mtale319dTjV722RZ7uR444lnO1VjJ2jGOuM44zjAoj70U+6v+C/z/MctPvt+f+R29FFFAgoqK7gW6sp4JGkVJY2RjFI0bgEY+VlIZT6EEEdQa5f/AIQjS/8An98Qf+FHqH/x6gDraK5L/hCNL/5/fEH/AIUeof8Ax6j/AIQjS/8An98Qf+FHqH/x6gDraK5L/hCNL/5/fEH/AIUeof8Ax6j/AIQjS/8An98Qf+FHqH/x6gDraK5L/hCNL/5/fEH/AIUeof8Ax6j/AIQjS/8An98Qf+FHqH/x6gDraK5L/hCNL/5/fEH/AIUeof8Ax6j/AIQjS/8An98Qf+FHqH/x6gDraK5L/hCNL/5/fEH/AIUeof8Ax6j/AIQjS/8An98Qf+FHqH/x6gDraK5L/hCNL/5/fEH/AIUeof8Ax6j/AIQjS/8An98Qf+FHqH/x6gDraK5L/hCNL/5/fEH/AIUeof8Ax6j/AIQjS/8An98Qf+FHqH/x6gDraK5L/hCNL/5/fEH/AIUeof8Ax6j/AIQjS/8An98Qf+FHqH/x6gDraK5L/hCNL/5/fEH/AIUeof8Ax6j/AIQjS/8An98Qf+FHqH/x6gDoNO0ex0qa+lsIPKe/uTdXJ3s3mSlVUtyTjhVGBgcVdrkv+EI0v/n98Qf+FHqH/wAeo/4QjS/+f3xB/wCFHqH/AMeoA62is7RdKg0iyeC1lvJUaQuTeXs10+cAcNKzMBx0Bx1OOTWjQAj/AHG+lcv4y1C80zwzLcadMIJjNDF5gCl1V5FVjGrZDybSdq4O5sDDE4PUP9xvpWLrWjwa3p4tp5JoGSVJoZ4CBJDIh3K65BGQR0IIPIIIJFA0cGfE+tz2tnpltc6pcTzTXRW4sre2F7JDF5e0OkwWKJ/3oLB1U4XG0Mwq5rXjG/XwrpM2h3K3E8xs5Lu8MAQJE88cZHlkna7lmGOcBX5yBWynge3itSYNW1KLUnuHuJNVUw/aJGdQrZBj8vG1UXAQY2KRyM1FqHwy8JanpNtY3WjWr/ZliSO5eBJJ9kbhgpkdSSDghs9QzetC0svT+v63BWvr5/n/AJDNa8R38fjTRNO00qli199nvpSobzGNvLII19Nu1WJ/2lAP3hWbf+L9bOs6xJpiI1jBo01zp8Xlb2nkRwvmnHJUnIVR1AB/iGN2/wDh/wCF9Q1mz1WXRbGO9tLgXImjtIg0rBSoDttywGQRz1VT2pkPw78M2mryalpml2+mXD2j2u6whS3Khjy6sihg/bcD0pdvn+X+f9dQlrt5fnr+H9dCn4J8RDU9Wv8AToNfHiO1gtre5j1ECLJMhkVoyYlVDgx56ZGSDnFS28GrDx+LaHxLqNzZW0JuL22nhtvLHmEiKNSsKt/C7E7icKuc7s1q6b4eOnCeQ6tfXV7cPGZr24EPmOiHiPCxhAuNw4UH5mOc81cstLhsb7ULuN5Hkv5llk3kEKVjVAF44GEz35Jq3a9/6/r/ACJWxdrmfGq6hHpyz6Trl/p907Lb20FtHbsk0zthS3mxOcDOTgj5Qa6aqV9pcGoXmn3E7SBtPnNxEqkbWYxvH83HPDn05xU2uMwdTu9e0vWPDFoLyCWymuBbXc7oPPu38iVidoULGMxhvlySTj5QPmp3OueJLbUfFsciRzPZaXHc6bZ2UZlYMxnAySuXdvLQ4xgdBnBZuqv9Kg1G50+adpFawuftMQQgBm8t0wcjphz0xzioJtBt5tQv70T3MU19ax2rtFLsKLGXKspAyGzIec9hx1y3Zxd/Mu6Vrdl+f+RxLeJb7T9Dlt9S1rVdOvI7u3TULnV4bPzLGCUHEqmFfK2sylQzbtpznpirlprN/q/g66vLfxBfiPTrqaEX2m6elxNfKpHlsEEbqQQwyUQBsZBVa3o/Chjtbn/ie6q2oXLoz6nuhWcBPuqFWMRbRlvlKEHcSeeaB4TEOmQWun63qtjNG8kkl3DJG0k7SHc5dXRoyS3OQg29F2jIqXfX+u3/AAfv6kR0t/Xf/gfcX/D9/LqnhvTr+5MJnubWOWX7O4aMOVBYKQTkZz3NX5C4iYxKrSAHarNtBPYE4OPrg1W0zTbbSNLt9PsUKW9vGI4wzFjgdyTyT71bqpat2EtEcHHrfiCTSrm2u72GHUJtdXT1ntoQVto2VGITcCCQpYBnBBbBK4+WotR1/wAR2/w916bT7q3fUNHmuYHv7lBuKRqWVxGq7WkIKgj5VzlsEDYemufCtnc2d7B9ouoWurwXwnjdQ8Ey7drJkEcFAcMGB5BBBxSDwpZf8Ipe6C89zJFfJKLm5Zl86Vpc73J27QxyeigDgAADFEdLX8vyj/k/vHHSSvtf8Lv/ADX3GZ4ti1dprBdG8Sahp93fypBDbxQ2zwrgF5JG3ws3CKxxuAJCjjNLf3up6V410uJtVubi31CZo5baW0RLaGMRsVKyhQTKXVRtLnIZiEAGV6CTSoZdYtNRd5fNtIZIY0yNhDlCWIxnPyADnuaoy+F47jWo7261TULi3hn+0w6fK6GCOXBAYHZ5hxkkKXKgngDAwtn/AF/X9fcL4fO39f1/T5A+MNY0zTodbubw3dtqem3d5HaSW6hbRotrRhNqhyCpIYMWJIGMdK6HwdqF7Lc39hq15qM11AsUvlanb28coR9wDqYDtMbFTgEb1IO7ORiWDwJpUc85uZbq9t3gmtobS4dTFbRTEGVE2qGwxA5YsQBhSBxVzRPDkejXNzdSX95qV5cqiPc3pj3iNM7IwERVCgsx6ZJY5Jojote39f1/wAfl/X9f5eZ0EH3D9akqOD7h+tSUAIRlSPUVF5H+1+lTUUAQ+R/tfpR5H+1+lTUUAQ+R/tfpR5H+1+lTUUAQ+R/tfpR5H+1+lTUUAQ+R/tfpR5H+1+lTUUAQ+R/tfpR5H+1+lTUUAQ+R/tfpR5H+1+lTUUAQ+R/tfpR5H+1+lTUUAQ+R/tfpR5H+1+lTUUAQ+R/tfpR5H+1+lTUUAQ+R/tfpR5H+1+lTUUANRNi4znmnUUUAf//Z)![A picture containing text

Description automatically generated](data:image/jpeg;base64,/9j/4AAQSkZJRgABAQEAYABgAAD/4RD6RXhpZgAATU0AKgAAAAgABAE7AAIAAAAQAAAISodpAAQAAAABAAAIWpydAAEAAAAgAAAQ0uocAAcAAAgMAAAAPgAAAAAc6gAAAAgAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAEJlbmphbWluIExlYW5uYQAABZADAAIAAAAUAAAQqJAEAAIAAAAUAAAQvJKRAAIAAAADNzcAAJKSAAIAAAADNzcAAOocAAcAAAgMAAAInAAAAAAc6gAAAAgAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAADIwMjI6MDk6MjUgMTY6MzM6MTEAMjAyMjowOToyNSAxNjozMzoxMQAAAEIAZQBuAGoAYQBtAGkAbgAgAEwAZQBhAG4AbgBhAAAA/+ELImh0dHA6Ly9ucy5hZG9iZS5jb20veGFwLzEuMC8APD94cGFja2V0IGJlZ2luPSfvu78nIGlkPSdXNU0wTXBDZWhpSHpyZVN6TlRjemtjOWQnPz4NCjx4OnhtcG1ldGEgeG1sbnM6eD0iYWRvYmU6bnM6bWV0YS8iPjxyZGY6UkRGIHhtbG5zOnJkZj0iaHR0cDovL3d3dy53My5vcmcvMTk5OS8wMi8yMi1yZGYtc3ludGF4LW5zIyI+PHJkZjpEZXNjcmlwdGlvbiByZGY6YWJvdXQ9InV1aWQ6ZmFmNWJkZDUtYmEzZC0xMWRhLWFkMzEtZDMzZDc1MTgyZjFiIiB4bWxuczpkYz0iaHR0cDovL3B1cmwub3JnL2RjL2VsZW1lbnRzLzEuMS8iLz48cmRmOkRlc2NyaXB0aW9uIHJkZjphYm91dD0idXVpZDpmYWY1YmRkNS1iYTNkLTExZGEtYWQzMS1kMzNkNzUxODJmMWIiIHhtbG5zOnhtcD0iaHR0cDovL25zLmFkb2JlLmNvbS94YXAvMS4wLyI+PHhtcDpDcmVhdGVEYXRlPjIwMjItMDktMjVUMTY6MzM6MTEuNzY1PC94bXA6Q3JlYXRlRGF0ZT48L3JkZjpEZXNjcmlwdGlvbj48cmRmOkRlc2NyaXB0aW9uIHJkZjphYm91dD0idXVpZDpmYWY1YmRkNS1iYTNkLTExZGEtYWQzMS1kMzNkNzUxODJmMWIiIHhtbG5zOmRjPSJodHRwOi8vcHVybC5vcmcvZGMvZWxlbWVudHMvMS4xLyI+PGRjOmNyZWF0b3I+PHJkZjpTZXEgeG1sbnM6cmRmPSJodHRwOi8vd3d3LnczLm9yZy8xOTk5LzAyLzIyLXJkZi1zeW50YXgtbnMjIj48cmRmOmxpPkJlbmphbWluIExlYW5uYTwvcmRmOmxpPjwvcmRmOlNlcT4NCgkJCTwvZGM6Y3JlYXRvcj48L3JkZjpEZXNjcmlwdGlvbj48L3JkZjpSREY+PC94OnhtcG1ldGE+DQogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgIDw/eHBhY2tldCBlbmQ9J3cnPz7/2wBDAAcFBQYFBAcGBQYIBwcIChELCgkJChUPEAwRGBUaGRgVGBcbHichGx0lHRcYIi4iJSgpKywrGiAvMy8qMicqKyr/2wBDAQcICAoJChQLCxQqHBgcKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKir/wAARCAA6ALkDASIAAhEBAxEB/8QAHwAAAQUBAQEBAQEAAAAAAAAAAAECAwQFBgcICQoL/8QAtRAAAgEDAwIEAwUFBAQAAAF9AQIDAAQRBRIhMUEGE1FhByJxFDKBkaEII0KxwRVS0fAkM2JyggkKFhcYGRolJicoKSo0NTY3ODk6Q0RFRkdISUpTVFVWV1hZWmNkZWZnaGlqc3R1dnd4eXqDhIWGh4iJipKTlJWWl5iZmqKjpKWmp6ipqrKztLW2t7i5usLDxMXGx8jJytLT1NXW19jZ2uHi4+Tl5ufo6erx8vP09fb3+Pn6/8QAHwEAAwEBAQEBAQEBAQAAAAAAAAECAwQFBgcICQoL/8QAtREAAgECBAQDBAcFBAQAAQJ3AAECAxEEBSExBhJBUQdhcRMiMoEIFEKRobHBCSMzUvAVYnLRChYkNOEl8RcYGRomJygpKjU2Nzg5OkNERUZHSElKU1RVVldYWVpjZGVmZ2hpanN0dXZ3eHl6goOEhYaHiImKkpOUlZaXmJmaoqOkpaanqKmqsrO0tba3uLm6wsPExcbHyMnK0tPU1dbX2Nna4uPk5ebn6Onq8vP09fb3+Pn6/9oADAMBAAIRAxEAPwD6RooooAKKKKACiiigDjbf4naHe+ItQ0iyV530+7is5pxdWyR+a5C4UNKHbBODheSrAZIxWz4d8WaL4rju5NAv4bxLO4a3laNwcMO/Bzg84PfGRkc1wt74N16bUtXljsMpc+LrDUoj50fzW8axB3+9xjY3B5OOBXUeA9M1HR4das9TsZIA+rXN1BOZI2SeOWQupXaxYYBGQwXnpmiGsdf60j/m/uCWm3f8Pe/yX3nV0UUUAFQ3l0ljYz3coYxwRNKwUckKMnHvxU1UtZt5bvQr+3t13yzW0iIuQMsVIAyfeoqNqDcdyo2ckmZ+m+M9B1LQYdWGpW1rbyQwSut1PGjQecoaNZBuwrMGGBnnPGasXXinw/YXEkF9rum200TbJI5ryNGRvlOCCeD86f8AfS+oryW/+FWvanY+HtNeH7PZ3GiW9trO2dA0NxaxP5GMH5v3kg5Bx8g5xWz4M8G+I7XXvDmt+JLJP7QK6hcao4eM+TNN5axqMMc/JGFyM4A5NbSS52ltd/8AA/J/h3I1sv6/r/hz1aiiioGFFFFABVafU7G2uDb3N7bwzCFrgxySqrCJThnwTnaCRk9BmrNef+N9D1qfxUNS0fS31KO40G80wiOaOPyZJGRkZt7D5TgjK7iPSpk2tvP8nb8bIqKT3/rU6m58W+HLJolvNf0u3aZUaIS3samRXzsIyeQ204x1wcdKsvrmkx6oumSapZrfscLaNcIJSdu7ATOfugnp0Ga8dl0fVTquraBBof2+/uPBdjpzr50Si2dvOXcxY4KAjJ2lj8owp6jvvB/hq/0XxVrV1fxh0ntLCCK73AmcxRFXPXcPmPf1rRpXf9dWv0/EyTdlf+tF/m/u8zsqKKKkszdX8R6H4f8AJ/t7WdP0zz93lfbbpIfM24zt3EZxkZx6is3/AIWP4I/6HLw//wCDSD/4qt6f+H8aioAxv+Fj+CP+hy8P/wDg0g/+Ko/4WP4I/wChy8P/APg0g/8Aiq2aKAMb/hY/gj/ocvD/AP4NIP8A4qj/AIWP4I/6HLw//wCDSD/4qtmigDG/4WP4I/6HLw//AODSD/4qj/hY/gj/AKHLw/8A+DSD/wCKrZooAxv+Fj+CP+hy8P8A/g0g/wDiqP8AhY/gj/ocvD//AINIP/iq2aKAMb/hY/gj/ocvD/8A4NIP/iqP+Fj+CP8AocvD/wD4NIP/AIqtmigDG/4WP4I/6HLw/wD+DSD/AOKo/wCFj+CP+hy8P/8Ag0g/+KrZooAxv+Fj+CP+hy8P/wDg0g/+Ko/4WP4I/wChy8P/APg0g/8Aiq2aKAMb/hY/gj/ocvD/AP4NIP8A4qj/AIWP4I/6HLw//wCDSD/4qtmigDG/4WP4I/6HLw//AODSD/4qj/hY/gj/AKHLw/8A+DSD/wCKrZooAxv+Fj+CP+hy8P8A/g0g/wDiqP8AhY/gj/ocvD//AINIP/iq2aKAINI8R6H4g87+wdZ0/U/I2+b9iukm8vdnG7aTjODjPoa0qhg/i/CpqAIZ/wCH8a8p8dJFL4n1O+kVXXSLG1le4lA87TsySN5lqP4nfbtYZT7q4LnKD1af+H8ay73Q9J1K9trzUdLsru5tG3W089ujvCcg5RiMqcgHj0o6h0a7nnlmXtvGEet6ja6fNPPrdzYKUik+3KoWQpiQPzH5aqfJ24535zxUWh+J5B441/VZ7PWJ7uTRYpksm0u5jaMLLNtiVWTk4K5IyGbeRnGB6WNI00audVGn2o1Fo/KN4IF84p/d343Y9s1OLW3W7a6EEYuHQRtMEG8oCSFLdcAknHuaVnZeX+Vv+D+A2738/wDO/wDwPxPJ/D3iCe0tvFKxHWJr261SFZbtdFuy0Je2j3yCIxlgF2ttUg4/d54OTT0iGy1DwpoDXWlPrOnWtvfhrO7cRSRMJhi62XBXcEUkGQZZS/GSTXskVrbwSzSQQRxyTuHmdEAMjYC5YjqcADJ7AVSufDuiXtrBbXmj2Fxb28nmwxS2qMkT5J3KCMA5J5HrRLX7v0sJ/FcxdPW3vPhTYT+NLSC/SPTIrm9jvIhKrMsYYlgw5PGc461Y8C+Hrbw94ZjW3sbexmvWN5cw20aoiSPg7AFAGFGFHHRc9Sa25tOsrg3BuLO3l+0xCGffErebGM4Rsj5l+ZuDx8x9asAYGBVt3k2uv9f5fcK2iXb+v8xa8m0cx2niCPVlaG3OoXWpRxahIQs10VMh2XX9yOLy8Kctwq5EZ+WvWaoQaHpNtq02q22l2UOo3C7ZryO3RZpBxwzgZI4HU9hUNXTRXQ860GOb4f6fdaXb6bpdzfjTbeQX2h6VIXZmYxgzohd5QDl94xuAf5QervDEUeqfCzxBbRXuqxLDfagZJZI5LeWceY7YYuoYZyN23BByMjkV6Jpei6VokMkWi6ZZ6dHK++RLS3WIO3TcQoGT71PHY2kUEsEVrCkUzO0saxgK5cksSO5JJJz1zSqJzUl3TX4/16ji7W9U/wALf8Hy6HCeKdLstR+H8cy2+nzapZ6SssU13NtewTZkzxDB2uCuQRsyVALjFZUsxn8TSeIru0s5xBqlnawC5gcXyxyxxbfLkDjywDKzMgVg/wA4J616Ne6Bo2p/Zf7S0mxu/sZzbefbJJ5B4+5kfL0HT0FSS6Ppk+rQ6pPp1pJqNuhSG8eBTNGpzkK5GQPmPAPc+tac3v8AN53/AB/Xb8SLe4o+X9fL+vW7XH+P7ddQfQtONtBfNcXzEWF6QLW72wyMUlOGwBjeuFc7kHy4yy9hVXUdLsNYsms9Wsba+tWILQXUKyoSDkEqwI4qSk7HmraHoPiPwdoNhdada6ld3k76cL28s0aWCGJ5DKEY5IACMqEN/ErVL401RLfxNodh5GpW1jpepWiwxQabcNDMxPXeqFGCrhQuepbj5VNejQ6fZW6WyQWkES2ieXbqkQAhXGNqYHyjAAwO1ST20Fz5f2mGOby3EieYgbY46MM9CPWjaSfZpkNXi4+TRwMvh3R18S65q+g6Jp9peaLaSRwy2tokckl3JFvZiQASQrIB/vtVTwpZ6VZzXGlanBpH2TUtMtrqSW03xLKHkKqlwWc+c7kgeYcGTLAr2r0qK3hgaVoYY42mffIUUAu2ANx9TgAZ9hVKDw/o1rb3lvbaTYww3zM13HHbIq3Bb7xcAYYnPOc5pJW9P+H/AFf4WKer/ry/y/G+5g+AovsP9uaYbW3sfsl/kWdk262tleJGCRHavqWI2rhnPGME09JtLDS/iNbvpFtZQWOqafLJHPYS+Y1+ytGxmnOBkjcQrZfO9slcgHrLPQ9J062t7fT9LsrWC1cyQRQW6IsTkEFlAGFJDMCR6n1ostD0nTLy5u9N0uztLm7bdcTQW6RvMck5dgMscknn1qr6p+X6WHpZrv8A53NSD+L8KmqGD+L8KmpCEZA33hmm+Unp+tPooAZ5Sen60eUnp+tPooAZ5Sen60eUnp+tPooAZ5Sen60eUnp+tPooAZ5Sen60eUnp+tPooAZ5Sen60eUnp+tPooAZ5Sen60eUnp+tPooAZ5Sen60eUnp+tPooAZ5Sen60eUnp+tPooAZ5Sen60eUnp+tPooAZ5Sen60eUnp+tPooARUC/dGKWiigD/9k=) To use this model to predict the price of a house that has one-year-old appliances and is in an area that has a crime rate of 81.02 per 100,000 individuals would have an equation that looks like this: . Using this equation, the house price would be predicted at 864,287.47.

The two intervals here are prediction on the left, and confidence on the right. These are both set at a 90% level. The prediction interval indicates a 90% chance of the next house prediction, using this model, will fit between the lower (711,593) and upper limits (1,017,306). The confidence interval here shows 90% chance that the house price, comparing to the sample data, will fall between its lower (854,136) and upper (824,763.3) limits.

![Text

Description automatically generated with medium confidence](data:image/jpeg;base64,/9j/4AAQSkZJRgABAQEAYABgAAD/4RD6RXhpZgAATU0AKgAAAAgABAE7AAIAAAAQAAAISodpAAQAAAABAAAIWpydAAEAAAAgAAAQ0uocAAcAAAgMAAAAPgAAAAAc6gAAAAgAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAEJlbmphbWluIExlYW5uYQAABZADAAIAAAAUAAAQqJAEAAIAAAAUAAAQvJKRAAIAAAADMjgAAJKSAAIAAAADMjgAAOocAAcAAAgMAAAInAAAAAAc6gAAAAgAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAADIwMjI6MDk6MjUgMTY6Mzk6MjMAMjAyMjowOToyNSAxNjozOToyMwAAAEIAZQBuAGoAYQBtAGkAbgAgAEwAZQBhAG4AbgBhAAAA/+ELImh0dHA6Ly9ucy5hZG9iZS5jb20veGFwLzEuMC8APD94cGFja2V0IGJlZ2luPSfvu78nIGlkPSdXNU0wTXBDZWhpSHpyZVN6TlRjemtjOWQnPz4NCjx4OnhtcG1ldGEgeG1sbnM6eD0iYWRvYmU6bnM6bWV0YS8iPjxyZGY6UkRGIHhtbG5zOnJkZj0iaHR0cDovL3d3dy53My5vcmcvMTk5OS8wMi8yMi1yZGYtc3ludGF4LW5zIyI+PHJkZjpEZXNjcmlwdGlvbiByZGY6YWJvdXQ9InV1aWQ6ZmFmNWJkZDUtYmEzZC0xMWRhLWFkMzEtZDMzZDc1MTgyZjFiIiB4bWxuczpkYz0iaHR0cDovL3B1cmwub3JnL2RjL2VsZW1lbnRzLzEuMS8iLz48cmRmOkRlc2NyaXB0aW9uIHJkZjphYm91dD0idXVpZDpmYWY1YmRkNS1iYTNkLTExZGEtYWQzMS1kMzNkNzUxODJmMWIiIHhtbG5zOnhtcD0iaHR0cDovL25zLmFkb2JlLmNvbS94YXAvMS4wLyI+PHhtcDpDcmVhdGVEYXRlPjIwMjItMDktMjVUMTY6Mzk6MjMuMjgxPC94bXA6Q3JlYXRlRGF0ZT48L3JkZjpEZXNjcmlwdGlvbj48cmRmOkRlc2NyaXB0aW9uIHJkZjphYm91dD0idXVpZDpmYWY1YmRkNS1iYTNkLTExZGEtYWQzMS1kMzNkNzUxODJmMWIiIHhtbG5zOmRjPSJodHRwOi8vcHVybC5vcmcvZGMvZWxlbWVudHMvMS4xLyI+PGRjOmNyZWF0b3I+PHJkZjpTZXEgeG1sbnM6cmRmPSJodHRwOi8vd3d3LnczLm9yZy8xOTk5LzAyLzIyLXJkZi1zeW50YXgtbnMjIj48cmRmOmxpPkJlbmphbWluIExlYW5uYTwvcmRmOmxpPjwvcmRmOlNlcT4NCgkJCTwvZGM6Y3JlYXRvcj48L3JkZjpEZXNjcmlwdGlvbj48L3JkZjpSREY+PC94OnhtcG1ldGE+DQogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgIDw/eHBhY2tldCBlbmQ9J3cnPz7/2wBDAAcFBQYFBAcGBQYIBwcIChELCgkJChUPEAwRGBUaGRgVGBcbHichGx0lHRcYIi4iJSgpKywrGiAvMy8qMicqKyr/2wBDAQcICAoJChQLCxQqHBgcKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKir/wAARCAA1AMIDASIAAhEBAxEB/8QAHwAAAQUBAQEBAQEAAAAAAAAAAAECAwQFBgcICQoL/8QAtRAAAgEDAwIEAwUFBAQAAAF9AQIDAAQRBRIhMUEGE1FhByJxFDKBkaEII0KxwRVS0fAkM2JyggkKFhcYGRolJicoKSo0NTY3ODk6Q0RFRkdISUpTVFVWV1hZWmNkZWZnaGlqc3R1dnd4eXqDhIWGh4iJipKTlJWWl5iZmqKjpKWmp6ipqrKztLW2t7i5usLDxMXGx8jJytLT1NXW19jZ2uHi4+Tl5ufo6erx8vP09fb3+Pn6/8QAHwEAAwEBAQEBAQEBAQAAAAAAAAECAwQFBgcICQoL/8QAtREAAgECBAQDBAcFBAQAAQJ3AAECAxEEBSExBhJBUQdhcRMiMoEIFEKRobHBCSMzUvAVYnLRChYkNOEl8RcYGRomJygpKjU2Nzg5OkNERUZHSElKU1RVVldYWVpjZGVmZ2hpanN0dXZ3eHl6goOEhYaHiImKkpOUlZaXmJmaoqOkpaanqKmqsrO0tba3uLm6wsPExcbHyMnK0tPU1dbX2Nna4uPk5ebn6Onq8vP09fb3+Pn6/9oADAMBAAIRAxEAPwD6RooooAKKKKACiiigDz+H4orceJtU04aatva6fqUGm/artriNppZCowqi3K/xHAL84BO1WDV0PhPxfaeL7e/msba7t0s7uS1P2q3eIuUOCRuUdweOSOM4PFczd/D7VZ9Q1SdLizC3niaz1eMF3yIYRGGU/L987DgdOnIroPBuhah4eTVra++yvBcalPeW0sMrMzLK5fDqVAUjOOGbPtRD4fe3/wCBH/OQS8u/4e9/wDpaKKKACiiigArjdG+JejX2htf6q40x44bu5eFt8mILeZonkDBRn7oO0cjcOvWuyryi5+E+p3XhnQ9Pa8tEmtNQuTfEM5SexuJ2kkiHAyxAQYIx1570tb6f1/XXyHpY7Gf4ieF7dbcyankXMVvNDst5X3rOWEOMKeW2tgdeOldDa3KXdpFcRLIqSoHUSxNE4B9UYBlPsQCK8v0T4VappVvskvrWZ4/EEF5B8zARWEGRFCAF+8ATx05616rT0av/AFayf62+ROt7f1fX/h/mFFFFAwooooApX+sWOmXVhbX0/lS6hP8AZ7VdjHzJNjPjIHHyoxycDisaX4h+GYkgb7dNKblp1hjgsp5XkMD7JQERCx2n26ZIyATS+MNC1HVptDvtG+yvd6RqAu1hu5WijmUxvGV3qrFTh8j5T0rh7Hwr4q8O+IfDYtLazvbqEavNK5aVbUefMroplCEocHPKnO0gf3gl/n+Q7f19/wDwDvYvHPh64uNPgtL57qXUrdbq1W2tpZd8TMFD/Kp2qCQCTjb3xXQVwng7wHfeGdY065uLq3njt9Ie0mKbgWmefzmKgj7nJAyc9OK7uq6ff+bt+BKb/L8v8wooopDMzWNfs9D8n7dFfyedu2/Y9OuLrGMZ3eUjbeoxnGecdDWZ/wAJ/o3/AD66/wD+E5qH/wAYroJ/4fxrLu9d0mw1G30++1Sytr26/wBRbTXCJJNzj5VJy3PHFAFP/hP9G/59df8A/Cc1D/4xR/wn+jf8+uv/APhOah/8Yp8fi7w3Nq39lw+INKk1DzDF9kW9jMu8dV2bs5GDxitNbmBppYVmjMsIDSIHG5Ac4JHbOD+VHS4dbGT/AMJ/o3/Prr//AITmof8Axij/AIT/AEb/AJ9df/8ACc1D/wCMVOvibQX0eTVk1vTm02Ntj3ou4zCjZAwXztByQMZ71Pb6zpl3pQ1O01G0n08gkXcU6tEQDgneDjggjrQBR/4T/Rv+fXX/APwnNQ/+MUf8J/o3/Prr/wD4Tmof/GK1554bW3kuLqVIYYkLySSMFVFAySSeAAO9Q6fqVjq9kl5pV7b31rJkJPbSrIjYODhlJB5GKAM7/hP9G/59df8A/Cc1D/4xR/wn+jf8+uv/APhOah/8YrbqP7RD9p+z+ann7N/lbhu25xux1xnjNAGR/wAJ/o3/AD66/wD+E5qH/wAYo/4T/Rv+fXX/APwnNQ/+MVfm1bTrewmvrjULWK0t2ZZrh5lWOMq21gzE4BB4Oeh4p41KxbS/7SW9tzYeV532oSr5Xl4zv35xtxznOKAM3/hP9G/59df/APCc1D/4xR/wn+jf8+uv/wDhOah/8YqxeeJND0+/t7HUNZ0+1u7kKYLee6RJJdxwNqk5bJ4GO9XpLmCKeKCWaNJZsiKNnAaTAydo74HPFAGT/wAJ/o3/AD66/wD+E5qH/wAYo/4T/Rv+fXX/APwnNQ/+MVrXNzBZ27z3c0cEKctJK4VV+pPAqWgDE/4T/Rv+fXX/APwnNQ/+MUf8J/o3/Prr/wD4Tmof/GK26zb3xHoenWZu9Q1nT7S2EzQGae6RE8wEgpuJxuBByOvBoArf8J/o3/Prr/8A4Tmof/GKP+E/0b/n11//AMJzUP8A4xVy613SLGazivdVsreS+IW0Sa4RDcE4wEBPzdR0z1FOm1rS7fVodLuNSs4tQuF3w2jzqssi88qhOSOD0HY0AUf+E/0b/n11/wD8JzUP/jFH/Cf6N/z66/8A+E5qH/xitY3MAultTNGLhkMgiLjeVBALY64yQM+4qDTtX03WI5ZNI1C1v0hkMUjWs6yhHHVSVJweelAFD/hP9G/59df/APCc1D/4xV7SfE+n61dtb2UOppIqGQm70m6tVwCBw0saqTyOAc9eODSrq+mvq76UmoWraikfmvZidTMqcfMUzkDkc471oQffP0oAnooooAhn/h/GvPPGniDQpdWfwrcalpumXF0sMt9dXdxHCyRbvlWPcQXlO0hccIPmJztVvQ5/4fxqKjqHQ51FGreO5WmUNBosKCAHn9/KDub6iPaAfSRvWua1TRktrfx/aaRbyNJcabG7KC0sk7MkueSSzMRwOfQDgAV6PRR0D7SfY8qvZ9K1jVNS1K28Rx6XoHmadt1O3VHiE8XmsRvYGNMDyQWYEAgLjJAq7qinxD8J7u81eX+0fsrzNZ3RBjW5RZCI5yi4RiQAwONucMoGRXpFFO/9fd/kS4pq39df8zlvHkom8OzW8F1Ej29xaz3YwrmC389S0jIf4QFc5PHyHrgim+A7031pqkkV2up2q37Lb6qqRqb5diZcmNVRyrbk3KMEIPSuropLS/8AXb/Ip6/1/XcK5FNGsk+It+ESVGv9KzcSrO4kbMpHDg7lAHQKRt7YrrqKVtU+1/xTQdLen53PLEjtNI8EQxw+Tp1raeJbny7qTAtrHbcS7HkXIymQFxleWHzKeax9dku7n4UX8Nlpd5faQV1K5nvLWWDyp3MjsrgO6t5JZjIAgY/Koy/Jb2uinrr/AF0X+RfMufm8/wBW/wBTzLUL9rDXU1Gx16Sz1y7t7KKPw5PDCWuEDHIPDM4xI/zxNtUg5zg0t3LqTfF7RbrUdC1CMme5t7aZpbdolgER+ZQJSwyfnbKg42jB2ivTKKHdu5ly+7y+n4HmXxUurrUfDxe10y61LRkgS5S6s57cwySlwFLbpFYqo5GAwLMp4216VE7SQo7xtEzKCY3I3IfQ4JGR7Ein0UDfxXMrxLNqUOgXH9iWs9zePiNFt2jEiBjhnXzGVCVBJAJwSBXm3hvxRpnhXws8F3aQaXeS6vf21gNXuYY1UeaS5eUO2FXgNgksRxuyDXr1FK2/9dir6W/rqeYa9LoWl/DaHRbDXdOaWbTVihnkjDNqcQDDyrd1IBctwoXfs3D5DkZiub24tPFk6zXapqN3q1o9voUsMLm6gMcQaXJUyHysSEOpVVMZznv6pRVJ+9zCdmrf1/X9X0PJBNqjeOL+41bwzqn2y70O83xedb/NGHTy4oykrHAHGcZLuWwATjU8B6lp41m8nXVrPUIl06ytjfWrqsEe15FjgbqPO+fk5GdwwidG9HopR91W/rdv9f6uD1bff/gf5f1Y8ttrm2bx/bW3nJ56a7PP/ZIYG7gYwyIblzzmFlIIXAxvX5zwlerQffP0qOpIPvn6ULSKXYHvf+t7k9FFFACEA9QD9aNi/wB0flRRQAbF/uj8qNi/3R+VFFABsX+6Pyo2L/dH5UUUAGxf7o/KjYv90flRRQAbF/uj8qNi/wB0flRRQAbF/uj8qNi/3R+VFFABsX+6Pyo2L/dH5UUUAGxf7o/KjYv90flRRQAbF/uj8qNi/wB0flRRQAbF/uj8qNi/3R+VFFABsX+6Pyo2L/dH5UUUAGxf7o/KgKB0AH4UUUALRRRQB//Z)![A picture containing text

Description automatically generated](data:image/jpeg;base64,/9j/4AAQSkZJRgABAQEAYABgAAD/4RD6RXhpZgAATU0AKgAAAAgABAE7AAIAAAAQAAAISodpAAQAAAABAAAIWpydAAEAAAAgAAAQ0uocAAcAAAgMAAAAPgAAAAAc6gAAAAgAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAEJlbmphbWluIExlYW5uYQAABZADAAIAAAAUAAAQqJAEAAIAAAAUAAAQvJKRAAIAAAADNDgAAJKSAAIAAAADNDgAAOocAAcAAAgMAAAInAAAAAAc6gAAAAgAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAADIwMjI6MDk6MjUgMTY6Mzk6NDMAMjAyMjowOToyNSAxNjozOTo0MwAAAEIAZQBuAGoAYQBtAGkAbgAgAEwAZQBhAG4AbgBhAAAA/+ELImh0dHA6Ly9ucy5hZG9iZS5jb20veGFwLzEuMC8APD94cGFja2V0IGJlZ2luPSfvu78nIGlkPSdXNU0wTXBDZWhpSHpyZVN6TlRjemtjOWQnPz4NCjx4OnhtcG1ldGEgeG1sbnM6eD0iYWRvYmU6bnM6bWV0YS8iPjxyZGY6UkRGIHhtbG5zOnJkZj0iaHR0cDovL3d3dy53My5vcmcvMTk5OS8wMi8yMi1yZGYtc3ludGF4LW5zIyI+PHJkZjpEZXNjcmlwdGlvbiByZGY6YWJvdXQ9InV1aWQ6ZmFmNWJkZDUtYmEzZC0xMWRhLWFkMzEtZDMzZDc1MTgyZjFiIiB4bWxuczpkYz0iaHR0cDovL3B1cmwub3JnL2RjL2VsZW1lbnRzLzEuMS8iLz48cmRmOkRlc2NyaXB0aW9uIHJkZjphYm91dD0idXVpZDpmYWY1YmRkNS1iYTNkLTExZGEtYWQzMS1kMzNkNzUxODJmMWIiIHhtbG5zOnhtcD0iaHR0cDovL25zLmFkb2JlLmNvbS94YXAvMS4wLyI+PHhtcDpDcmVhdGVEYXRlPjIwMjItMDktMjVUMTY6Mzk6NDMuNDgzPC94bXA6Q3JlYXRlRGF0ZT48L3JkZjpEZXNjcmlwdGlvbj48cmRmOkRlc2NyaXB0aW9uIHJkZjphYm91dD0idXVpZDpmYWY1YmRkNS1iYTNkLTExZGEtYWQzMS1kMzNkNzUxODJmMWIiIHhtbG5zOmRjPSJodHRwOi8vcHVybC5vcmcvZGMvZWxlbWVudHMvMS4xLyI+PGRjOmNyZWF0b3I+PHJkZjpTZXEgeG1sbnM6cmRmPSJodHRwOi8vd3d3LnczLm9yZy8xOTk5LzAyLzIyLXJkZi1zeW50YXgtbnMjIj48cmRmOmxpPkJlbmphbWluIExlYW5uYTwvcmRmOmxpPjwvcmRmOlNlcT4NCgkJCTwvZGM6Y3JlYXRvcj48L3JkZjpEZXNjcmlwdGlvbj48L3JkZjpSREY+PC94OnhtcG1ldGE+DQogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgIDw/eHBhY2tldCBlbmQ9J3cnPz7/2wBDAAcFBQYFBAcGBQYIBwcIChELCgkJChUPEAwRGBUaGRgVGBcbHichGx0lHRcYIi4iJSgpKywrGiAvMy8qMicqKyr/2wBDAQcICAoJChQLCxQqHBgcKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKir/wAARCAA7ALkDASIAAhEBAxEB/8QAHwAAAQUBAQEBAQEAAAAAAAAAAAECAwQFBgcICQoL/8QAtRAAAgEDAwIEAwUFBAQAAAF9AQIDAAQRBRIhMUEGE1FhByJxFDKBkaEII0KxwRVS0fAkM2JyggkKFhcYGRolJicoKSo0NTY3ODk6Q0RFRkdISUpTVFVWV1hZWmNkZWZnaGlqc3R1dnd4eXqDhIWGh4iJipKTlJWWl5iZmqKjpKWmp6ipqrKztLW2t7i5usLDxMXGx8jJytLT1NXW19jZ2uHi4+Tl5ufo6erx8vP09fb3+Pn6/8QAHwEAAwEBAQEBAQEBAQAAAAAAAAECAwQFBgcICQoL/8QAtREAAgECBAQDBAcFBAQAAQJ3AAECAxEEBSExBhJBUQdhcRMiMoEIFEKRobHBCSMzUvAVYnLRChYkNOEl8RcYGRomJygpKjU2Nzg5OkNERUZHSElKU1RVVldYWVpjZGVmZ2hpanN0dXZ3eHl6goOEhYaHiImKkpOUlZaXmJmaoqOkpaanqKmqsrO0tba3uLm6wsPExcbHyMnK0tPU1dbX2Nna4uPk5ebn6Onq8vP09fb3+Pn6/9oADAMBAAIRAxEAPwD6RooooAKKKKACiiigAorxjxxqut2HjTxjef2k8lnpGhQT21ik1zAgaRnUk+VOuW4OWxnG0DbjJ7LwfqGt3vjnxdDqeoQ3FlZXEMVrAluUMQaFXHzbyD9454yTzkDCgWq/rvYHp/Xkn+p2tFFFABRRRQAUV4np3xF1/QPCduX8vUZb6PUV097oySSSXqXpjjiZt3KFXUAcEBDzjpoWPxV1zXp9NGiRaZHDd3Npp8r3EMjmG6eCSWcYWQZ2ERjbnOdwJ7gWu39a2/r1XcbTTflf8P6/BnrlFMgEq28YuXSSYKBI8aFFZsckKSSBntk/U0+gQUUUUAFFFc7r/iC60rxV4Z0y3jhaHVrieKdnUllCQNINuCADlR1B4oA6KivMdM8deJ9ek8P2mmjSbW41SzvriSWe2lkRDBMqKAokU4Ibnnrz22mx4Z8d634s1LQ4bOPT7KG80gahdGWF5WDrN5bomHXAPOCc44yD0oWtvP8A4P8AkxN2v5f8D/M9GooooGFFZ+spqr2aDQ7yztLjzBue8tGuEK4OQFWSMg5xzk9DxzkYvkeN/wDoP+H/APwRT/8AyZQB1VFcr5Hjf/oP+H//AART/wDyZR5Hjf8A6D/h/wD8EU//AMmUAdVRXK+R43/6D/h//wAEU/8A8mUeR43/AOg/4f8A/BFP/wDJlAF/UvB2havNqUuo2PnPqlslpeHznXzYkJKrwwxgseRg81ZtPD+nWOt3erWkMkV5eqq3BE8myTaAATHu2bgABuxnHGax/I8b/wDQf8P/APgin/8AkyjyPG//AEH/AA//AOCKf/5Mo2A6qiuV8jxv/wBB/wAP/wDgin/+TKPI8b/9B/w//wCCKf8A+TKAOqorlfI8b/8AQf8AD/8A4Ip//kyjyPG//Qf8P/8Agin/APkygC2PA3hz7Hp1qdMRodMvTf2itI58qcszl8k5PzOxwcj24FLa+CPD1iIha6cIxFqL6mmJpOLlwQ0n3u4Y/L932qn5Hjf/AKD/AIf/APBFP/8AJlHkeN/+g/4f/wDBFP8A/JlG39en+S+5A9d/63/zf3s6qiuV8jxv/wBB/wAP/wDgin/+TKPI8b/9B/w//wCCKf8A+TKAOqorlfI8b/8AQf8AD/8A4Ip//kyjyPG//Qf8P/8Agin/APkygDqqzNa8Pab4gW1GqQyO1pN58EkNxJA8b7SuQ8bK3IYgjOCDzWR5Hjf/AKD/AIf/APBFP/8AJlHkeN/+g/4f/wDBFP8A/JlAFS4+F2iSajpJt/MtNN0u0ubaOzglljb986MWWZXDrjawwOocjpwehsfDWj6ZeW91p9ilvLa2YsYfLJCpACGCBc46gc4z71k+R43/AOg/4f8A/BFP/wDJlHkeN/8AoP8Ah/8A8EU//wAmUf1+f+bD+vy/yR1VFYujR+I0vHOuanpd3b+WdqWemyW7hsjBLNPICMZ4wOo54wdqgCOf7g+tYGv6lq2m25m0rSre9jiiaWdri9+zhVUZwuEfc3XrtH+1W/P9wfWuO8X6Xr2r3Fpb6fbafeaRtY3tpdX0lsblsjarMsUmY+pZeN3AOV3KyY0MvPFWtJJpc+m6LY3djqskK2zPqTxXBV13Mxi8gqNq7mI39F9SBWjF4lWXxZPo32G4jjgtWnN3MuxHKsoKoDywG4Hd07DPOJE0y6n8SWuqXghRLexaFYY5C+yV2UuQSoyMIoBwD14FLcaRJceKF1BzGbb+z5LRkydxLOrdMYxhT3pvy8/ydvx/MjW33fmr/gc6fiO1vo1xqGo6XHaq2mNqlgrXmfPhBAxISgETZePIG8Dd1OK0rTxbJJ4Sm1uS2s7/AAzLDHoV6b9JsD/np5aBecgk/KMZLVlWHg/WYYrdr5NJuZdJ04adYpIXeO6UPGxeUFR5bEQoABv2nJ+bGDsaRod/Hb65c6ilnb32sSF2gtZGkiixEsa/OVUsTtyW2jqBg4ySfwvl8/z0+9Fx+LXv+n5XL6a7EvhJNeuYmjiNmt28aHcQCm7aDxk9u1VfCviOXxFb3LzRacvkOELadqS3sYOMlGYKpV17rjHIwTzhk3h6e88EJ4aujCIZdLNnPcKxYq+wINqFcMv3jyR0AwcnDfDukapBrV/q2tJZW01zBBbJa2MzSxhItxDlmRPmJcjG3gKOTVytzO2xnHm5E5bnSVz+oa/qOmaxbpd6VCulXF0lol0LzMxd/unyQmNu7jO/PfbXQVyR0zxHN44Oo39npl5p8Em2wJ1CRGtIyuHfyfIKtKcsNxfhTtG3LFoW5b+FkNj8QYrybU5PJsRaWNtLcny9TR7lUTkNLBjMauPmU5bgjIUnFNsvHstz4Rl1swaRc/v4baBNM1b7VH5srKoWWTyl8vBdc4DYBzg8AwW3grUo5be1ePSRp+mQXUVoXVpTd+d/DPHtUBR/EAzbyAfl6U+68Ka3qaalfXK6faXl39lQ6fBcyPbTxQMzGOWTy1JEgcqfkICgAhhkFR8/L89f+GDr9/8AwxqR+MEj8M3upahZ+Vc2M72slrBL5gkmU4CRuQu7JIAJAxzkDBrOn+Ie1dJFvaWAlv7WC5eK81RLdiZfuxQ7l/eycNwdg4HIzxFD4E1G40fZc6q+kTRzzS2llpbRy21orxiNY1M0J4ADHKqmPMcDiqbfD/WLfQV062uLK6lvtIg0q/urpyr26x7vniCR/vMCRgFOz7ikkkmqj5+X5O/4/wBd1rdfP89Pw+89HqpqM17BZM2mWaXlySAkUs3lJ16s+GIA9lY+1WUXZGq5LbQBk9TWV4mi1ufQ5YvDElvFfuyqJLiQxhUz85Vgj4bbnBKkA8kHGCmNeZkN4r1dtEu72HStMSTTZZotRW51SSOOExgNlHWBi4KnPKqR0xVe98fXVhbaal5pun2eo3Nuk89ne6ukHl7yQkUbsn7yVtrYXCj5TlhVuHw9ey+FbXSJLKy02OO9ikmit72S5EkSyCRiZHjRmd2B3ZHOSSTk0zxT4Yv9Svbu50iPT5JNS046Zctesw8mPcxDqFU78b2yhKg4X5hijb+vL9X9wK3X+tf0V/Uu3/iDUtN1a2W70mGPS7m5S1S5+2Zn3uPlPkhCNu7jO/PfGKo+H/Glz4kvdTh02HRX+xPNGkS6wWuNySFFMsQhPlK20nOWIBHBpltoviOPxZFdX9tp1/p9mVisJJNRkR7aPYFeTyvIKvM3zfMX4U7Rtyxaxp+g6kfEVnd6haaVZ22lpOlsdPZ90/mkZLIVAjHGSoZ8sQc/Lyaev9f1/SFr+X9f1+pZ8P65rGp6vqVlquk2doljsUz2l+1wryMNxj+aKMgqpUnqPnHvhJvEWpWXiGztNR0iKCwv7p7W1uFvN8xcIzhniCYVWEbYIdiMrkDJ22dE0280fQo4CIJ7yS4ea4YysqkySlnIO0k4DHAwM4AyByMyx07xH/wmMuo6tZ6bcW3mPHazLqMm61gPQLD5G3e2BuJfPOAcAChbofRnYQffP0qeoIPvn6VPQAyVSygLzzUXlP6frViigCv5T+n60eU/p+tWKKAK/lP6frR5T+n61YooAr+U/p+tHlP6frViigCv5T+n60eU/p+tWKKAK/lP6frR5T+n61YooAr+U/p+tHlP6frViigCv5T+n60eU/p+tWKKAK/lP6frR5T+n61YooAr+U/p+tHlP6frViigCv5T+n60eU/p+tWKKAIokZWJYY4qWiigD//Z) Changing the variables, so that the house has 15-year-old appliances and is in an area that has a crime rate of 200.5 per 100,000 individuals (at a 90% level) would yield a house price prediction of 270,867.85. The prediction interval indicates a 90% chance of the next house prediction, using this model, will fit between the lower (118,454.4) and upper limits (423,648.8). The confidence interval here shows 90% chance that the house price, comparing to the sample data, will fall between its lower (265,846) and upper (276,257.2) limits.

![Text

Description automatically generated](data:image/jpeg;base64,/9j/4AAQSkZJRgABAQEAYABgAAD/4RD6RXhpZgAATU0AKgAAAAgABAE7AAIAAAAQAAAISodpAAQAAAABAAAIWpydAAEAAAAgAAAQ0uocAAcAAAgMAAAAPgAAAAAc6gAAAAgAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAEJlbmphbWluIExlYW5uYQAABZADAAIAAAAUAAAQqJAEAAIAAAAUAAAQvJKRAAIAAAADNzIAAJKSAAIAAAADNzIAAOocAAcAAAgMAAAInAAAAAAc6gAAAAgAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAADIwMjI6MDk6MjUgMTY6NDY6NTYAMjAyMjowOToyNSAxNjo0Njo1NgAAAEIAZQBuAGoAYQBtAGkAbgAgAEwAZQBhAG4AbgBhAAAA/+ELImh0dHA6Ly9ucy5hZG9iZS5jb20veGFwLzEuMC8APD94cGFja2V0IGJlZ2luPSfvu78nIGlkPSdXNU0wTXBDZWhpSHpyZVN6TlRjemtjOWQnPz4NCjx4OnhtcG1ldGEgeG1sbnM6eD0iYWRvYmU6bnM6bWV0YS8iPjxyZGY6UkRGIHhtbG5zOnJkZj0iaHR0cDovL3d3dy53My5vcmcvMTk5OS8wMi8yMi1yZGYtc3ludGF4LW5zIyI+PHJkZjpEZXNjcmlwdGlvbiByZGY6YWJvdXQ9InV1aWQ6ZmFmNWJkZDUtYmEzZC0xMWRhLWFkMzEtZDMzZDc1MTgyZjFiIiB4bWxuczpkYz0iaHR0cDovL3B1cmwub3JnL2RjL2VsZW1lbnRzLzEuMS8iLz48cmRmOkRlc2NyaXB0aW9uIHJkZjphYm91dD0idXVpZDpmYWY1YmRkNS1iYTNkLTExZGEtYWQzMS1kMzNkNzUxODJmMWIiIHhtbG5zOnhtcD0iaHR0cDovL25zLmFkb2JlLmNvbS94YXAvMS4wLyI+PHhtcDpDcmVhdGVEYXRlPjIwMjItMDktMjVUMTY6NDY6NTYuNzI0PC94bXA6Q3JlYXRlRGF0ZT48L3JkZjpEZXNjcmlwdGlvbj48cmRmOkRlc2NyaXB0aW9uIHJkZjphYm91dD0idXVpZDpmYWY1YmRkNS1iYTNkLTExZGEtYWQzMS1kMzNkNzUxODJmMWIiIHhtbG5zOmRjPSJodHRwOi8vcHVybC5vcmcvZGMvZWxlbWVudHMvMS4xLyI+PGRjOmNyZWF0b3I+PHJkZjpTZXEgeG1sbnM6cmRmPSJodHRwOi8vd3d3LnczLm9yZy8xOTk5LzAyLzIyLXJkZi1zeW50YXgtbnMjIj48cmRmOmxpPkJlbmphbWluIExlYW5uYTwvcmRmOmxpPjwvcmRmOlNlcT4NCgkJCTwvZGM6Y3JlYXRvcj48L3JkZjpEZXNjcmlwdGlvbj48L3JkZjpSREY+PC94OnhtcG1ldGE+DQogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgIDw/eHBhY2tldCBlbmQ9J3cnPz7/2wBDAAcFBQYFBAcGBQYIBwcIChELCgkJChUPEAwRGBUaGRgVGBcbHichGx0lHRcYIi4iJSgpKywrGiAvMy8qMicqKyr/2wBDAQcICAoJChQLCxQqHBgcKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKir/wAARCADTAecDASIAAhEBAxEB/8QAHwAAAQUBAQEBAQEAAAAAAAAAAAECAwQFBgcICQoL/8QAtRAAAgEDAwIEAwUFBAQAAAF9AQIDAAQRBRIhMUEGE1FhByJxFDKBkaEII0KxwRVS0fAkM2JyggkKFhcYGRolJicoKSo0NTY3ODk6Q0RFRkdISUpTVFVWV1hZWmNkZWZnaGlqc3R1dnd4eXqDhIWGh4iJipKTlJWWl5iZmqKjpKWmp6ipqrKztLW2t7i5usLDxMXGx8jJytLT1NXW19jZ2uHi4+Tl5ufo6erx8vP09fb3+Pn6/8QAHwEAAwEBAQEBAQEBAQAAAAAAAAECAwQFBgcICQoL/8QAtREAAgECBAQDBAcFBAQAAQJ3AAECAxEEBSExBhJBUQdhcRMiMoEIFEKRobHBCSMzUvAVYnLRChYkNOEl8RcYGRomJygpKjU2Nzg5OkNERUZHSElKU1RVVldYWVpjZGVmZ2hpanN0dXZ3eHl6goOEhYaHiImKkpOUlZaXmJmaoqOkpaanqKmqsrO0tba3uLm6wsPExcbHyMnK0tPU1dbX2Nna4uPk5ebn6Onq8vP09fb3+Pn6/9oADAMBAAIRAxEAPwD3vWvEMWjzW1rHZ3Wo393uMFlZqhkdVxubLsqKoyMlmAyQBkkAlz4n0nTNNtrzX7230MXHyrHqc8cDBx1TJbaSP9kkHqCRg1na7a6nZeK7DX9M06TVIo7SWzuLSCSNJgHZHV0MjKhwUwQWBwQRnGKp3q6zB4hGvDw5cail3pgtPsMVxB5tqwkZju8yRUwwZQ2xmwUH3hg0un9ef56el/kPq/67fl+h0mo69o+jrAdX1WxsBcttgN1cpF5p9F3EZPI6VV8Qa1c6U1hbabZRXt/qE5hginuDBGMIzszOFcgBVPRTkkdOo4Wfwb4g0pNPRH1O6gGixabNFogscoVLFlIvFx5ZDADaQfkGQeMa+qfDzSdQ1TwvJceH7PUI7JTFeTahBDLK0S27KgkJHz4bb0yM80/6/r+uv3y3Z6f1t/Xy+7e1XXNSsRpdnaabaXGr3+7MEl60cEexNznzfLLEA4A+TJyMgUl74nFl4i0bRCtjJfX+5riD+0Y0kt0CM29I2w8qllK8AdyehrK13wBoureNNI1Cfw1pV1bxxTJdyS2kTZ+RFiDAjLYwQOuPapPFT6qPEOgtpnhrUNQt9NujcyzW0tqilTBLHtUSTI2QXU9AMdCelNavUdvyOg1DxBo2k3dta6rq1jY3F0dtvDc3KRvMcgYUMQW5IHHrVNvEsTeNo/D1r9jndbV57orfx+dbkFdqmDO8hg2d3QYHqKz4YdR0Txlql2NEutTh1eSArd20sANqiIE8uQSSIdoO5xs3ffbjPVmpS6s3xG0y5g8NajNY2kE9tJeJNahCZWhIcK0wfavltn5c+gNKOrX9dP8AP+rD01Ogk13SItaj0eXVbJNTlXfHYtcIJnXBORHncRgE5x2NJ/wkGjf2rFpf9r2P9oTbvLtPtKea+0kNhM5ONrZ442n0rhpPC2rnxVdRXo1yWwudWTUFl09tPFt8rIyGQyKLgFdgU7S2VAwedo008M3cVqxisI0uH8Sf2g7qUDNF5v8ArCc8ny+MdccY7UR15b9fw2/zf3fcpaJtdP8Ag/5fiaen+P8Awtqeu3Gj2mu6e99DKIVhF5EWmbbkhAGy2OQeOCCO1acPiDRrjWZdIt9WsZdThG6WyS5RpkHHJQHcOo6juKy7VdR0zxpqP/Eoubqy1N4pVvYJYdkBWPYyyKzq/wDCDlVb73bFZuhWetWHi2SOwsdVstEkmnmuItSktHhDOS263MTtMCzktiT5QC2ApwKUbvcJabHXxXtrcXVxbQXMMs9sVE8SSAtEWGV3AcrkcjPUVPWXp6SLr2rs+iw2SM8Wy/R0LX/yclgBuGz7o3Z4HHFalMAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKoaxrVloNmt1qLTCN5FiRYLaSd3dugCRqzH8BV+uV+IMczaPYPBJqEPk6jDI82m2huZolGcssYjkz1/uHrUydreq/MfR/M39N1KDVrIXVql1HGxIC3VpLbPx/sSKrD64p1/qNrpluk99L5UbzRwK20nLyOEQcDuzAZ6c81xmtx22q/D2OO8vtZvkN0p8zUfD0s7zFW3BJrSOGMtHxj7qjgHdnFZuo6Bb638MbF9Q8IWW7Tb2OSK0h0vaTbLcqZHjt2BePzI1LGLludp3HrS317r7tP6/EEtj0DWtU/sbSZb77De3/lFR9nsYfNmfcwX5VyM4zk+wJq9XnPi638Ny/DYW+meGJjHl2061h8OzhreUNy4iEOYj1+Yhc54JqPxnpa+KdQsr6HTb64gWzRoTJazRNFJ9rh+bawDI4TeQSAwG4jAJo62/ra5N/wCvnb8D0qq9xf21pdWlvcSbJbyQxwLtJ3sFLkZHT5VJ59K8mvNMni0PT9DuPDdu9gt1qLQi80GfUYov9KYQxrBGVWLKNlZGIUKMDgk1cl8OWdz4V8D6r4s8NHU57OGOLUjPphu7lUNu6gOm1pGAkK5GDg8noTTstf67/wCX9aXbTWh6rRXlPjHSTd6pZMLCFNA/suOPT45fDNzf/ZZMtu2wwsj277THhiuRtwCpBB9L0qKWDR7OK4uXupY4EV55IyjSsFGWKnkE9cHpR3E9HYp6h4o0zTdSWwnN5NdFVZo7OwnufLDEhS5iRgmcHG7GcH0q/wDb7b+0v7P8z/SvJ8/y9p+5nbnPTr261w3i6Z9P1q7u/Cra5F4iaNF+zw6XNNY37jHlrK7R+WowdpdZEIB+ZvlwF1vw94et/H0Gr634UgvVu7QKbiHRjeEXCuMF9kbMp2kYc8YXqKlXuvO/5af18hy0Tf8AXT+vxO01XU4dH09ry5WRo1eNCIwCcu4QdSO7CrleW+JtLivdc1T7f4budS1j+0LV9OvP7PMqwWqmEkpMRtTDeaSoYOck4IOa9Cl1byvEMGlfYL5/Ot3n+2JDm3j2kDYz54c5yBjkA0J/1+P9eYGhWLbeLdLvNYfTbYahLOkzQtIumXPkK6/eBm8vy+MYzu68VtV5/wCGnmtPFl7b3Go+I4DJqdy62P8AZB+xOrMxDfaPs54I5z5o549qF8dvL/IH8N/66noFFcH4T8EWI/4m99aTwatDrF7cR3EmRIIzPKBGCwyImVt20YBLbupzTPDXga2jsf7Wa3nt9di1C+nhuZSfMCvLMFjywJEJDBtgwpPzdSSW9Fcb0lyo7+ivL/C+kwx6lozaXoN5p2q29tKuvXc1m8JuWMeCrylQtyxlwwZS+ApORu+bY+H3gmw0jQfD+pm1ntdXj01Irp5MiWXciEpLuG4hCoCqfuAYGBxVW3/rv/kLpc7iq9hf22p2Ud3ZSebBJnY+0jODg8HnqKdd2dtf2ctpf28VzbTKUlhmQOjqeoKngj2NcZ8OdJ0XRbeSxtPDo0vVoA8d1OuktAJVEhxifYEkGMEAMePTFR1sD2O5orM8R6QNd8OXunFtjzR/upB1jkB3I491YKfwrk5n1Gfw1rPiR9Ekk1K7ghtBZTQylliQ4fMYAZ1DyTNtXmRQAPvCi+40tjuLyeS1s5ZoLSa8kRcrbwFA8h9AXZVz9SBUGiatFrmi22pQQzQJcLuEU4XemCQQdpIzkdiRXDeAXfQI9fuJ9OkttKDQSW8en+HriyRyQVdo7TLyZyFB4BOM4x8xbZ3Etx8M7ARabqnm6bqNtNcQSabPFKEW5Dsyo6BpMLz8gJ7DnintJL0+X9foRd8t/X52PSaK8r1WHU9X03xHdWmmXcVndazbSyRXunSyGe1W3iDN9nDI8i7l5jyGIDKVJyh6f4d6f/Z+iXQilH2eW6Z4baPRp9LithtUFY4JiWClgWyOCWbFNar+uy/z/AuWljZ1rxFp3h8W39pNclrqQxwR2tnNcu7BSxASJWbgAnOKs6XqlnrOnx3umzCaCQkA7SpVgcMrKQCrAggqQCCCCAa57xhZavd694ZfQnihlhu5me4ntHuIolMDjLKrp1JwDuHJHXpWbqPglWfw5Y3xuNSjbVZ7zUpUQpHKzwSlg6rwIixC7CSCMKxbJyLXclux2mpajbaRps9/fyeXbwLuchSxPoABySTgADkkgU+K8R47YzA201wu5beZlEgOMlcAkEjvgmuS1fRrPwxouj29nmLSLbWo5pYmXKQo7ttVQANqLK6EdlA9BkanjKzOpaPHZwaa17eSSg2sgcxC0kAOJzKOU288r8xzgA5NTfRvz/Rf5/huPr8v8/8AL8djS1bUv7Lgt5PK83zrqG3xu248xwm7oemc471NNf20F7bWksm2e63eSm0ndtGW56DAPeuf1e3vbXwzotvqt6t/eRahYpNdLCIhMwmTL7ASFz1wOKzvG/h7Qp/EOka1rXhqHVYIzJDdSLpX22QAp+73IqM7KCD0BwT2603pG/nb8F/mTd81vJfm/wDI6vUdR+wXFhH5XmfbLn7PndjZ8jtnpz9zGPeluNVt7XVrTT7gOkl4r+RIV+R2UZKZ/vbcsB3CsR0OMvVhCG8Mi1i8mAX6eXH5Zj2L5EuBtIBXA7YGKb40y9lpcEBxdy6tafZxnn5ZQ8mPpEshPtmmt7edvy/zK6fK/wCf+R0dFFFIAooooAKKKKAIby8ttOsZry+mS3trdDJLLIcKigZJJrO1HxX4f0eO3fWtasNL+1J5kK39wtuzrx/DIQeMjIxx3qj4x+eTQIJ1VrKbV4luQ5+UgK7Rg/8AbVYvxxWf8Sdd0nSrPR4tU1SyspG1a0lVLi4SMlEmUswDEcAdT0FC1t62/L/MJaK/lf8AP/I7KCeK5t457aVJoZVDxyRsGV1IyCCOCCO9I1xClxHA80azSgmOMsAzgYyQOpxkZ+tcTr0P9va/eJFrGoR2KaIt1ANOvnhV3LSbZQ0ZBPA4Gdp7hsDGVrEWkz3XhLxB4q1S70+C709lnuhrFxZwrK0UbKMpIqoWw/TG7HOcCpvdXXf9Wv0DRNR/rZP9T0+ivJvG+rXUXiSS2XWbLS4Usom0m6v/ABJNp8bOc5kAEbJckHZlXZgBjKgPlt280fUPEPjDV7SbX9Rskh0u1MMdjcPHHHcMZv33ykFsbR8hO1v4gcDF2urivZ2O8orgZ7ywPjm6t/GPiCTT5YZIF0m2/tKSxjulKKWcKrqJmMpZSp3ABVGBuO7F1HVtSf4iXFvJq9hpl7HqMMdnFfeIpbYyW+V4Sy8ry5w4LjdkncSAylQFS1aS/rb/ADG9Fc9YqNLiGSaSGOWN5YseYisCyZGRkdsivL7vVUk8SahDa+IrqXxDBr0MVnpUeoH5bcmEy7rdThk2GQlnU7eoK8Vo2On6BpPxP1FNQ1a7tL66kgmsbe51u4UXRKkELG0u2UBgRtwQvAwBiktVF9/8kxN7+X6aHdwX9rc3dzawTBp7RlWaPBBTcNwOD2I6EccH0NWK52+/d/EXSDASJJrC5WdR0aNWiKk/RmIH++1dFTWwwooooAKKKKACiiigAooooAbJIkMTSSuqRopZnY4CgdST2FMtbq3vrSK6sp47i3mQPFNE4dHU8ggjgg+orO8Sy6NBorzeJJ7SCxiZXL3kqxxbwfkyWIB+bBAPcA9QK534e+I9Hi+D2mah/aVvLa6Zpsf214HEvkFIwWVgmSGA/hxn2oWzb6W/UdtrHaXNzBZ2stzdzRwQQoXkllcKqKBkkk8AAd6QXUDWgulnjNuU8wTBxsKYzu3dMY5zXNeLtT8PXHgRtT1S9tI7Ka3MtnLeSiJHkaNjHgPjLdwCMgjIGRWAl/JrvgLw1b6FZza/pTQRLqR0q6tif3ca/uG8yVBhmxuAJOFKkfNwtfeXa343/KxN9Y9nf8Lfmdpd+KfD9hplvqN9rum21jdY+z3U15GkU2RkbXJw3HPBq/aXdtf2cV3Y3EVzbTKHimhcOjqehDDgj3FeZaXqiweAfDGoXWsad4TntQ6wnXVjkS5Upg7Qlwvr/ezxyvSl8T+I9TuNO8Oz6ukOlWd3DNJcNc6zcaRF5ylRGDMkZddyl3EbFc98laLj6nqVUNV13SdBhjm1zVLLTYpG2I95cJCrtjOAWIyfavP9c1XxZaeA9Als5tM1AyXlismo2+ryDzy10gVQyQYdGUqGfjO5jsPQr4lvr6z8YQy+IbrSdBivtH+zC8uHa4jifzWMsMJdUVpHUxkbv+eY+RwDinor+bX3K/8AX66Jis/uT/Gx6DqmtaXodmt3rWpWenWzMEWa7nWJCxBIG5iBnAPHtVxWV0DowZWGQQcgivHbaO40dNHGu+I5fDPkeH4Y9PnnhgMzS7n3xZmRhv2+TuRQGbAwRgivVNCub288Pafdarb/AGa+mto5LiHBHlyFQWXB5GDkYoto/wCu/wDl8ge9v66f5l+s298RaJpup2+najrGn2l9c7fItZ7pEllydo2oTlsngYHWtKvIvGOqJD4g8Q2KXsMQuJbUzaNcSKLvVMKnNpkZUEAJ0cMysAYiC5S3SDo2eu1izeM/C9tqh0y48SaRFfiQRG0kvollDnouwtnJyOMVZuNe06012x0a4uPL1DUI5JLaHy2O9YwC53AYGMjqR7Vk6u6674ustCQCS2sNmoah3G4H/R4z7lwZPby17NR1X9f11Do/6/robC67pD60+jpqlk2qIu97EXCGdVwDkx53AYIOcd6Idd0i41mbSINVspdSgXdLZJcIZoxxyyA7gPmHUdx6155Gtw2vxeHdOu9FvmtNdOovNb3bT3kStKzuJowuISFdk3lzuAChRu+W5/wkXhrXfiPZ6VY6lpdn/YN9K5QzxxzXV5Ijq0cceQxA8xi7Y+ZiAM4bDjql5/8AA1/GwSsm/L/g/wCV/JPyPRqK8m8N6tqd545hW41awttSN7Ot5p9x4imaeSIB9sa2DRBEwAjB0OSq7tzBjnZ07UfGNz43160uLHT44ltLf5Y9XlkFuWEuGjUwKCxIGR8vQcntLfu8wdbHY2evaRqF9dWVhqtjdXdmSLmCG5R5IDnGHUHK8gjmm6T4g0bXllOh6vYakISBKbO5SbyyegbaTjoeteYeCLiTUdS8JMl/arcaTbSw3umW0ZMmnx+TtkF1I3z+Y0qoQCEHDcPt3jpvD2rRax8Qpbq01fS/EEJsZI1utJ4SxUSqVjlIdw7vknOV/wBWcLySL5fet6/hf+v6sTd2vax3VFFV9Q+yjTbk6jIsVoImM8jyeWqpj5iWyNoxnnNSVuRDWdMNjdXg1G0+y2bOtzP567ICn3w7ZwpXvnp3ptjruk6npr6jpuqWV5Yx7t91b3CSRLtGWy4OBgdfSuM8BeJPDSWfiZdN1vR47e21GaceVcx+XDBtQK5AYAR8YzwOMZrDv725vfD3iO/s57HxGv2uwuZ77Tw0VnPGjqJIcKZThETc5DPkPjAxtpLVJ90n9/8AkJO9/Vr7j1LTNX03W7P7Xo2oWuoW24r51pOsqZHUblJGalvL2106zlu9QuYbW2hXdJNPIERB6ljwBXE+B5Hn8SeIdZGs2usWV1DbF7yxhVLZpk8wMI8FidqeUCS7nPGRgKNbUPG/hhPAa+Lbi4S40bCzQSNEQZH34TargYbfjBOMdSQBmnLQa3sacvifQYNFj1efW9Nj0yU4jvXu4xC5yRgPnaeQe/aptK1zSdetnuND1Oz1KBH2NLZ3CTKrYzglSQDgjj3rlPCmuaVYeDtX8Qyapp135tzJfXkemXKXEdvIyriEMpO58BR/tMSQOQK3/Cmmz2GjedqEapqWoSG8vsYOJXx8ue4RQqA+iCn6/wBPt59dfTuL+v6/A2qKKKQyK6tYL6zltbyFJ7eZDHLFIuVdSMEEdwRVK91XRvC+m2/9rapa6bajbDFJf3YQMQOF3yHLNgdyScE1meNTrH9n240sT/YPN/4mZsSftggx/wAsB65+9j59udnz7ayfEnivwx4X8O6QLJ9LR9Qtza6Q1zIkUKxFVLM0jEbYwApYZy2FABbFK+jt/X9f59h211/r+v8AI7O6tLbUIYhcIJUSVJ0wxHzKwZTx7gH0qxXkGs3UWk6b4d0u01uzbw/BpQjttRk8RSaVBcSqQmRPCjhmCjIjLAYLHDbcr3lrdeJ18OaQ9pBo+sXb2yG7uX1F4InbaPnjKQPvB5OcL29eLstbd/8Agfp+RPX5f8H9TV1JtMWawOqTQxSfaR9k82bYXmKsAqjI3NtLcc/Tiq+r3egaRfWup67e2NjPhra2nvLhY/vYLKm4gZO0ZxycVyvxF1Pw5peq6HNqmo6daakNRtWP2m6RJEgEhJYBjwmRyQADgZ6DFDxNqYtPFmo6h/wk8elTvp0LaKqQwyfb/vkxoXVjIGfZlItrHKc8rjNPS/m1+C/4YevNy+S/N/1/w56fVOXVrCC7+zS3cSSjqpb7pyowT0BPmJgHk7hiprSSWWygkuY/KmeNWkQfwsRyPwNYGp+BtN1bxnYeJrp5Tf6ejLbOD/qgccAfdIxvzuDH5zgjAxbVnYE7q5svq+nx3n2V7yFZs7Spbo2UG0noGJkTCnk7hgUNq+npd/ZmvIRMG2lS/RsqNpPQNl1+Xqdw4rFu/AmmXvju18WTPKdTtIjFDJnmNTj5QPu4wZAcgt+8OGGFwT+BdNuPHkPi2R5f7Uhh8mOXP3Ez9wD7u3BccqW+c/MMDAraX+f6ClfXlOmooopDKeq6Xa61pc+n36F4JlwdrFWUg5DKw5VgQCCOQQCKswxtFBHG8rysihTI+NzkDqcADJ9gBXMeMtWuLaay03TZtWW9uRJME0mO1MpjjxuYtdfulUF1yPvEkY4BrC0jXdb8TWWi/wDE+OlRXGiveXNzbwQM7OkiqHBYPGoIJJwGHoR1pc1v67Jv9Aem/wDV2l/kej1Suda0uy1K20+81Kzt727z9ntpZ1WSbHXYpOW/CuEttb1/XdPtZ5teOhRjw9DqVxJDbQ5Ep35bMoYLHgZIxnphlwc695fT6p4c8I395D5FxdXlnNLFjGxmQkjHsTT6/NL721+gS0+5v7kn+p1VxfWlpNbw3V1DDLcv5cCSSBWlbBO1QfvHAJwOwNT1yfim3lXxZ4Wu/tTNE2oGD7LJbwugJt5m8xWZDIj/ACgZVwMZGOTWN8QvFl/o7ahPo0+qbtGtluLhbaOzFsC2SqzNORIwYLjEPIz3JAoXTzY2ndLy/U9Forz3U9W8QC/8QX1vrTQWuj31qkNkltEVlR44GkWR2UsQd7Y2lSCTksMAbFlNqeu+KtVH9tXGnW2kXkcC2NqkDeevlpIWlMkbMA28gBCvA65PB1t8/l/TE9De0/S4dNkvXgaRjeXJuZN5BwxVVwMDphRVyvOl17xVqHiy7bSbbUpray1RbN7dBYraCIFQ7SFn+0b9rFxgAfcG0jJb0WhaxT/rbQLWbX9b6lO30uC31S71ANJJc3QVWaRs7EUcIo7Lkk+5Y57YuV5xN4tvz40sXsrnVJNMudVbTiJ4rNLNyqurCMZ+071ZOpyp2txtIIh8N614j17xHZ3K6lrC2onu3vrNtMjjsxCjMsIhnaHMm75TlZGJBJ+XpSTVv69f1CWjt/X9aHptFed+Cdd8Va3eafqVza6m2m38bvcfafsItrbglRD5TmYkMNhEgJ6k7SMV6JVWa3DrYKKKKQBRRRQAUUVBeTyWtnLNBaTXkiLlbeAoHkPoC7KufqQKAJ6K5LxH4i1CLwtG8ek6xplzezi2JS0+1y2iHJaYrbGUfdB29fmK5wM1Q+GWoaVaeDdQWDz7Kx0/UL0s99by2yxx+fIQS0qr0H3vQ5DYNPv5Dton/XX/ACO8orA8U21rrfg28bz2ltGtJJh5EvyXC+WSASPvIcg4zg98jIOFd+HpvEPgHwmkOm6Zqq2i29xLZao5SGZfszpgny5OQXDDK9u1Jbtdrfjf/IWl0u6f4W/O53lFeYvbWus6Ro14ng6C+0CyF3bz6JbG2NvFOsgUToJSkbxjZKA3BxJnbycQ2+s6/DofhrR7MamJLqC6nEmlSWsszRRyBYlV7shWXY6ndtLEAHjJo/r+vuA9UorzvXvFnirRvCejyXGhX41Ga7tI7qaA2hT5rlUaMhpuHdf7uVUuPnGCRU8TpL4m8XRabqfh+3kWTRjPb22uSxGG0bzWWaVlRn3yKvlY2HgFhvTdkj0V/Nr7lca1/B/e7Hp9FeI+IdZuL/4bWdlri6rPBb6It01wml3MqX05U+UzSKjKoUAOQx+8U5+U59nsrlL2xhuYVlVJUDKJoWicA+qOAyn2IBp2JvrYnooryLxpDBc654g1J7G1vYNMmtRPqMsKm80rCo5Frk5bgh+ChVmJXzSdgXWw+jZ67RVeTUbKK+gspbuCO7uVZ4Ld5AJJVXG4qp5IGRnHTNcb4r0yCx8UabriaJpsI+3WyzarbMBqEjO3liPbsG5DuXcfMJ2hvlOBQtWl3FfRtHdUVwl74W8O33xGso7HQdNhurBv7Uvr6GzjSUyEkRIZAMks29zzn92M8NRN4X8OXnxKtRp2gabb3GmE6le3sFnGkjTPuESFwuSTl5Dzn5Vz1oWtvP8Ar/P+mN6X/r+uh3dFec+HNe8VaxrsF/HbanLpst5PDcRyixFpBEhdRs2yfaPMDKoO/IJL/KvG23Y+LtevPF2s6e3hzVYYYbWFoVlazItmYSZZtkxZgxVcAbiMdB3Ta5eYOtju6K8e8ERO+qeEdXsbSzsl1a1lF5Iku681EeTuknuCmFBWUKAMuR5nVDlD0/g3TtMbxPear4TsorLQ1t/splhXaupTh8mb/bC8r5pyXLNyQMm3FqXKyea6uv6/r9DuqKKRjhSQCxA6DvUlC0VzGo+KNSt/DN/fjwxq1pcwhUghmijuWkZztDbLaSViqk5bjOAcA1w2hW/2/S/Fuk6LHqd5MdQtri5W7spbR79PKgM6FpUVVaQBxtJHDDopzQldv+uw1tc9gorifAiLbapr0dnpC6FpUbQ+XYB4sQS7W83KxExxkgRsVVj1DHBYgWfGGqC/8I2kug31rLa6je29ubyO4PleU8gUkPGckH7vBGc4yOoHdaLy/ElP9fwOtorziDQJLzw3rHha20fw3I2n6hbyPDbWxs7K6GY5SrxgS7G2jB+/n5TxnA6LwPNZ/wBmXtlZaHY6I1hePbz22nFWtzJtViyMqJu4YA5VSGDDHGS1re39bf5j1R0tFFFIAormvGur6jpOn25sQba1ml2Xuq7BINOix/rPL/i543EFUzvbKqQaPiuz8ODw9p1tq1iviKVk+z6XaXLfaGupWUYf5sgsAMmUj5F3HIBOVfS47a6nZ0V5rf3PiXSjonha0udWuLu30gSz3OmCzeaeRSqEk3jgFAeTtBYllyV/i6tNa1u10PTJb3wzfXmoTwKbuGwltgtvJgbgTJMoIyTjaW6dfWrLdf1q1+gjforjfHOnxSX3h+/laV5I9YtEjjZ/kjyxywXpuPTJyccDAJzjeL4bjUfEmszXUWh3FroVjDdw2us27TowIkZnVdyrGxKbRKQ5GCMYzmOZWu+jt+Cf6i1cuVdl+La/Q9LphmjWZYWkUSupZULDcwGMkD0GR+YplnP9qsYLgxtEZY1fY3VcjOD9K5bV/BEmqeOLLXhqUkMVsCWs0yIZz8mDLH/y0PynDZG0rHwdvNtNOzGmmrnWGaMTCEyKJWUuE3DcVBAJx6cj8xR5sYmEJkXzSpYJu+YjpnHpyK5O+8DSXnxAtvEf9pSJFCvNipIt5GymGePOHfCnD5GCkXynZyXPgaS4+IMXiT+0pFiRRmwGfs7sCvztH/FJgHEmRgrH8p28is7XFJtXtqdfRRRSGUdU0PSdbSJda0uy1FYX3xC7t0lEbeq7gcH3FZV94G0PU9cs73UNM0+6t7O2eGC0nskdI2Z1beueFPy44HfrUmv6rqUWsadouh/Zory+SaY3V5E0scMcWwN8ispdiZFAG5cDJycAGlqWp+KItf0vQtOfSmnuLCa4ur+a3k2RvG0YBWESZIbeRtLjHXccbWFumvP8ncJLTXy/P/Mu3/g7SdW8UJrOr2NlftDbJDBHdWqSGBldm3qzZweR0A6das6r4U8O69cpca5oOmalOibFlvLOOZlXJOAWBIGSePeud8RRale2XhS71u1sEeLUbV7mzZJHaO4J2h45ElUALubhlcHIpPEHijxDbeK20zSBpiW6vDFvuopHctLHK275XUYXys4/izjKfepaRj82v69b/wBdC/vW8r/n/l/W50GoeDvDGrzpPqvhzSb6WOMRJJc2MUjKg6KCynAGTxUt94Y0HU7xLvUtE027uY4jCk1xaRyOqEEFAxGQuGIx05PrXBy/ErWbmytJ9MswZV0y3vZraPRr28+0ySpv8pZIRth44DNvPzfdwvzemxSebCkhRkLqG2sMFcjoferaab8mGxC2nWTrOr2duwuGDzAxKfNYAAFuOSAqgZ9B6VWvfDuialqdvqOo6Pp93fW23yLqe1R5YsHcNrkZXB5GD1rSoqetwM258N6He6vFqt5o2n3Gow48q8ltUaaPHIw5G4Y7YNZ62XjQTAvr+gmPdyo0OYEj0z9r6++PwroqKNgMxPDWhx6pJqcejael/KweS7W1QSuw6EvjJPvmuU0T4YrpWu2l/JcaWxtJnmFzaaQIL65JDD9/ceY3mA7iWwq7iAeBwe+ooWmwbmbb+G9DtNYk1a10bT4dSlz5l7Haosz565cDcc/WtKiigAooooAKKKKACiioLy7jsbOW6nWZo4l3MsEDzOR7IgLMfYAmjYCeqzabYtZT2bWdubW4LmaAxLsl3kl9y4wdxJJz1yc1m3VxbeIfDM0sFrrEkRyRBD5+m3TlTnClzEy5I7lQfXFVfAtxNJo91bXTXSzWl7LEba8mM01spw6RvIS29tjKc7m+9jccUb3X9f1/XYL22NW+8P6NqemxadqWkWN5Yw7fKtbi2SSKPaMDCEYGAcDHQVVbwZ4XfS00x/DekNYRymZLQ2ERiVyMFwm3AbHGcZqj468TQeH9Mt7d9Us9KutSl+zw3d5MsSQDGXky3BKrkgd22joTXLW+qHVPgdqNzo3iaad9Ptr7fdW95505KeYYw02SynGxs53EYwQDzLlaLkOK5pxh3PQL7w7ompw2sOpaPYXcVmQbZLi1SRYMYA2Aj5eg6elSaro2l67aC11vTbTUbdXDiG7gWVAwyAcMCM8nn3rkfFNzcSJ4etlGoXyzwSSzafpt7Ja3U+1FxIsisnyqT8ys6g7x95gqnOt/GV9ZeGvD1lZXzXF3dQTSS3b6Veak0axOEMbRxhJS4ZgpeTacocgk1clZtef9fkSnomu39I9BXSdOTT4LFLC1WztyhhtxCojiKEFCq4wNpAIx0IGKZqeiaVrccUes6ZZ6gkL+ZGt3brKEb+8AwOD71x+rfEebSvC+k3t1pd9b395PbJNC2lXciIjziN8EIMMRuKo2GOV+Uk4NbxFqs3iHxGmm2MOvPGdLF1a29pJNprGV5HQyTSHYyKmxfkOSd5IR8DA9NfN/grjSv934N2PQ7i3hu7aS3uoY5oZFKvFIoZWB7EHgipK82vZdU1f4baTrHlatPrLafu+16ZqDQQQyBc+fJEJEEqZG7b5bkjjbzivQ7OeO6sYLiGUTRzRq6SAYDgjIOPejv5C7E1Zt14c0S+1aHVb3RtPuNRgx5V5Lao80eDkbXIyMEkjB71pVxPjHRre61Wxt7O/1e21XVLhQrW2r3UaQxR4aWTylkCAbQF+7jdIuc5pLdD6M66TT7Oa/gvprSCS7t1ZYbhogZIg33grYyAcDOOuKqp4c0SPW21lNG09dUb718LVBOeNvMmN3Tjr0rSrybVdW1afUNT1XTjqrXemausBf7W8NlDAkiL5PlE7ZnkVid2w4Lj512qKSa5rf1uv8weiu/wCv6sepw2ltbzTzW9vFFLcMHmdECtKwAUFiOpwAMnsBRBZ21tLPLbW8UUlw/mTPGgUytgLuYjqcADJ7AV5x9u1C08QxTXH9vf202teRMhWddPNo8pRNoY+Qf3ZRspmTcCTgb8a91otufiDYW+mX+sJNEW1G/B1e6ki8vJVI/KaQoA7kkDbjbEwGOKa1Sff/AID/AK9Alo2u3/BX5/mjox4a0JdcOtLounDVScm/Fonn/d2/6zG77vHXpxV5LaCO5kuI4I1nlCrJKqAM4XO0E9TjJx6ZNcJo3jrVdU8RW6paSS6bdXMsIiTRbxDboobbKbph5MgJQZUBcbxhm2/Nas/iJFe+JdV02Kz1DZb28UlsZNGvIiXYSFhIzRgIvyDBbaDzgnsuZctwtrY6a10DR7G6vLqy0mxt7i+JN3LDbIj3B5PzkDLdT1z1NV9L8IeGtDvPtei+HtK065KlPOtLKOJ9p6jcqg44HFcD4T1PVZtU8Nahbtqj2+t27i7udQunaK5laEyiSG2Zj5UasrLx5eQwwGBDDqvB5u4/EPiq0vdQub/7Newqj3D527raJiFUcKNxJwoA5qmnF2Yk1NXR1lFFIx2qSc4AzwM0hi1TudI028t7qC80+1uIbwg3McsCss5AABcEYbhVHPYD0rE1Hx5pVj4Zv9YZbuCK0CqBqNlNYh5HO1F3ToowWIBboucnFcTpficTeHvFsFt4xtNUvku4GWWG+Z1YSJAHSHy97xqzs8alASrHj5hRa9yl6nqtnp9np9hHY2FpBa2ka7Ut4IgkaD0CgYAqJNG0yPRzpMenWiaaYzEbJYFEOw9V2Y24OTxiuZ8BzONR1uzk/tK0EMkLJpuq3kl1cW4ZD85kdnBVypwEd1G08htyjqtQt5rqzaG3u3tCxG6WNQX29wueAT0zg47c8glorkRKh8MaAdEGjHQ9NOlg7hYm0j8gHO7Pl429eenWr1nZWunWcVpp9tDa20K7Y4YIwiIPQKOAK5LwnDHrnwl0STXL6+INlHNNcpqE0EpIXJZpUdXPvk896t+AbN4fD73pub+WHUp2uraK+u5bh4ICAI13SksMqocgnguRT6tf1/W/3DasdRRRRSAKyL7wn4d1S2trfU9A0u8gtF2W8VxZRyLCvHCAghRwOnoKreLPEU2hQ2UNpCn2jUJxbRXVyCLW2Y9GlYdMnAVcguxVcjORV8U2trbeGoJPEGs6oTbII1Njctay3lw2FTAhKlnJyFQHbluQcAhPa/8AX9f5jW9jUuPCnh280u30y70DS57C1OYLSWzjaKI88qhGF6noO9acEEVtbxwW0SQwxKEjjjUKqKBgAAcAAdq8+vfFHiLR7PRtIuJFGsDTEuL+4Oj3WohpOF27LbG3LBiXJwMYCnPHSp4shh0PTL7VdO1W2mvoFka2h0y5uXgYgEq4jjJUgnHzAZ/OrtvZ31/zX6MnsWdV8KeHdeuUuNc0HTNSnRNiy3lnHMyrknALAkDJPHvUl14c0S+kspL3R9PuH0/H2NpbVHNtjGPLJHyfdHTHQelYnjIXsN/oV1BqVxBAdUtofs0LeWr7mO4uRywxxtPHUkE4Iy/FN5q154i1JILO4udO0S2iuJIodYk09pCwdmZTEN0jBVwFdkTrkk/djmSV9rP9E7/iG8reX53X6HoNFRWtwl3Zw3MOfLmjWRcjnBGRXJ6x4e8Q3nj6w1Ow1M2+lQIwntA3+v5j/wCWn3ovu52oCG8vkjeadmnZjVmrnY0Vxt94d8Qz/Ea11a31QxaPFGRLYh/9acx8+Z99OgPlqNp8rkjzGoufDviKX4jxavFqZTRljw9hvPztuX5vN++vTPlAbDs5PztTWtvMUna9jsqKKKQzO1fQrDXIok1COXdC2+Ka3uJIJYiRg7ZI2V1yODg8jg0+20aytbi2njSV57W3a2ilmnklfy2KkgszEsSUXlsnjrWf4s8SDw1YQ3Bk0mLzZNgfV9TFjD0zgPsclvQBegOSMc5dt45vdXt9LPh7RYrubUNPN8PPvxFFGFZVZS6o5PLcFVIOOw5pXS2/rT/IH5/1r/mbOueFNL8RSwyaob8mAhoxbalcWyhgchtsUigsD0JGRUp8N6U10ty9uzzqYyJHmdmJjVlQkluSA7cnrnJyawF8dX+p29rJ4b0JLw3Glx6mTd3wt1jRtw8slUcl8rxgbTzkrgZfqt3DqsPhXxBp1zexLd3VuUWO7kSN4pVLYeNW2P25IOOxot06XS+d7fmvwCWju97P8r/ky/J4G0F0tVhhu7Q2lulrG9jqNxbMYk+4jtHIpcLzjcTjJx1OehHArlfE099F4s8MqBLHYSXpQyW+oNEzyGGVtkkPlkSR4XP3wd2OOOYvGnj2HwbKhuW0nyhF50kd3qy29xIgPPkRbG804B4JXJwAeeKu382Np3+R19Fcff8Aja/tdT1JLfQ1m0/SrqCC6u3vQjFZVjbdHHsO4r5nIYqMAYLEkDQTX9Sv/EFzZaLpltPZ2Fwtve3d1eNCQ5VXYRII337VZepQZOM8EhdbCeh0FFcJefFGwtPFTaWX0vyY71LCQNqqC9MjELuS12ksgZgCSwOAxCkAZ7uhapSWzDZ2CiuPufH0Np43g0CU6S3n3AthHHqytexsULBnttvCHHUOThlJA5xDYeO9R1HXNOig0W0Glahc3MMV2dRPnIICwdmhEWBkqcDfxkZ2k4ovpcHpoztqK4Xw38UNP8Ra9bWMD6W0d8HNoLXVEnuV2gt+/gCjysqCfvNg8HB4rq7e+uzdaiNQsPslpasPs9yZ1f7QmwMzbRymDlcHrjNGyuw62L9Fc9oev6rrFmNUk0m2tdIntzcWkhvWa4kU8pvi8oKmV5++xHAx1xU8NeLNZ1+GxupvDTWFpqVibq2ke63srAL8koCYjDbsqQWJA5VT8tOz/r5/5Cuv6/rzOsorh9H1q80Xwjq9/fW9xd3kWqyI9s+o/aAGeVV2RyNGmEG75VKjHTPeorb4mPHZX1zrWkR2UdpbzyAx3yuJHhn8h13MqBVL4wzEcEkhcczdWT8r/hf8h/52/Gx3tFcr4O8bweKrq+sw+lyXNmscjNpOpC+gKPuA/eBEwwKNlSvTacnPHVVTTQFXUtOg1Wxa1unuY42IJa1upbd+Dnh42Vh+B5qovhnSV8P3Oi/Zmexu0dLhZJnd5g4wxeQsXZiONxbPTnirOqi+bT3GlywwTEjMsqF9i9yF7tjgZOATk5xg53gnULrVvAeiahqM3n3d1YxSzS7Qu9yoJOAABz6Cla6f9b/8MPazNays4NO0+3srOPy7e2iWKJMk7VUYAyeTwO9Zd/4Q0fUdC/sa4iuUsNzs0NvfTwb95YsGKOCync2VJI56cCovGd1eWmkW72NzqNqGukWefTbP7VOkeDkrH5cmecDOw4rI1TV75PhhqGo+HNfku5bO1uZXv762QXCPGjHYYhGiq4YAEMgwBypJqZSupSfT/h/1HGPvRjH5GvJ4I0WWytLZ11D/AELd9nnXVLpbhA33l88SeYVOB8pbHA44GJLjwdodxp9nZi1kt47Hd9nktLqW3lj3fexLGyv83Vst8x5OTzWD4l8TS21zommtq1zprX1nJdPNY2y3F1OybAI4ojG4bO8s2EOFQ9Bkijb/ABNlsfDGk/2x/ZltrFy9xFN/a+ox2EX+jyGN2LgSDcTt+VAw5bnAq2mtyI9Gjt5tCsLnS7bT7qOW4t7WSKWLzriR33xOHRi5YsxDKD8xOcc5qLWPDOla9NBNqMMvnwBlSa3uZbeTa2NyF42UlDgZUkg4GRxXOXvxY8PWXhvS9UlvrCKTUZIAtpPfxo6RvMInlBydyJ8x3D5SFPIHNVvEXi/+0NZj0/w/4gmhjbTheWz6NBFeTXzu7IgXcrr5alDub5QCy5dRnI72+b++w1r934XOp1DwnpOppBFdR3K28EQhW1t72aC3aMfwNDG6o644wykEcdOK2FVUQIihVUYAAwAK8/1LXNauvhzZ+J4tXfSb37ErJp8FvFIl1eNwsTFgzMrPhQIyp5J3HgjvoGka3jaZdkhUF1B+6ccijuHRD6qDTLQawdU8om8MH2fzC7HbHu3YC5wMnqQMnAznAxbri/EviDVF1u1g0WbyLOzv7WG/m2K3nPLKi+QMg4wjbmIwRuTB60lrJL+tdBN2i2/66nSXOhabea9Y61cW2/ULCOSO2m3sPLWTAcbQcHOB1Bx2qrN4Q0SfXDq0tmxumkSV1FxIsMsifckeEN5buuBh2UsNq4PyjG1XHeIYNXg8Q6bDpfirUo59QuwwsTDaNDHbphpjzD5mNvyg787pF5oW6sO2jN6Hw7p0OsPqm25mumJZTcXk0yREjBMcbsVjJBI+QDgkdKsWumWlnfXl5bxFbi9dXnkZ2YsVUKoGScAAdBgck4yTnmdRg1e38ZaXa2HinUpDdTvcz2UsNqYY7VPvDIhD8syIPnzyTk4NRafqso8ZzQavr+tWrteyRW1hNpyRWUy4OxVna3G9iAWwJSTg9gRSW6X9dP1/Jg1a7/rr/XzN208KaVYau2o2S3lvK0jSGGK/nW3Ltnc32cP5WSSSfl5Y7uvNX4tNtINSub+KLbdXSIk0m4ncqZ2jGcDG49PWuN034o2Go+KYdMR9KMFzcyWsPk6skl2rIGO6S3C/Ih2NghmIyuVGTtuWnxO8NX2vX+mWmsaXO9tCkkBh1CN2umIcsiKDyV2DOM/e7UXXLfoFtbGrpfg/Q9FumuNNtHhcq6xqbiR0t1c5ZYUZisIJxkRhQcD0FN0bwbpGg6lPf6d/aH2i4/1zXGq3VwJDgAFlkkYEgKACRkAYFcLpfj3Uom0/U5L661ez1CzmmuF+yolrbTLC06x28oRWkACOhJMgBHLK3ynS8K+JdUuPEumwy6pc6xYapaSPLcNaRxW8NwoVwts6qrSR7S4LHeOFG/OQataVno/+H/y/q4uZNXvv/wAD+v8Ahj0WiiikMKy7vw1pN9BqEN1ab01KRZbn94wLOqqqupByjAIuCuCCoI55q7extLYzpHcTWrNGQJ4FVpIzj7yhlYEjsCp+hrlPDOqarqFrrFtaalNdy28sYtJ9bsvs84VlBLyQKkRKg7tvypu2kZx81G+gXsb2l+HdN0eK4SyjmZrrHnzXN1LcSyADABkkZnIAzgZwMnHWorbwppNj4Xh8PWEVzZ6bAoWKO2vZonQBt2BKrh+v+1z06VB4Hv7zUfCcFxqdy11cie4iaZkVS4SZ0BIUAZwo6AU/xdrNxouiJJYRtJd3VxFawBYvNIZ2xnbkZwMnkgcckDJoen4f8AStv6/8ESy8F6JYeG5tAt4bo6XMuxrea/nlATAGxS7kquBjaCAeeOTW6AFUKoAAGAB2rj9Mv7i68M6lb3eqeJLO/sZAbiSeztZbyIEBgESCJ4pAR02qx5I6jjQ8F6lc6nocj3lzLcvDdSwrJcwiG4KBvkMsYVdjlSDjapwVJUZp7sDoaKKKQyK5toLy1ltryGOeCZCkkUqhldSMEEHggjtWLqPgnRNUi0xLuO8H9kqVsng1G4heLK7T86SBidvGSScE+pqXxF4ji0L7HbRQ/a9T1GUw2FmHCec4XccueFVVBYnk4HAY4U1tfTUovDqXV74k/sQ2kDSXlxY20ZDvgYx5yvhM5+XG4krhhyCm0k2Ur7E914O0i8gtEmF95lojRw3Mep3MdwEY5KtOsgkZSQDhmIyB6CtmCFbe3jhjLlY1CqZHZ2IAxyzEkn3JJNcFffEW40TSdFh1iPSLXWbvT1u7qLVdUXT4kOACqlldixYnC4wADlhxnoU8ceHF0PTNV1DWLHTINUgWe2F/cxws6kA8bm5IyM4zV2etu/46/wDBI7EmueEdK8R3EM2q/b2aAq0Yt9TubdVZSSG2xSKNwJ+9jPvRqHg/RdVmilvoJ5HjiEDbbyZBPGOiTBXAmXk8Sbh8zf3jml4rv9Xsb/RpLG7it7KbUbeCVFjDvOHYhgSwwq4x05J7gDDZnifxHqKa/d2ll/bMNjpUMc95PpNtbu/zBmO4z5BQKuSsatISe3Qwmkr7a/onf7mO95W62X5/8A7oAKoVQAAMADtS0yGaO4t45oW3xyKHRh3BGQa5HWP+Ev8A+E+sP7K2jQtjfa94Hm9Y/wDVfwY6f6z5sebt/hp63swWqujsaK42+/4TD/hY1r9iKjw75Z8/IBmJzH9z/lns6fe/eY87b/BRc/8ACYf8LHi+zlf+Eb8v95kDz925c7f+Wfl9PvfvMeZj+Gmle3mKT5bnZUUUUhmLrXhpNY1Ky1CLUb3TbyzSSNJ7PyiWjk270IkRxg7F5ABGODWD/wAILc2+r6bbaVq2qafp1npkts1zDJC8shaVW2M0iMegJ3KAeOua7iilZXv/AFqrfqD1Vv63v+hxdx4Klk19IdPvr7SNHh0mKyC2LxAyhXfMZZ1Z1wpHzKVPP3s9NHVvBw1FNPis9b1LSLXThH9ntrFLcorJkK372J2yAcYzjjpXR0UW0t8/xb/XQHq/67Jfoc7rfhObW72xuT4k1ayNiwkhS2S12+aFZDId8LEkq7DGdvoBVfXPAVrrlzqEkmr6paRapbLbX0Fq0SrcKoYKSxjLqRu6KwBxyCMg9VRTHdmJN4Vsp4dVjeW4A1WaOabDL8rIkaDbxwMRrnOeppH8NFNek1LT9Z1HTxcSJLdWkHktDcOoC5YSRsy5VVU7GXIGevNblFHW4uljCj8Mta6zJe6drWpWUE0/2ifT4vJeCVz94/PGzruxyEZRnJ4JJMS+JdVaYIfBGvKpbBcz2GAPXi5zj8M10VFC0B6nLQ+A7SDUUuE1XU/s0V+2oxWG+MQpMzMzHhA7Al2OGZgM8YwMcn4P8J61o3iWG5j0m4spZpZP7UuJ4tONvPGSxIjkiX7U5LFSDKQcAlueD6rRSSt/X9dget79TD0Xw02hTIlnrWovp0SlINMl8loYV7BW8vzcDoAXOBx2FXrXSxbX2oXDXd3crfOrmC4l3xwYQLtjXHyg4yRzkkmr1FPfcDC0fwudGRraHWtSn04QmGCwuDC0dunYK4jEh2jgbnbjrmr9npSaf4fg0myuJokt7ZbaKcbTIgVdoblSpYYzyuM9u1XqKLsOtzl7PwOtvZ3trd6/quoQ3lwty63At12yB1fcDHCvUqAQcjHTFOHgPSTHNHI91IkyXCMPN2lfOn88spUAhlf7pB4wOp5rpqKNtv66fkHS3z+ZnaRpl3pqSLea5f6uXI2tepApjx6eVEnX3zWjRRQBU1Sym1DT3trfULnTnfH+kWqxlwO4AkR156fdrJ0nwkNI8Hv4di1vVJbfyDbwXLPEk9sm3aAjxxryOoJBOe9dDRR0a7juzLn0e4fRbbT7TXNSsnt1RTeR+TJPKFXHzmWN1JPUnaDms698FQ3fhWbQotX1K0iuvMN5cRNE8135gIk3mSNgN24n5AuOAuAMV0tFD1vfqJaWt0Obk8G+ZaaeP7e1RdQ08OkGpoLcTiNsboyvleUy8L1TPyg5zzTpvBlqLexGl6hf6Vc2KyJHd2ro0jrId0gcSo6NuYBiSucjgjnPRUUBsZN/4fi1TR7Sw1G8urg21xb3P2g+WskrwyLIpbaoXkqMgKOM4xUWseGY9V1GHULfUr/S72OIwNPYsmZYiclGEiMuM8ggBhzgjJzt0Uf1+n5Acpf+Aba5vNJn0/WNT0lNIt/Is4LUQSRxDGN+JopPn2/Lu64yO5z1EEbRW8cckrzsihWlkADOQOp2gDJ9gB7U+indgFczrXw68Ja/cG41Hw/pr3LTpPJc/YojJKVYHDMVJYHGCO4yK6ail1uHSxnT6Msut2GopfXsC2UUkYsoZttvMHAGZEx8xXHy9MZNOj0eBPEE2sNJLJcyW626K5GyFASxCADjcSCSSc7V9BV+igVjPtdGgttbvdV8yWW6vEjjJkIxFGmdqJgDC5Zm5ycsecYApnw0ZtaS/wBR1nUb+KGYz21lN5KQwPyAR5cas20EgB2Yc56gEblFGw9zC03ww2k6h5ljrepJYCR3XS28loFLZJAYxmUDcSwHmYHQfLxV6DRraDWr/Uw0jS30UUUqMQUCx7sYGM87znJPar9FHSwdbnM6T4F0/SmijN5fXtnaxPDZWV3IjRWcbjBRMKGYbflBkZyF4BGTmbQ/B9vol1DN/aWoX62sJt7KK8kRltIiRlE2qpbhVG6Qu2F68nPQUUdbgFFFFAEN3BJc2csMN1LaSOpVZ4QheM+oDqy5+oI9qyLTwy1pBeuNa1GXUrxUSTVJFgM6qmdqqoiEQA3N/B/Ec5NbtFAGH4b8Mf8ACN6ZNYprGoX8Mjs6faxCGiLMzMVMcadWYnnOO2KRfCkP/CJ2+hz6nqVybfa0WoXE4kuhIrblkLkYLA46gggYIIyK3aKBWRhW/hh7XT7qODXdTW/u5Fkn1QiBp32gADaYjEAFAGAg7nqSTc0bRotGt5kSee6nuJTNc3VwV8yeTAXc20Ko+VVGFAAAHFaNFAwooooAqappVlrWnyWOpwLPbyYJUkgqQcqykcqwIBDAgggEEEVia34LGuW+kRz69q0LaU4kjkj8h/OkAwskiyRMrMOoOBgnI5AI6aigDn7nwrJO1tcReIdVttRghMD6hCLfzLiMndtdGiMRweQQgI5weTndgjaK3jjkledkUK0sgAZyB1O0AZPsAPan0UAc/wCI/Cr+I7i1kOv6npyWsiTRw2a25XzUJKufMic556Zxx0pupeD49SuTN/a+pWpnt1tr4W7RKL6Nc4D5jJU4Zhuj2H5uvC46KijpYOtxkUSQQpFCoSONQqqOgA4Ap9FFAbBRRRQAUUUUAUdW0PSdet0t9c0uy1KGN96R3lukyq2MZAYEA4JGfeodQ8MaDq1nb2mq6Jpt7bWoxbw3NpHIkIxjCqwIXgAcVS8QeJbjTNZ0zRtMtLW51HUllkhW9vDbRFYwu4Bwjln+YEKF6BiSMcxeIvEV9o9npClLa2vr27ghlDwXNxboGdVdRLHGArHcAhkCgnr3ote3m/8AgD1Rp6p4a0LW1gXWtF07UVtwRCLu0SURA4zt3A46Dp6CtMDAwOlYniDxfovhjH9sTzofJedhb2c1wY41xudxEjbFGfvNgflVe98feHNOVPtd5OjvaLe+ULKdpEgbP71kCFkUbTuLABeN2MjItVoFmdHRXO6x4iktPEehabZPCFv5j5rz2twyyR+W7BYpUUxiTKZw7D5QeOlZfi3x/Y6TrtnoVn4k0DTL6Te9zLqcgkW3VVBCmMSxkMxdcZYcBiAaAsdtRTY93lJ5jK77RuZRgE+oGTgfiadQIKKyZvE+mQ64NID3M14CokW2sppkhLcqJJEQpGSOcORwQehBqL/hL9FGtDSjcyi4M32cSG1l8gy4z5Yn2+WX7bd2c8YzxRuD03NuiuX1DxraxeIbDSNO82eaW/FrcSfYpjCn7tmYCYL5e8EAY3EjkYz0v2fi3Rr/AFg6Za3MjXG50VzbSrDK6HDokxURuy4OVViRtbj5TgXvK6/rr+oPTc2aKytO8R6dquoTWdh9rkaHdumNjMsDbW2kLMyCNznjCseh9DViz1exv9Qv7K0n8y40+RY7pNjDy2ZQ4GSMH5SDxmgC7RRVPV9Ut9E0a71O8DmC0iaVxGu5mAGcAdyegFAFyiua0PxTdXviKfQdbsLWw1OO0S8WK2vvtIMTNt+bKIVYHtgg54Y846WgPIKKw7fU9VtPC81/r9rbxXkUkp8iKTarRiVhHg5b5mTbx3Y447Y+j+PpdS8Dz6/NpFxbSwEA2M6+Xcuc4wIuSGb+Bd3z5HIzUuSTsO1ztKK43T/Hc158Oz4ll0uWKZFGbBji4Y4HyiPnDtnKR5ywZORu4vaD4kvvEXgl9Ws9P8i/aFjFZ3B2uJNgIWRc/ISTnbuPylTnni5Jq/kSmm0u50lFQWDXT6dbNqCJHdtEpnSP7qvgbgOTxnPes7XdaudOls7PS7KO+1G+dhDFNOYY1VRud3cKxUAYHCkkso7khPR2BO6ubFFY3hTxHD4p0JdQhRI3WaS3mjjlEqrJG5RtrjhlyMhsDIIOB0qPXtfu7C/t9O0exgvb6aGS5YXV0baGKFMBmaQI+DllAG3nk5GKHoM3aK4qL4gvq2k2N34a063u3uLJ76f7ZfC3ht41YqcyqjgsWDAYG0hWO4DGZZ/iBG3hvR9a0zS57u11M2xLu6xrAs0qRgFudzguflXI+U5IyMi1dl6fp+gLU7Ciis7UptWj1DSk0u2hltZbllv3kODFF5bkMvI53hB0PBPHcAGjRXIeJ/HEvh7xJp+lx6ZJdpd533EZ/dWwweZ3/wCWK5GQ2GyFfgbeV1zxvLo/jGx0RNMluI7rIe7j5ht/u485/wDlkeTgYbdlemaTdreYrrXyOuorOuptVXxBp8VpbwvpjxTG8mY/PG42eWF575fPB6du+jTGFFcbN4+MGp2rT2EEejXmpHS4Lx7zbNJOCUyISmCm9SuQ5bvtxzXZUdLh1sFFcbbePXk1jTI7rTobfS9ZuZLbTrk3mZ5WQMdzQFBtRthwwdjymQN3GnpPiWXU/FGoaTJpktmlrbxXEcszjfKrvImSgHyj91kZOcMMhTxQtdh2t/XyN+iiszT7jVmutW/tS3ggtobnbYOrcyw+UhLPycHeXHQcAcdyCNOiuR8HeN5fFOpahay6ZNYi0cqjz/KLgDb88P8Az1j5z5ny8MnHzcb2ky6pKLz+2LeGDbdyLaiI53wDGxm5PzHn0+gp2/K5KknsaFFZ+uavHoWi3GoTRPN5QASGPG6V2YKiDPGWYgc8c1m+HvE82p63qWiata2lnqunJFLLFZ3v2lPLkB2ksUQhvlOVK9NpBINLcrpc6Kis3X9YGiaUblYGuZ3kSC3gU482WRgiKTg7RkjLYOBk4OK54eO7oWWrQvptmda0u8trSW0i1EvAWuHRUPneXuA+fkGPI2ngggkWrsv6/q6HbVI7Oiqely6nNaFtatLS0uNxAjtLprhNvY7mjjOevG38aNXkv4dEvpdHhjuNQS3ka1ikOFklCnYp5HBOB1H1FD0QRV3YuUVFamdrOE3aqs5jUyqn3Q2OQPbNVNel1SDQL2Xw9bw3OprETawznCPJ2Dcjj8RTas7CWpoUUgztG7rjnFYeva/d2F/b6do9jBe300Mlywuro20MUKYDM0gR8HLKANvPJyMUnoC1N2isvw1r1t4n8N2Ws2Q2w3ce4LuDbSCQwyODggjI4PWqviDxJLol7YQRaZLdR3VzDBLcFxHHCJHCDBwS7ZOdoGMA5ZcqGdtbCurc3Q3qKKztSm1aPUNKTS7aGW1luWW/eQ4MUXluQy8jneEHQ8E8dwhmjRRWddTaqviDT4rS3hfTHimN5Mx+eNxs8sLz3y+eD07dwDRoorAHiWU+NodBOmSxwzW88qXkrhd5iMYIVMZK/vcbiRypwCCCTd2A36KKKAOf8V6featZrYx+HtF1yzk5mi1a7aJVYfdIUQSA9+eMVi3/AIb8TxeDdH0TTzYanLZy289xdX9/LESYZklCL+6kLAhdu5myODzXdUULR3Xr9wdbnj3j+8mi8Xv9v1PT9FabRYoruGfWFso7pWeQvEkj20jTY5GUETLv6/P8vZWWk3OrR3WqxWw0+LVNAgtIrO4BWS3cea21xjgASqPXg8V19FJpODi+v63/AMyuZ3uvL8Lf5HGavpHict4di0qx0m4i0h453e51GWFpHEMkRUKsD4Hzg7s9sYHWti90e5uvGWj6urRLDY2t1DKhY7i0piK7eMEDyznOO1bdFU227slaJJdFYz7n+2f7esfsf2H+yfLk+2ebv+0b+PL8vHy467s+2K0KKKQHNWWm63o3iC++w22n3emajefa5ZZruSKeAlVVlCCN1k+5kHcnXHbJzIfCetIqaK7WH9ix6sdSF4krC5YfaDcCIxeXtHznaX38qM7QTx3FFNO1rdP02+4O5xNr4Z1+G8sbV200aZYarLfpMJJGmnWQyttKbQqFTLjO5t2P4areHfAt3pGt2pvoFvbaxlkltr19fvWZSQwU/Y2BhU7XKkhsdSAM7R39FSlZ3/rp/kD/AK/H/M47w/4d1fT/ABRJefZ7XSdOfzWls7TVJruO4d2BDCKSNEgIO5j5f3ixznrXSWf9qf2hf/2h9k+x+Yv2LyN3mbNo3eZnjO7ONvbHertFPZWDqFZniTRh4i8MajpBuGtTe27wrOgyYiRww5HQ4PUVp0UPUFocf4T8LXem6kl/qVjpenyQ2zQJDpsjyiZ3ZWlnkd0Vi7GNODuPBJdieOwoopttislsFMjhihhWGKNEiUYCKoCgemKfRSGMSGKOBYI40WJV2LGqgKFxjGPTHaljjSKNY4kVEQBVVRgKB0AFOooAK5bxr4Xm8QPpt1awWd5JYyP5lhfyvHb3cTrtZHKhuMhWwUcErgjnI6mik0mBy9ppGvaP4UuE0f8Asr+2rm5NwyziT7LHucZQbcMQsYCg4GSoOFBwK/i/wncaxrem6taWen6n9likgn03U5njt5lYqyuSqOCyMgIDIw5zwQDXYUU/NdP8rfkFla39dzzuf4fXtrcabfWsGl6zcQxSrd2uoySQW7yvMZhMoCyDKuzYDKThshlI5t6z4X19fB+maFokem3jW80Fxc3V3dSW2+SOZZm2osUnDkN1bjP8VdzRQtNu9/1/MOtyK1a4e0ia9ijiuCgMscUhkRW7gMVUsPcgfQVLRRQAxoo3kR3jVnjJKMVyVJGDg9uOKGijaVJWjUyICFcryoPXB7ZwPyp9FABRRRQB55afDue21idGg0+Szl1H7d/aTyu94I/PE4tQjKQsfmAH5XA77NxJrs0/tn/hI5fM+w/2L9mXytu/7T5+47s/w7NuMY5zmtCijpb+uwPU890LwBeaXqVvBLDppsrW7NyNRWSR7y6RSzRQOrLhFQuMEOw+QYRd3y6un6d4mj+IV5q95YaTHp91bRWuYtRkeVFjaVlfYYACW8wAru4weTXW0UR91JIO/n/nf8wooooAYkUcRcxRqhkbc5Vcbj0yfU8Cn0UUAY3i3QW8TeFrzSo7g20swVopgWGyRHDocqQ33lHQg+hFZ3hbw3c6XdT311YaZpjtbrbw2Omu0kKYZnaQuUQlnZ+fl/hHJJrqqKVh30sclrHh/XfEvgGOy1iexg1xJY7jdZPKluXjkDqu7IkCso2kjkZJGcYqraeEJrfSdSM3hzw9K94kMEeiCQixjhjZmAL+Qcnc7v8A6oDJA7bj29FPuhdbnPeDvD0nh6wukkhtbNbq4M6afYEm2sxtVdkeQvBKliQqgsx49ehoopt3Apaz/an9jXX/AAj/ANj/ALT2H7N9u3eTv/29vzY+lW4vM8lPO2+ZtG/Z0z3x7U6ikAVx/i/wncaxrmm6taWen6n9likgm03U5njgmVirK5Ko4LIyAgMjDnPBANdhRR1uHSzOctNJ1vRPDljZaNLp8139s86+kuldUdJJGkmMYUkhssduTj1qLxnp/iDVFsYdCs9Nmit7uC7d7y+kgbMcgbYFWF+DjrkY9DXUUUdb+dw6WGQGVreM3KJHMVBkSNy6q2OQGIBIz3wPoKfRRQAUUUUAFclf6d4mm+IVhq1vYaS2nWcE1tuk1GRZnSVoiX2CAgFfLOF3c56iutooWjuHQKKKKACisjWvE+maBPbw6gbtprlXeKK0sZ7piqbdxIiRiANy8nHWtCxvrbUrCC9sJ0uLa4QSRSxnKupGQRQGxPRRVDU9U/s2WxT7De3f2y5W33WsO8QZBPmSc/Kgxgn3FAF+iqWs6pDoeh3uq3ayPBZQPPIsQBYqoJIAJAzx61cU7lBHQjNAC0UVkHXwnixNCm068iaaB54LtjEYZgmwMBhy4IMij5lA64Jo62A16KKKACiq8F/bXN3dW0Em6a0ZUmXaRsLKGHJ4PBB4qxQAUUVTn1OG31ez051kM12kjxsANoCbc55z/EMUAXKKKKACiqa6nC2uSaUFk8+O3W4LYG3azMoGc5zlT2q5QtVcPIKKKKACiiigAooooAKKzdY1/T9CSE6g05edisUNray3Mr4GSRHErNgDqcYGRnqKLjxFpNt4d/t2W9T+zPKEouEBcMrY27QASxJIAABJJwBmi47M0qKxr3xZpFhZ2lzLLczJexedAlpZTXMjR4B3+XGjMF+YckAAkDqabeeMNFs7O0ujcT3MV5F58H2GzmumaPAO/bEjELyOSAOcUPTclNPY26KwtQ8aaBptrbXNxetJBcwfaY5LW3luAIcA+a3lq2yPkfO2F96245EljWSJ1dHAZWU5DA9CDQO46iiigAoorHl8VaRDri6TLcSrctIIgxtpfJ8wruEfnbfL3kc7N27kcc0eQbamxRWWfEem/wBu/wBkRvPNeAgSCC0lljhJG4LJKqlIzjnDMDgj1GYV8XaM+sjTFnn89pjAsn2ObyGlGcxifZ5ZYYI2hs5BHUYo3B6bm1RWLB4u0a41ldMinn895Gijka0mWCV1BLIkxXy3YbW4Viflb0ONqgAoqnPqcNvq9npzrIZrtJHjYAbQE25zzn+IYq5QAUUUUAFFFFABRRRQAUVFdXMVlZzXVy/lwwRtJI5H3VAyT+QqjoWrza1Y/apdIvtLRgGjW9MW6RSMhgI5Hx9GwfagDToqpqupwaNpNxqF2HMNuhdljXczeigdyTgD3NJpd7PqFn511pl1pkm4jyLtomfHrmJ3XB+ufagC5RRRQAUU2WQRQvI2SEUsce1V9L1CLVtIs9RtldYbuBJ41kADBWUMAcEjOD60AWqKKKACiiigAooooAKKKKAOM8YaNq+reKdKOi6jd6VJHp98ovYIUkVHYwbFfejDBIJwMMdpwRzXIatpUlzpvh+O40NbbR7fTTbLZX+gXWrC1uFbaw8qORXBwvyzEMCAcMN3zetve2sd9FZyXMK3UyNJHA0gDuq43MF6kDcMntketLaXltf2q3NjcQ3MDkhZYXDq2Dg4I44II/Cjov67/wCf3lOV1b+u55n4o0pV0rQTeLJ4ivbPT9i2+peGri9hvGIXDNgH7PKSuNzk7Qx3Ka1/GU9gmpeHby80K7l1S1uYpzNa6RNdtbRYbeomijYDnqoOTwcV1Wo69YaVfWdpfG4SS9kEULpaSvHvJwFaRVKISTxuIzV1riFLiOB5o1mlBMcZYBnAxkgdTjIz9aHrr53+d7/8P+hGnw+X9f8AA/U8v+IWnQar/b4v/Dd5rV3PpgGiEaa04hJRt+1iNsLhsMclXbCgbiAtWfGbXdtD4ttYtJ1O8m1bR44rMWdm8qyMqSqwLgbUI3A4YgnooY4Fd7f61YaZe6faX0/lT6jMYLVNjN5jhS5GQMD5VJycDir1OLsreZV7OL6rX+vuPJPGlvqN94olaDQk+12ctr9juhok9zcOgZGZ47wOscCglgY+SdrHB34rqNV1iJPifpC/Y9VdLa1ubeWePSbl4VeVoCn70RlCCFbLA4GDkiuifXbGPX49GkNwl7LGZI91pKI3AGTiXbsJHoGz7Vo0ouzv6/5f1/SEtPyCvOY7SO3+KjXllpg1Oe4uiJbi80GaOayXytrNFfMoRoxtwIxyd7YbtXo1ZkHiXQrnWX0i21rTptTjJD2Ud2jTKR1ygO4Y+lC+K4PY5PTfD3hzRfiNqDy+FYYrq6miuLC9g0YuiZjw/wC+RCsTblYncVzuB5zWHpUWpXHxK03Ul0NLCVr65j1B4dDnilWLypQglvXbbOpKoRtXaDt5HGfW6KUVy/iD1uebeHfC/wDZP/CMahZaVJb6nLDPFf3TRN5pUxEqsrNztDKm1W4GAAAOKreFNOhh13Rr2z8L3VvqkOn3C6tfTWBgae6IjJVpWAMmWDEONyejdq9SopW0t/X9f8AOt3/X9f5nkPg211B/Fcd8mirpyXelXP25bbQrix/flomVJpJWJuHGXxJtGcuQTkgaml+Bxo/w6t7/AES3u7fxIugmB33YnnkaNTtkZvmLKVwgJGzoMDivSqKu+lv66/5h1T/rp/kcH4L03S7bxbeXXhzw3Lo2nSadDH5j6abPz5FkfdlWVXLAEZLDnqCRzXQeNLfUbrwXqcGihmvJIcIqE7mGRuAwynJXIGGXn+Ida3KrR6jay6pPp0cubq3ijmlj2n5UcsFOcYOSjfl9Km1429fxdxq6fN6fojyyy8PNL4Q8RQaYGhhu47eMWOneHLrR1jcP80qJKxLOVwCydNi5re8S+BbC00S4h0G2uYF1C/0/7RDZEqRsuULzgr8wkKklpM5+QHORmu+oqvtc3p+AlocHr3hCw0XTUTSNMkbRZ9SiuNV0u0h3xvCIyp2wquWBYRsyAEttPByQcuLw6l9ppt9N0u907QZ9fgmtbSOKW1aOJUAkYRYVoUZw3GFzknA3ZPpV3eW1hZy3d/cRW1tCpeWaZwiIo6kseAPc0zT9SsdXsY73Sry3vrSTOye2lWSN8HBwykg4II/Cpt+af3W/y/P5EtV8mvz/AB1MKbw1oug+ENbsoNMnn0q5SWWTSrKMD5WjAeKBE243YJwD95jyM1v2CxrptssELwRCJQkUgwyDAwpz3HSoNW1zSdBt0uNc1Sy02GR9iSXlwkKs2M4BYgE4BOPaq6+LPDraK2rrr+lnTFfy2vReR+SG6bS+dueRxmn/AMAO3zMjxik1lqum6xptxLBqEcctqu3RZ9RSSNyjFSsRUxnciYYsF65z2wp/DHieDQNMgis7PUYrOO5uXgvb5oJPtMjOykiKF0cornAGBuOR0U13F54i0TT9Kh1O/wBY0+10+42+Tdz3SJFJuGV2uTg5HIweRRqXiLRNFtYbnWNY0/T4Lj/Uy3V0kSycZ+UsQDxzxSkrx5WNbp/1/XQ87uI9Xg0zw42p2+o6LLFozQNeaNaz38iv8gWF0WP5QQu47kyCMK6kZKX1vqNpY6ElxZ6l4faPRGgMuj2M96RJ8o+zuke/agA3ZPz5JCyqQxb1K1ure+tIrqynjuLeZA8U0Th0dTyCCOCD6ipactW7+f6/5v8Aq95guVJLy/C3+X9aHkjabq1lcWv9pWOo6ZY32hWtrJaaJatO/nRbwbZpV3mGMiT73H/XVdp3ei+FdOn0fwfpGm3h3XFpZQwyndn5lQA89+RWtRVOTd79f+D/AJhbb+v62/rS3mPi7S4rrWNeGr6FdanqNxHGvh65is5JRbnywAFmRSLZhNli7FeCDkheH634Wa8/4STUbvTHu9VtzbSafOYmcpIkUZLwDs25eWUAnaAegA9LqvLqFnBfQWc93BHdXIYwQPIA8oUZbapOWwDzjpUJW/r+vn3HLVFiuD1rWjqnjm30e9sNWt9L024inM6aTcyre3HBQLIkZRYkJBZiwywxwoJbtL6/ttNtDc3snlQhlQttJ5Zgq8DnqQKiv9YsdMurC2vp/Kl1Cf7ParsY+ZJsZ8ZA4+VGOTgcU1uv69A6M8+tdO1Cy10wwNr39t/228+/dcfYHs3nLtn/AJYH90xGDmQMABwFxDYwaifFdui2WpRvHrc08mlPZzCxijZn/wBJW5PyFyp37d7LlyBGHG8eqUU46W8v+B/l997WCXvX8/8Ag/5nlmh2+of8JRpiGz1ENBqV1LPps9lMtnYq3mATRXDfK7EMOAzqfMbakeCR6hNvMEnk8SbTtPvjikiuYJ5JkgmjkeB/LlVHBMbYDbWA6HDA4PYj1qSpt7vKPrc8p8N6UBqml3Wl+HLix1lNMuY9T1K408wmW8ZYzh5WAMuXDHeNyns3aoPB2mzaXJc3rk6beQaXML2OHw7cWLTy8EvLdSytDPIrAkPuOdzENtJr1WW/tob+3spJNtxcq7xJtPzBMbuegxuHX1p15DbXNjPBfJHJayRskySgFGQjDA57YzUy2lbr+G/+Y47q/wDX+Z4v4J0qxbzp5dFtdO1k+H3tYhBp91HJqD7QZJi89vGWcnHCl2O4kseK7GDwR/ZPg+W88MxzW+vyaI1sWZ8SXMpRSrSs2GaRSMKSw2hiOBjGh4StfBk15JdeFdVi1i4toxEZP7Zk1FrZG/hUvI/lhtvbGdo64rrauS1b7/8AB/PmM4q1vL/gf5Hj+l6HfL4e13/hG0FrNLYJE1haeGrrSVdt2S2ZZcSS7N65R1JyMv8AdIvaDotunhvxIiXE1hY3dskTW2leFLvThC+GBlSCTeZXIKhtg6IM16lRQ9Uyv6/L/I5D4dR/Z9KvLeLRrPTrZLjMUtnpEmmLdZRdzG2k+dCD8uSTuwCPQWvHVtJdaHbq1pNe2C3kT6hawIXaa3BO4bBy652koMllBGDnB6Wih62fp+ALRWPLbrw3DqPgHxfFo+lajp2lyxSyaXYQCeyZ5BbkNtgXawRn48tlAYgttO4E974b0iHRtEgt4GvG3IruLy7muGVtoBAMrMVHH3RgD0rVooWl7dbfgN6pLtf8TkfiToI13wo6ot/JPFJEY47K6mj3AypuysbDfgDPIOOoxUPiDwnbXVx4X03y7+6063v5ZLgTXU0+5TBL8ssjszMhYgFWOCDt6HFdZZ39tqCSvaSeYsMzwudpGHQ4Yc+hHWrFC01Qnd6HmPi3wr/ZcGkWOn2sM3h2GS6eW1udHk1SGGSRg0YFtCytsXMgU4YJkcdCKes6NfDQ/DUN2I9V0iGGfzDe+Gbq8VJCwMINkJBKu1N6qzbtuOcFga9aqlqus6XoVoLrW9StNOt2cIJrudYkLHJAyxAzwePal01H1POZ9JgS00q18SaXe+KLMaUUsFfSJXUXBc8PFJu8lthjVXmIwFbLDLZh/sm3jtdOj8ZeG7zVbZfD9rDp8S6c919nuQrCZcKpMMh/dfO20fL94bTXq8ciSxrJE6ujgMrKchgehBrK1XxZ4c0K6W21vX9L02dk3rFeXscTFc4yAxBxkHn2p9HF9f8Ag/5iXRr+tv8AL8WedS+D72+1TTm8S6bJqF3FFYQ3M7I0qN/o8wnG7GCrNtD9mBUNkYFeg+Cori38BaDDfRyxXMenQLKkykOrCNQQwPIOfWrN14k0Oy+xfbdZ0+3/ALQx9j826RPtOcY8vJ+fO4dM9R60++13SNMvbWz1LVbKzurxtttBcXCRvOcgYRScsckDj1qrv3l3d/8AgCWy8kX6KzpfEOiwa1Ho82r2EepyDKWL3KCZxjPEedx4BPTtWjUjCiiigAooooA4zxBpt3qnjeMadLFDdWtgrI7kjCySMj9Af4NxA/vAfUc9oGt2fhm7W3v9Q+xaev8AakFvG7kJLKt8diRoPvSbThVUFiOAK9UopJNR5fX8b/lcbs181+H+Z5fceKtLtfh54JbX9dtILyc6ddOb67VZJFypaQ7zkjrlj+NXvGVr4f8A+Ep0LW9a1a5sdOnhmiN4mtT2sAYqjRgMkiqu4BjxjdjnOBXoVFVL3m/W/wCX+RP2r+Vvz/zPP/F2v+H9F8UeGJZvE0dlMbgLLDLrLJG9qYJiHeIybWBcL+8YEk4GazfGWrW669r9s3iS6tdSisIJdE0+31AxNNcssm0pEpzLlggKkMh7r3r1KqdvpcNtq95qKNIZrxIkkUkbQI92McZ/iOeaB3d0+39f8D0OU1rxRolp478O2mpa1pttfRLMs9vJdxq8bvGu0FScjcTx69q57UdW1J/iJcW8mr2GmXseowx2cV94iltjJb5XhLLyvLnDguN2SdxIDKVAX1GS+tIb2CzmuoY7q4DNDA0gDyhfvFV6nGRnHTNT0lpLm/rp/kLpYK8shS6j1y0udWuLf+wk8TXJjEcGyWC5LOsZkkZyGRmYrhVU7mQZIzXqdQfbrT+0fsH2qH7Z5XnfZvMHmeXnG/b1254z0zSS99S/rdP9P1Kfwtf1s1+pUSfWzrbRPp+njS/4boX7mc8d4fJ2jnj/AFnTn2rifD+sQp8QruzGqwa7dTyXBSSx1yWf7MoOQk1lny4QvEYdckkDIBY16RRTF0seW+EdXtr/AF/w/LFrV9d6tdW076xbG+mkigmCAmJod3lwsrEgJtVsDvyan8L+LEvE8KWa6nPe30FjN/acCSNJIsqRrlJfSQNn5W+bOeOtd/c6ZDdapZX8jSCWy8zywpG07wAc8e1XKlpu62Hc8h8G+J5NT8VxvYXga1v9KubmaNdem1FklVoiu9WQJbyAO2Y42xzjGAprV0jTdc0/4eW/iOx1rVNU1Z9BZ5IbiVpVuZmjVo2WPlUZcEfKhLZ+bceT6TRVv4bL+t/8/wABdU/66f5HkWiazfJoet3Wj67YXMENgrPHaeIZdYngk3czESxgxfJu+XlcqPlGDnd8CnR28c683h3UbjU7M6fZYupr6a8WRt9xnZLIzbgOh2naDkcEEV6BRTTtcOjXf/gf5GJ4RmsZ/Dsb6Vql5qtt584F1eszSFhK4ZSWAOFbKjjoo69a26KKkDjviTLPa6TpV5GsBtrTVIZrtrkt5MUYDBZZNoJ2pIY37D5eSo+YU/Bt7Bpen+KNevtWS+0t7o3jahDCBBJtgTzXhVM5jBG0csSVbLMea72iktL2/rb/ACG3dq/9b/5mNqfiaysfCZ16FjcQSQpJaqBta4aTHlIoODliygA+tctqlkPCek6Dqd9f6LFf2txLLONXv/skFxczoxkZJNrYcEsFG0/IWHHWvQqKb30FrazPKbd7jw7a6Tr13daNbSvPqAgsdWvHsEaOeYSK0QKu2/Cj5SmSJP4fu1ajz4b8LeH5tR8TaL4cvIPtPkpqtsRHJE75CJEZo2Uquwbckr0Ir0yih2asH2rnP2/iqG08I6frPieNtLa6MUbxmKQ7JJGCqCNu5QSR94DGcHFdBWbdabpfiGOzuZ8XsELieEJOxhdhyGZVO2TBAI3A4IBGCM1pUAFFFFABXlvifVdR/t7WdXs9E1K8h0aS3SG7ga3MUawnzLjhpVkJZZGQ7VP3eMnIr1Kil1v2/MOljybxPqWnanqOorqGq3X9oQ39kNO0+G8mRXti0L+aYEYLIpZnzI4IGAMjGK6bxPYCw8WeHNRtLzUo5r3V1gnj/tK4MDp9nlO3yS/lgZRTwvUZrs6xH8NfaPEUGqX2rahdpayNLa2MnlLBA5QpuGyNXYhWYDezD5ieuCBL3l8vw/zGtnfz/FfocnJ4oSO4XSG1aT+1f+ElVHtRKxlS3abK7gOVjKEAE4U5AHUCltNYtofilJbtqkOszXN08SR2OuStJYgR8rNYg+WqLtIMnXcy5XJzXo1FEVypLt/kl+n4iesm+/8Am3+v4HnHhjT9B0b4ha3Z3Oq3cGqPfrLZWd1rdwWuYjbRjeInlImGRINxDY2Y42jGX4X1fVrvxZCZdUsItT864+3adceIZpLh0AfEa2DRKke0iMhlPKjO59xJ9bop66elht3PLPCF3p2o+K/D95Bql3qGqS2Fy2piS8mmS2nPlFo/LLGOFg2R5YCkAdK9I1b/AJAt7/17yf8AoJq3RUyjzJruEXytM838DJdwa5pJ1+4t5bqTw9EumPbwmGOSL5TKjBmcmRT5ZyCAQ3CjBrrobvWv7N1CTX4tM0ZY4i0V1b37XCxjBy774owoXg9wec4xzsu6xozyMFVRlmY4AHrVTTNX03W7P7Xo2oWuoW24r51pOsqZHUblJGaufv3Xr+LbIhFQSXp+C/4B5lo3iAweEddj07UPtU9rBC8+sWOtzarAEZtsjq0uRFIqh3MYBAG05anx6rZQQeJZPDOuX15plrHp8wun1Ke6RR5z+c6SyO2U2rhip2/KwPINerVSh0uGDWrvU0aQzXcMULqSNoEZcjHGc/vDnn0pb3H2OGvvGdpJH4q1CxvZb/TYYbOOKS3uzFCDIWVnWbkJHyN0qZ2hWI+ZeMOx1fUbvwzq9tp2sSW6LrGnRWt3Z6rLqIjWWWIP5dxMgMinnghlyWHIyB7FRQrKV/QcbpL5nn/imxv/AAr4Yuf7P1S8nsbm+hMrXuozI1nCQBJm6xJIiEqMsB8gdiCo+Zci01Yp4dtRqniOzXw9casY5L3T/EEt0LaEQlxG98QjjMwHJIOHVd3IFer0ULS/9dv8vxYPX+vU880V9Ktvhfrzz6pqWnaWl1es2oJLMbmKPzG/eB3DSFscgnJPXmvQISpgjKMXXaMM3UjHU0+ihaRS8l+Adb+v4hXn/jnUJdJ8a6NdzX1hpVnJZXNuup6nk29tKWjbG3KqXdFYLuZejfe5U+gUUdb/ANbWDpY4nwnqNn4R+HujR63czQQzXJtbNp4GDsJJm8hWVVG0lSvZQPQdK0/GF089vbeHrNyLvWnMBKnDRW4GZ5PbC/KD/edK6Oih6vUFpsebeLRDo2sXtnZS6HK2raSlkmnXdwwuURPMCiG3VSZlO8/KCmCp+b0oeIY7jS4tQ0j7Xo99qut6RDbvbT3TG+Eixsg8uBVJkQsS2dyBSXYnGSPWKKXr1/4P+YLRprp/wP8AJHAeM9Ti3WGjtrel3F1DLbSy6IBm+u5EkV12EPlBlQxzGeAfmUZYd/RRTuxWsFFFFAwooooA4fx9pv8Aauu+Hbb+xNL1v57hvsmqvshOIx82fKk5Hb5fxFbrXNzoOi2MFj4YluCsYRrPR5IBFbYHRTK0IK9hgD6Ctd7eGSeOaSKNpYs+W7KCyZ4OD2zUlJK1/MDkPGl3rlo1teWkmp2ukQwSS3smli1a4iYbSCyzqwZAu/Pl5fIGAc1U12wuNU8ceHrqx8S6lYQ3VpcGEW8dtgfLG3y+bCxyw5IOfu8Y5rp9T8NaFrV1DdaxounahcQDEUt1aJK8Yzn5SwJHPPFTaro2l67aC11vTbTUbdXDiG7gWVAwyAcMCM8nn3oauvmHX+v6/r7+G+IHijUdGjvv7GvNWM2jWAurg28NmLfJ3bPtDTlWYNsPyw4Yc9yoFnUtLvb/AOJmnSw+JdT0/wC0aTPIkdvHakRgPBlV8yFiQc5OcnIGCBxXUXnhfQNRuYrjUND026nhi8mKWe0jdo48EbASMhcE8Djk1Nqmg6PrlvFb61pVjqMMLbo47u2SVUOMZAYEA4qouzT9fxugaurf10f6GLqVq8fxG0O6a5aZJIbiNYZbeEiHCAlkfy/MUnuN+DjpVTVNS1fSvG0c2rXOpW+hSzwQWr2a2rWxZ8IFnDqZwxkOAY/lwUyR8xrcu/CHhrUNT/tK/wDD2lXN9lW+1TWUby5XG07yueMDHPGKk/4RnQf7c/tr+xNO/tXOft/2SPz87dufMxu6cdenFKOj1DozmbDR70/FPWXHifU1C21nObcR2u2RC8+IzmHdsGCAQQ3JyxOMaENs9v8AFR5HuWuBc6U7KJbeENAFlQBEkVBIV+YnDMwyc1t32haRqd7a3mpaVZXl1Ztutp7i3SR4DkHKMRlTkA8elVv+ER8N/wBsf2t/wj2lf2l5nm/bfsUfnb/72/buz75pp6p+v5WFJXTS8vzuZnh+bU9d1S91K41m4toLPUJ7RdKgjh8vbGxUGVmQybm+/wDKyjDLx1La9m8h8Takja1DcxrFAV0xUQPZn5suxB3EP23AAbDjvT5fD2iz61HrE2kWEmpxjCXz2yGZBjHEmNw4JHXvVqOytYrya7itoUuZ1VZp1jAeQLnaGbqQMnGemTSWyG92T0EAggjIPUGikZQylWAIIwQR1oA4TQ9Ki0Tx7cWUGi6bosd7YStBDpDAxTKkijzZ1CJtfEihQAw++N3QVW8IaHYaNejwvq3hDQLW6uNLzNcadsmW7iUqjicNDGRuLAgHeGw3PHPZ6X4b0PQ4ZotF0bT9OjuP9clpapEJO3zBQM9T19adpfh/RtDt5YNE0mx06GY7pI7S2SJXOMZIUAHimtNP66/5hv8A16f5HKeEfDHh+e+1zVdL0HTbXT7oHTYYIbSOOK5ijJEjsoXDBpCy8g/Kikdam8D2g0nXtb0w6XZaQ4S3uBY6W++0iVg6gqdifvGKEt8i8bOTya6v+y9POk/2WbG2/s/yvJ+yeSvk+XjGzZjG3HGMYpul6Ppmh2htdF060063LFzDaQLEm49TtUAZ4HNC0E1f+v66aGb4y1W40jw6ZrOVbeWa5t7X7SwyLcSyrGZMEEEqHyM8ZAzxXM32ra/pd1qGjW2uSXkkN1pyx6hd2sTPH9omKSRMI1RGwqhhgAgSDPY16BcW8N3bS291FHNBMhSSKRQyupGCCDwQR2qnZaBo2m2C2OnaTY2lokomW3gtkSNZAQQ4UDG4EA568CiNk9e/+Wn5/eEtY2X9ef8AX5mZ4Uub/wC2a5pupahLqR029WKK5njjSR0aCOTDCNVUkFyMhRxj6nR8QaZDq2izW0+k6fq/RktNSx5LsDxuJR8Y9dpq9FbQQyzSwwxxyTsHldEAMjABQWPc4AGT2Aqvqekabrdn9k1nT7XULbcG8m7gWVMjodrAjNKWq+4rS5h/D5RB4ZkswqxtZ3txC8UTboYSJCfKiPGY0yEHAxtxtXGBN4w1SWytLO0sZdSW9v5/LgXTIoGnfarO203H7pRhckt2yByQRuWlpbWFnFaWNvFbW0KhIoYUCIijoAo4A9hUGq6Npeu2gtdb0201G3Vw4hu4FlQMMgHDAjPJ596HqJf5nBaFr2v+JLPRLVdYmsGuJNQiublYLd53WCUIh43RB8Y3FQyHLYAyCtqy1rVdXtdG06fXZNMka1u57rUYIoRJN9nlEXSRGjUHdvbC8YwMCu2t9L0+z8v7JY20HlFzH5UKrs3nL4wONx5Pr3qG58P6NewQQ3mkWNxFbS+dBHLbIyxSZJ3qCOGyScjnmh6/1/Xr+AddP61/y0Mv4eMG+HehskvnKbRCJcg7x/e44568cVR+IVno1/ZxWV5pcOrazdxyQ6XbSDLRuRzMDz5QTgmUDI4AySAevhgitoVht4kiiQYVEUKq/QCs7VvDGga/LHJruh6bqckSlY3vLSOYoD1ALA4FS1fQadjh/EOk6jq2uJo9/Lo93DpejRXIOt2r3MNxLmRZJDFvVcjYnzksU3HA+cmsTxHNF4msr3Vf7HtZ0g0K1uJftSJ52jB1d99qWIBcLyR+6GUU7yRtHqdz4Y0G9tLS1vNE064t7HH2WGW0jZLfHA2AjC9B0x0p2oeHdE1a+gvdU0fT726tsGCe5tUkkiwcjazAleeeO9U7/j/n/mvS2m4l0/rt/lf5nmXjiK31K51y9Wzt9RttP063eW+uY1F1pQKlvMttxBL7fnIzHggEM5+RfXInWSFHQkqyggkckVQvvDmh6nqUGoalo2n3l7b48m5uLVJJIsHI2sRkYPIx3rSp9LCtseRazpelQ6b4114WdtHr9vqxGnXyRAXPn+VD5UaOMMdzELszhgxBBBNathogv/ibr19J4X0HUPI1C2J1G9kxdWxFtCf3a+S2cdR868nt1rtF8M6CmuHWU0TTl1Ukk3wtIxOSRtJ8zG7px16cVoRW0EMs0sMMcck7B5XRADIwAUFj3OABk9gKIvlS8l/l/kP+bzv+Lv8AgRjULM6kdPF3Ab0RecbbzB5gjzjftznbnjPTNWKyYfD1tH4om1+aaa4vXg+zReZsC28WQzIm1QSCwDEsWOehA4rWpdA6hXnulazrv2zQLy71lrpdU1G5s308W8SIsSCYiQEDfvBjQE7tpDfdBINehVgeGfB2k+GUkltLKz/tCZ5GnvorVI5Zg8hfDMOTjIHJ7Udbi1LMOoX+oTXlmdI1HStqOsN/O1s6OegZFWV2/wBoBlHv6Vh6H4jvtRNtLd3Agj03T5G1cCLKtcK5jwDjOFMMxwOeV9a7KoILG0tpLh7a1hie5fzJ2jjCmVsAbmx944AGT2ApdNP6/q/TsitDhPCXibU7zxrDYXcmqSWeoaZJqEI1NLNCAJIwpiWAlwhEh4l+b5RzndVo31xpnhbx5f2UnlXNrcXc0Um0Ha62yEHB4PI710Vj4U8PaYki6boOmWayq6SC3s44w6vjcDgcg7VyO+B6UaX4V8PaHJLJomg6ZpzzJska0s44i6+hKgZHtVenZr8b/okJfEm+jT/C36nM+JfGN3pLah9iuYpXtdFjujFiNvLkeTaJGBZcDGTyyrhTyOTWj4Om8Rm5votdg1T7GEje2uNWNl57OdwdcWrFNgAUgkA5Zhzxja07w7oukQtDpOj2FjEylWS2tUjUg9RhQODRpPh7RdASVdC0ew0xZiDILO1SEOR0ztAz1NJaJ/P82/8AgC1/r0X+X4jPDbySeHbRp9ah12Qqc6jAiIk/zHkBCVGOnB7UeJb/AFLTPD1zd6Jpp1K9jA8u3DAZyQC3qdoy20ctjA5NXrOytdOs47TT7aG1tohhIYIwiIM54UcCpqHqMx/CrxT+H4rmDV5NZ+0M0j3b8bnzhlCf8swpG3Z1XGDlskxeMP7BXQTJ4qto7yyjlUraSRmUXEp4SMRdJWJPyqQfmwcZAI2YreGAyGCGOIyv5khRQN7YA3HHU4A59qq6romla7arba3plnqUCvvWK8t1mUNjGQGBGcE8+9D12COhkeFrf/hFPA8Y12aDT4YGlmKzTAR2UTSMyRbycYRWCegxgcYp3jFvD76LFJ4hsItXiaQC0sGjE32uZgdqrGfldupBPCjLZABNaMHhvQ7XR5dIttG0+HTZs+ZZR2qLC+euUA2nOB2pdU8PaLrdvFb61pFhqMMJzFHd2ySrGcY+UMCBx6Upe9/X9fII6bnDXE3iDw7pPhfwxAdRa6mtpnmk0t7aSZfL27YUa7IRgA+M4LER8AZJHUWOra9a+FbKfVNAvr3U2JSa3tZLZZFAJw7bpljGQASFY4LYHAq4/hXw8+ipo76DpjaZG29LI2cZhVsk5EeNoOSTnHetCzsrXTrOK00+2htbaFdscMEYREHoFHAFV3Fa1jjviFZpeaDp2oXK3EUkeoWGy2kkG2Jmu4sllUlWcdM5IHO3qc0vGNhd6/4vn0+VdFezsNLS8ih1q1e5gkcvIrt5QdFyAqDeclAxwPnNdjq/hnQdfeJ9d0TTtTaEERte2kcxQHqBuBx0pLnwxoN7aWlreaJp1xb2OPssMtpGyW+OBsBGF6DpjpU9LLu396t+G5fNp/Xf9diTQNQ/tXw3puoC2+yi7tYphB/zy3KDt6DpnHStCiiqk03dEJWVgooopDCiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKAP/2Q==) Next up, I’m going to create a first order model of price using age of appliances and crime rate per 100,000 people as predictors. I’ll be including the interaction term between age of appliances and crime rate but will be leaving about the higher order variables. The general form of this equation would be .

![Table

Description automatically generated](data:image/jpeg;base64,/9j/4AAQSkZJRgABAQEAYABgAAD/4RD6RXhpZgAATU0AKgAAAAgABAE7AAIAAAAQAAAISodpAAQAAAABAAAIWpydAAEAAAAgAAAQ0uocAAcAAAgMAAAAPgAAAAAc6gAAAAgAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAEJlbmphbWluIExlYW5uYQAABZADAAIAAAAUAAAQqJAEAAIAAAAUAAAQvJKRAAIAAAADMDkAAJKSAAIAAAADMDkAAOocAAcAAAgMAAAInAAAAAAc6gAAAAgAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAADIwMjI6MDk6MjUgMTY6NTg6MDgAMjAyMjowOToyNSAxNjo1ODowOAAAAEIAZQBuAGoAYQBtAGkAbgAgAEwAZQBhAG4AbgBhAAAA/+ELImh0dHA6Ly9ucy5hZG9iZS5jb20veGFwLzEuMC8APD94cGFja2V0IGJlZ2luPSfvu78nIGlkPSdXNU0wTXBDZWhpSHpyZVN6TlRjemtjOWQnPz4NCjx4OnhtcG1ldGEgeG1sbnM6eD0iYWRvYmU6bnM6bWV0YS8iPjxyZGY6UkRGIHhtbG5zOnJkZj0iaHR0cDovL3d3dy53My5vcmcvMTk5OS8wMi8yMi1yZGYtc3ludGF4LW5zIyI+PHJkZjpEZXNjcmlwdGlvbiByZGY6YWJvdXQ9InV1aWQ6ZmFmNWJkZDUtYmEzZC0xMWRhLWFkMzEtZDMzZDc1MTgyZjFiIiB4bWxuczpkYz0iaHR0cDovL3B1cmwub3JnL2RjL2VsZW1lbnRzLzEuMS8iLz48cmRmOkRlc2NyaXB0aW9uIHJkZjphYm91dD0idXVpZDpmYWY1YmRkNS1iYTNkLTExZGEtYWQzMS1kMzNkNzUxODJmMWIiIHhtbG5zOnhtcD0iaHR0cDovL25zLmFkb2JlLmNvbS94YXAvMS4wLyI+PHhtcDpDcmVhdGVEYXRlPjIwMjItMDktMjVUMTY6NTg6MDguMDkyPC94bXA6Q3JlYXRlRGF0ZT48L3JkZjpEZXNjcmlwdGlvbj48cmRmOkRlc2NyaXB0aW9uIHJkZjphYm91dD0idXVpZDpmYWY1YmRkNS1iYTNkLTExZGEtYWQzMS1kMzNkNzUxODJmMWIiIHhtbG5zOmRjPSJodHRwOi8vcHVybC5vcmcvZGMvZWxlbWVudHMvMS4xLyI+PGRjOmNyZWF0b3I+PHJkZjpTZXEgeG1sbnM6cmRmPSJodHRwOi8vd3d3LnczLm9yZy8xOTk5LzAyLzIyLXJkZi1zeW50YXgtbnMjIj48cmRmOmxpPkJlbmphbWluIExlYW5uYTwvcmRmOmxpPjwvcmRmOlNlcT4NCgkJCTwvZGM6Y3JlYXRvcj48L3JkZjpEZXNjcmlwdGlvbj48L3JkZjpSREY+PC94OnhtcG1ldGE+DQogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgIDw/eHBhY2tldCBlbmQ9J3cnPz7/2wBDAAcFBQYFBAcGBQYIBwcIChELCgkJChUPEAwRGBUaGRgVGBcbHichGx0lHRcYIi4iJSgpKywrGiAvMy8qMicqKyr/2wBDAQcICAoJChQLCxQqHBgcKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKir/wAARCABsAa4DASIAAhEBAxEB/8QAHwAAAQUBAQEBAQEAAAAAAAAAAAECAwQFBgcICQoL/8QAtRAAAgEDAwIEAwUFBAQAAAF9AQIDAAQRBRIhMUEGE1FhByJxFDKBkaEII0KxwRVS0fAkM2JyggkKFhcYGRolJicoKSo0NTY3ODk6Q0RFRkdISUpTVFVWV1hZWmNkZWZnaGlqc3R1dnd4eXqDhIWGh4iJipKTlJWWl5iZmqKjpKWmp6ipqrKztLW2t7i5usLDxMXGx8jJytLT1NXW19jZ2uHi4+Tl5ufo6erx8vP09fb3+Pn6/8QAHwEAAwEBAQEBAQEBAQAAAAAAAAECAwQFBgcICQoL/8QAtREAAgECBAQDBAcFBAQAAQJ3AAECAxEEBSExBhJBUQdhcRMiMoEIFEKRobHBCSMzUvAVYnLRChYkNOEl8RcYGRomJygpKjU2Nzg5OkNERUZHSElKU1RVVldYWVpjZGVmZ2hpanN0dXZ3eHl6goOEhYaHiImKkpOUlZaXmJmaoqOkpaanqKmqsrO0tba3uLm6wsPExcbHyMnK0tPU1dbX2Nna4uPk5ebn6Onq8vP09fb3+Pn6/9oADAMBAAIRAxEAPwD6RrN1fxHofh/yv7e1nT9M87PlfbbpIfMxjONxGcZHT1rSrzzxsmrP8T/C/wDwj09nBfCw1Axm9gaWNuIflIV0Izxzk49DSb1/rsNK53djqFnqljHeaZdwXlrKMxz28gkRxnHDDIPIqxXz3Dr11H4d0rfdjTYbjUNRfXxPq0ulpbaj18nzYldkXl2RP4sDJJ4q34o1/X9J/wCEdvdT16S6lj0y2eSwtb2fT7m5mMozLAjxrHckjAaF0LAcbVLAmlq18vyf+XzWonpf+utv6+49s1XWdL0K0F1repWmnW7OEE13OsSFjkgZYgZ4PHtUUXiTQ59FfWIdZ0+TTI8775LpDCuDg5kztHPHWuG+IfiXR3uNAZ76KBdJ8UWsd89wfKW3YwO+GZsL91lOQSOetcf49W01yz8Y6tpE5n0aabSVS6srhlhuLlZtsjKyHD4RkBPIyB3UYSu/vt+Wv4hKy+6/4tW/A92tbq3vrSK6sp47i3mQPFNE4dHU8ggjgg+oqWmQQrb28cMZcrGoVTI7OxAGOWYkk+5JJp9N2voHqFFFFIAooooAKKKKAMXUPGfhfSL57LVfEmkWN3Hjfb3N/FHIuRkZVmBGQQat6rr2kaFbxz63qtlpsMrbI5Ly4SJXbGcAsRk4ryHxTJ4ht9Z+Js+hC0ntAtol/ayWjSzvC1sBI0TeYF3KhYhWUg4/AzeP306DRfC+q+G/FFhaSWelyLZw62m6y1W0ZIw8Uj42lyqr8oO4+g6hcySu/L8Vf+vn2sO2qS/rb+vu7nq+qa9o+h28dxrWq2OnQyttjku7lIlc4zgFiATjmr4YMoZSCCMgjvXi/j25L6D4W1231DTvC+rQ6W7Lo2swFbG5hkSPzbViVADAAAJ94+g6j1Xwzcve+FNKuZdP/sx5rOJ2sdu37OSgPl4wMY6YwOlXbfydvz/y/rrN9vM1KKKKkYVj6j4u8N6Rfix1bxBpVjdkAi3ub2OOQg9PlZgea2K8vudd8P6R8UPGsHiXULC2iu9LskWC7lRTcDbMGVUY5fqBgA9R61MnYaV/68z0ObWdMttUt9NuNRtIr+5UtBayTqssoGclUJyw4PQdqu14t8MtFubL4iaaNX+2x38PhG2MkU1zJ8h8xlCsm7HCgfKRgHJ65Ne01o1Zff8Ag2v0JTu2vT8Un+oUUUVIyC9vrTTLKW81K6htLWEbpJ55BGiD1LHgUljqFnqljHeaZdwXlrKMxz28gkRxnHDDIPIrk/ita2134J2XWuHQJEvIJbbUWiLxQTo4aMycYVNwA3NgAkZ9DxWh+K72K18JajrEmn6RZ/23fW1/eaa/k2GoHyZNk2eAwdxkE9WGR6AWt/L+v6X+eg9En6/q/wBP66+00V4ho1/qOu2/hqG71nVhFc6Rq08pivpoXkaOdBGWYENlc8c5A46Eg7Pw0vtRk13Rjd6rf3g1TwtDf3KXVy0qmfeBvUMSE4bBC4BwCRnmiOr/AK/vf/Iv8BN2V/66f5nq1UoNZ0y61S40y21G0mv7UBp7SOdWliBxgsgOV6jqO9eXeJtZ1CLxNrynVb238QW97aL4f0yK5dEuoCELEQA7ZlLGYOzA7AvVduRtfDGwitvEnjuWN7gsddZCJLmSRceVG3RmIzljz1xgdAACOr+V/wAv89Ry0/r1/wAtDtTr2kDWho51WxGqFdwsftCeeVxnPl53Yxz0q/XizXR0j4zmPStQ07XbTUtZBu9GvLci+0y48nabmEEZ8vaozJ93aQATndTfDeuzz+MfCsdzr1+2t3Op36a1ppvZHii2xzeWjRE7YwMDaABuA3fNjII+9FP+v68/6RLRtdv+D/l/W57XRRRQAUUUUAFFFFAEN3eW1hZy3d/cRW1tCpeWaZwiIo6kseAPc1S0jxLoXiBpRoOtafqZhwZRZXSTeXnOM7ScZwevpWJ8V/8Akkfib/sHS/yrY8PQ6xDp6/23fWN4xRfKNnZPbhRjo26WTcfcY+lC6g9LGtRRRQAUUUUAFFFFAGPZeLvDepan/Z2neIdKu77LD7LBexvLlfvDYGzxg544rTubq3s4hLdzxwRl1QPK4UFmIVRk9ySAB3JryLwJoes+IPDmhB4dPttL0vXbu+W7W4d7mQrcTjYI/LCoCWIJ3tlc8c8QaL9ouLDwFe6je316b/XJhcvd3kkqlo1uTCAhO0YIHIAJKrnOBRHW1/L9P6sD0b8r/hf/AC/E9pJABJOAOpNYdp438KX8ksdj4n0a5eGNpZFh1CJyiKMsxAbgAdT0Fcd4Y0nxPB4nu7mwh1DR/C5kcmx1bUFuWmXyyAYYtheAb+cGXGP4Bnix8JbXVH+GWk/2pe6fPpMmn7UtksXjkUE/xymVlYYznCL17Y5m/u83lf8AP/Iel7eZ6IrK6B0YMrDIIOQRS1yHwomuJ/hR4ee7JZ/sihWLbsoCQhz/ALoWuvq5KzaJV7ahRRRSGFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAUUUUAFUrzR7G/wBRsL+7g8y506R5LV97Dy2ZCjHAODlSRzmrtFABRRRQAUUUUAFFFFABRRRQAUUUUAFFFFABRRRQAVVv9NtNUhijvovMWKZJ48MVKujBlYEEHqPxGQeCatUUAFRXVtFe2c1rcBjFPG0bhHKHaRg4ZSCDz1BBFS0UPXRjTad0RW1tDZ2sVtaxrFBCgjjjUYCqBgAfhUtFFG4ttEFFFFAHm+s+PNWj+Ilr4caWw8N2j3Xlpd6lDM8mogKjYtztWEZLFOZGbn7oOAcxPFuv67rXhnUTdQWul3mtXttFa2vmJJshinUec28rJkpuwFAUgfe6j1iaCK4j8u4iSVMhtrqGGQcg4PoQD+FYEfgLw3DrK6pFp7LdJcPdR4uZfLjldSruse7YpYMd2AMnk5IBpdLf10G3/XyZ53oXi3xLaeA9FTVLyG6i1jRbt4LhfMF3BNFEXDPKznfkA8gKVOOvWrP/AAsHWdCHh+3tbq08RT3ukwzyaMIp2vwfLTLiSNZFwxJP70IM/wAeM47XTfhx4V0hClhpjIn2aS0RHuppFiik/wBYqBnITd1Yrgk8kmt7T9Ms9KtY7bT7dIIo40jAXklUUKoJPJwABkk0/tN+n/t3+a/rUl3b08/0/wAmWQcqCQQSOh7UtFFAwooooAKKKKACvOvH/jvVdB1yDSbZrHQbS4MS/wBv6tFNJBl94KRhE8sOu0H97Ig9iOa9FpksUc8LxTxrJHIpV0dcqwPBBB6ijqho8o8R+LNf1CW6+wXlva6dpviOw0xvJDrcTkyQs7l1faEbft2beRkk9jJ4f8U+IdOlFxd3Nve6XdeKbnS2imEjXEYaVwjLIX2hVIA2benIbtXaXvgLw3qGqnUbnT2Nw0sU7CO5ljjaWIgxyGNWCFxtA3EZwMZxxSWngHw1Y6wNTttOZbkXMl4N1zK0YnfO6XyyxTfhiN2MgcAgDFOOlr/18N/vs/S+gpaxaX9fF/mvW2p5xp3jzWdD8M6LcrrNnqF1eX17CdJv0uJrq6C3M2DE8KyOMBVX5kK4A5Hf1/SrubUNHs7y5s5LGa4hSSS1lILwsQCUOO46VDpGgaXoNqLfSbNLdAXIOSzfO7SMNzEnG5mOM4GeK0aUdI2f9f1/wwS1ldFDXdQuNJ8P32oWWnzalcW0DSR2cB+edgMhRweT7An0B6V5nZ/EzWLjStQvRqOhzX7apb6Xb6XFBOv9ntJLs33HmiOVjgkYCICU46nHrdZ2r6Bpeu2c1tqtlHPHOqq55V8K25cOuGUq3IIIIPIwaOv9d9fw08hvax5Q2r+KBrz2p1j/AEweMUtNwMot9n2ENt8rfny93zeXuxn+L+KtGTxXrOo694ftby+j0+5ttX1HT7ya0LJby+XauySGNmPAyrbWJAIPPeuvb4ceFntTA+nyspvBfl2vZzJ9oCbBL5m/dv2989fm681at/BPh61isI4tNUrYSzTQeZK7nfKrLIzlmJkLBmyX3daH8NvL9Ir9H94Pe68//bv819xz3w98dan4m1C4sbqOz1S0txLs13TIp47aUo4UIRKgXcRk/u5JF4PQYz39IqqiBEUKqjAAGABS02SgooopDCiiigApHYrGzKpcgEhVxk+3NLRQwPIrX4r6rJ/buoap/Z+mNo+mG7Hht4p1vXYrnMjypGNoIH+rVh83LdM0PEWt+KbX/hKvt+rr9ri0HT7iL+znlghjd7iQEopdipIAUsDyADx0Hsd7p1lqMLRX9pDco8bRMssYbKMMMvPYjqO9c/H8NfCsdjd2h06WWG9to7W4E97PKZIo2LIhZ3JwCTjnpgdABS63/rZ/8Ab12/rb/JnIeIvFXiCDVxoWoXUKXFrrOkyJdaaskAlt55ipjdS7HOUYHnDAjgcitLw9471W68e3Xh0SWPiOziuTE+oabDNG1iNjPtnJUwkggJ8sgbP8OcgdJD4C8OQI6rYO7PeQ3ryTXUskjSxY8ol2YttXAwudo9K34YYreIRW8aRRjOERQoGTk8D3qlZL5/pH/JkvX+vUfRRRSGFY/inWbzQfD02oadpU2rXEbxqLaHdkhnCljsV2woJY7VY4HStiiga31PKdH+IWtarpOlmz1jQb3Utb1ZrJfItpvs+mqiOzK6OySu5CZw2zluOME5+h6v4mu7zw7BBq5F3PrOswytctJNCVjd9oKB1LquMKpYY49K9R1jw1pGuweXqVoGPnJOssMjQypInCuskZV1YDjII4yOhrOPw78MfZbW3TT5Iks5pri3aG8mjeKSYkyMrq4YE5PfjPGKnv/Xb/ACYnr/Xr/mjhtN8Z6rrfiC2uLvVodDaPQb4XUhJaziuILtIjNsZgCvDYyQQGxmup+G/jTU/GFjLJqNjB5cUaNFqlkk6Wt5uLAiNZ40cbdozjevP3u1bVj4L8Pac1obPS4k+x2ZsYVJZlEJYOVKkkMSygljlie/Jrcq9Erev5t/kweruv60QUUUUgCiiigAooooA4H4ieOdU8LXVva2cNnp9tOI9+t6pHPJawlpNpTESEbsc/vHjXkcnnHOeMPFviC40TXYNK1S1W10U6bDLeQhkuLuSV42aVHRwqIVYDGG3ZYZAr2BlDKVYAgjBBHWuc1P4feGNXuWmvdM5eOKJ0hnlhjkWJt0W5EYKxU9CQSBwOKI6PXv8A1/X+Qpa7f1/Xz7bM4u38V+ING1PxBfm5gvNKg8VR2EltciR5kjlWBB5T79qBWk3bdpBy3IqlD431bQ/D8F6PEFi88uv39ounaok80l4ouyqrCYg8ilVG0YR1G4ZHSvQ/+EB8NnWm1U6ezXT3f2591zKY3nAAEhi3bCwAGCV+U8jBrR0vQNL0ZWGm2aQlpZpSxJZt0r75MMxJAZucDjgccClG6Ub9Fb8I/wCT+8qWrf8AXf8AzX3B4f1K51jw9Y6hfadNplxcwrJJZzn54Sf4TwD+YB9QDxWjRRVPfQRn6ymqvZoNDvLO0uPMG57y0a4Qrg5AVZIyDnHOT0PHORi+R43/AOg/4f8A/BFP/wDJldNP9wfWoKQGB5Hjf/oP+H//AART/wDyZR5Hjf8A6D/h/wD8EU//AMmVs3cssNnLJbQG5mRCUhDBTI2OBk8D61ysvje60631SPWtMtbbULDyCI4b4vbusxIRmmeNNgBVy2VO1VzznFAGj5Hjf/oP+H//AART/wDyZR5Hjf8A6D/h/wD8EU//AMmVmp42vLjStPksdP067vL+WZYTDqoezdYgWZluFjJPAwBsByGzgDJhn+Iw+x2t9Y6W0tk2nQ6nctPP5UkcMrYURqFYSOMHI3KOVwTmnZ3sK+lzY8jxv/0H/D//AIIp/wD5Mo8jxv8A9B/w/wD+CKf/AOTK36qajNewWTNplml5ckgJFLN5SderPhiAPZWPtSGZfkeN/wDoP+H/APwRT/8AyZR5Hjf/AKD/AIf/APBFP/8AJlWfD2syazaXBurZLW7s7l7W4ijlMqB1wflcqu4EEHO0HtjiqNp4ztbzX9ZsIbaaSDSrdJmuIVMpmYtIrKiKCzFTGRxkk5GOOQN1f+uxL5Hjf/oP+H//AART/wDyZR5Hjf8A6D/h/wD8EU//AMmVQg8a3d9odhcWOiEahqF/PZQ2d3dCNYzE0gZpJFV8fLEThQ3JA6fNVW/+I8drpdnNHBp8FzMZknXU9TW0hheJzG6eaVbcxcEKNoyASSuKdnew7a2NnyPG/wD0H/D/AP4Ip/8A5Mo8jxv/ANB/w/8A+CKf/wCTKL/xQbLWtG046Xdl9TkCSSsAsdtmN3AL8h2/dkbVJx1JGV3Eviu3Xxxb+G4oTI720s81wHwsJTYQhHdiJAx6YBX+9SCz/UPI8b/9B/w//wCCKf8A+TKPI8b/APQf8P8A/gin/wDkyrGkeKNI125lg0y5eSSNBIA8EkQkQnAkjLqBImR99Mr055FTzazbpozalbRXF7HyEjtoWaSRt23aF7c8ZOAOpIGTQ9FdiWrsUPI8b/8AQf8AD/8A4Ip//kyjyPG//Qf8P/8Agin/APkyqq+KtTuvB+n69puiwyJcWf2y4S5vxEsCbQxUMEbc3PGQq8HLDjPRWd0l9YwXcIZY541lUOMMAwyMjseadrNrsD0djH8jxv8A9B/w/wD+CKf/AOTKPI8b/wDQf8P/APgin/8Akyt+ikBgeR43/wCg/wCH/wDwRT//ACZR5Hjf/oP+H/8AwRT/APyZVrxNrEvh/wANXuqW9mb6W3QMlsJPL81iQAu7BxyeuKr2XiiDUdT0y3tIWaHULGa7Erna0ZjeNSjIR1zIQeRgqRj0Fq7f11/yYDfI8b/9B/w//wCCKf8A+TKPI8b/APQf8P8A/gin/wDkypPDniRfEK3RFs1t5Thodz7vPgYZjmHHAbDcdtprboAwPI8b/wDQf8P/APgin/8AkyjyPG//AEH/AA//AOCKf/5MrfooAwPI8b/9B/w//wCCKf8A+TKPI8b/APQf8P8A/gin/wDkyt+igDA8jxv/ANB/w/8A+CKf/wCTKPI8b/8AQf8AD/8A4Ip//kyt+igDA8jxv/0H/D//AIIp/wD5Mo8jxv8A9B/w/wD+CKf/AOTK36r6hdfYdMurvZ5n2eF5dmcbtoJxnt0pSkoptjSbdkZHkeN/+g/4f/8ABFP/APJlHkeN/wDoP+H/APwRT/8AyZVXSfGyapp+gz/YGgm1S4a1uLd5Pms5FheVgePm+5gHjIYMOKvWHiNL7xJd6V9nMaxKTBOXyLjYQsuBjjYzKOvOfaqcWnZivpcj8jxv/wBB/wAP/wDgin/+TKPI8b/9B/w//wCCKf8A+TK36KQGB5Hjf/oP+H//AART/wDyZR5Hjf8A6D/h/wD8EU//AMmVv0UAYHkeN/8AoP8Ah/8A8EU//wAmUeR43/6D/h//AMEU/wD8mVv1h+LPEbeF9KhvVsJL4PdRwvHE2GVGPzOBg7iqgnaOTjFK6W4DPI8b/wDQf8P/APgin/8AkyjyPG//AEH/AA//AOCKf/5MqWLxLbS6pfW+F+y2lhBffahJlXSQy9sdAIs5zzu9qk8O64dd055prRrK5hlMc1s7bjGcBlycDqjI3/AsdqqzvYP6/UreR43/AOg/4f8A/BFP/wDJlHkeN/8AoP8Ah/8A8EU//wAmVv0UgMDyPG//AEH/AA//AOCKf/5Mo8jxv/0H/D//AIIp/wD5MrfooAwPI8b/APQf8P8A/gin/wDkyjyPG/8A0H/D/wD4Ip//AJMrfooAwPI8b/8AQf8AD/8A4Ip//kyjyPG//Qf8P/8Agin/APkyt+igDA8jxv8A9B/w/wD+CKf/AOTKPI8b/wDQf8P/APgin/8Akymr4rQeOp/Dc9o8W22SaC735WZzuJjxj5WCruHPIDf3TVWXxts8HaXriaa8r6hEsxtUkyY49hkkbIXLbUBwMfMcDjOaOlwWuxc8jxv/ANB/w/8A+CKf/wCTK6qqSOskauhDKwyCO4q7QBHP9wfWoKsSqWUBeeai8p/T9aAKOqf2gdJuv7G+z/2h5TfZvtRIiEmPl3bQTjPoK5G28LaxN4dltdQstOS/S7gv1uGv3ujezxuGJmJgTYDsCjaCFGMKAoU955T+n60eU/p+tC0d/wCu4dLHncvgzWpBLeXNvpWoyXd7LdXOi3Ny4slLJGqMH8pizJ5QbJjGTIxGCAajvvBHiKS0tohe2eo3IsY7ZdQvZ5Fl02Zdwa4gG1izEP3ZGOxcsQePSPKf0/Wjyn9P1oWn9dg/r8bkagqgBO4gYJPesnxNFrc+hyxeGJLeK/dlUSXEhjCpn5yrBHw23OCVIB5IOMHa8p/T9aPKf0/WgFoc9oOn31jocWnSafaaag8xW+yX73DLnnzN8kSl3ZixJbvySxJrM8M+Crzw74quL463dX9i2nw2kUdyIQ+Udz83lxJwA3Bzklm3Z4x2nlP6frR5T+n60763DpY4e58I3x8MJZCCyvLiLVLi9RWvJ7UhZJpXUpPEN8bgSDJCkEbl6HNVofA+oaPY2cmjxabdXy211b3CXkjpGPtEglZlYKzEKwI2kDcDywI59B8p/T9aPKf0/Wk9b36/5W/Ibbbv/W9/zOXXwxPb6b4VsoboTrocsZllmJDSqlvJFkdfmJcHn35rMbwBdp4utdSj8QX01ksd550E4gyGnKcKVhBK/L/E2RtQA4yK7vyn9P1o8p/T9aJe87v+rhF8trdP+D/mee+Fvh62nyGHxBZ2d5aQ2IsUE2oXV8LhdykkxTny4VOxDsUPz0bA56bw/wCFNF8LWkkGhaba2fm/62SGBI2l5JG4qBnG4gZ6Ctzyn9P1o8p/T9abd9yUkjiG8NatB4D0vQP7O0PWUhtEgurfUZHWIuoG11by3yAR90oD0O4Ywen0axl0zQ7KxuLuS9ltoEie5lJLzFVALHJJycZ5JrQ8p/T9aPKf0/Whybv5jeruMop/lP6frR5T+n60gMjxHps2r6BcWNsyLLKU2mQkLw4Y9AewrmdU8FasPEt9qHh++tra3u7C4iSOTIa3uJniLyLgEYIjLY/v8/xHHe+U/p+tHlP6frSsr3+Q02jk9L8HL4d1+zudCmn+xfZWtbuK8v57hiowYjH5jNt2kMNo2jDn0Arqaf5T+n60eU/p+tVdsVrDKKf5T+n60eU/p+tIBlFP8p/T9aPKf0/WgBlFP8p/T9aPKf0/WgBlVNUtXvdHvLWIqJJ4HjUseAWUgZ/Or3lP6frR5T+n61MoqUXF9Rp2d0cNP4Lv4de0LVNMntU+xrm/t5NwWeVLZ4Y5FIHX59pyOVC/3QCmm+BLnSE0a+tb2afV7aUPfvPfztBOJAftGyIlkTLNvAVRyoGQCa7ryn9P1o8p/T9atybd2T0t5WGUU/yn9P1o8p/T9aQxlFP8p/T9aPKf0/WgBlZet6bNqR07yGjX7LfR3D7yRlVzkDA681r+U/p+tHlP6frSavb+ttQ6WPOn+H2pRXWtWtne26aRqS2lvFGCySW9qssjzRAgdxIVQgjAOONoJ6DRvDT6B4iuJtPmmk027t185by+muJVnQ4DBpSx2lDg/MMbFwOTXS+U/p+tHlP6frVX/r5W/rzB6u7GUU/yn9P1o8p/T9aQDKKf5T+n60eU/p+tADKKf5T+n60eU/p+tADKKf5T+n60eU/p+tAHK6n4Vm1G/wBXuBcJBJcJbPYzqCzW80O8hyPTLAEZ5BYHrWVpXgG6kttJtvEd03kaXpMdpGum39xblpj/AK5iyFCUwsYUE/3sgcV3/lP6frR5T+n60f1+gK6VkY3hrT7vSPD9vp188cjWm6GF43ZswqxEeSwB3bNoPXkHk10NV/Kf0/WrFF29wslsFFFFAEN3dwWNnNdXcgighQvI56KoGSayYPGWiT6beX32ieCKxZVuEurOaCVC2Ng8qRA53ZAXCnceBk8Vo6rf/wBl6RdXwtbi7NvE0gt7WMySykDO1VHUnoBXnTwS6/ot9qskWqjVJLqzmvo4tOurVoraOTPlQGWNGkKKZG3KN5YkqFJRQLV/d+Y/M7F/G2hx6ZHfNPdbJJWhWBbCc3G9RlgYAnmjA5OV4BB6EGn3njLQbFbR5r4yR3cQnjlt4JJ0ERxiV2RSI4zn77kL154NcII9SSO3uLiPXoNHivbn+z75bW4u9ShiZECo8bq8mx284ZkUkAR/dO0irLpOr6dpdvIlhrFjqEujWkGlWumNcGKG6jMg2z7CQFG+MnzmKY3ckgktWv8Ad+X5/wDDeYtfz/P8v+HPYaqalqdrpNi13etII1IUCKJ5XYk4AVEBZj7AE1ZTd5a+ZjfgbsdM1leKNam0DQZb600651GcMsccFvDJIcscbmEaswQZySFJwDgE4FJgtS1pesWWsaf9tsJWMIZkbzYmieNlOGVkcBlIx0YA1QtPGWhXlteTx3jRx2cQmmNzbyQfujnEih1BdDg4Zcg44Jqp4Re3t9Jd4/7Qury9uJbi5luNMmtDLNgE4SVRsXG1VyeigbmOTXL6pDqGvanqt7plrq80TWURliv7M27QvFOkgt4AyKJAwEu5vn52gPjApPR28v0/L+t2kJPS/wDW/wDkdiPGmjvp322H+0ZoxMYHjh0q6kmicDdiSFYzJHwQfmUZBB7ipI/F+iSeE5PEpvGi0mJHd7ieCSIqFJU/IyhuoIxjJ7ZrmVbUrmx8U6ppVnfW39sXVvb2Ze1eKYApHC85jdQyhSWPzAcR56YNR/Enw9q83g99P8O6XaXWmWemzIlp9pkjkEnllI9kaROJNqlsKSPmIPUA0/6/zLik2jrLvxXo1jqcFhc3TLPMEwRBI0abzhPMkClYyx4UORuPAzUMXjLSJdch0jGoxXk7ukQn0q6iSQoCWxI8YQgAZznB/GuH1qz1R9WY3Ok3YvJxp/lWVnDLPZ3pjZWJnm2DyzG24g5iyAu4SDCDsobW7vfFGt3zRSRPawLY6e0ibRygkkkUkchmZFJ6Zi+tD0u+1/6/r/gEx95eeh0lR3FxDaW0txdSpDBCheSWRgqooGSSTwAB3ryr4eeH9TivZkM11pNwdOEV9PbaE1mz3O8HzHlnkkS5l4k/eKjKQxO7lRXZ+HPCc2maGbDXdSl1tS/mLFdxQNHEwkLqV2RISc7T82cEDGKJaLT+v63End6lmfxpoUGk2WpG6mltL6Lz4HgtJpSYsA+YyopKIARlmAAyMkVtxyJLGskTq6OAyspyGB6EGvPoZJdP+Euj6Tfxa9YSzaYkTzaZp7TzQuEGY2QRuyEjIyUAGD8ynFdj4ciu4fC+mRalbxWt3HaRLNBCSUicIAVXJPAPHU/U9appJvyf+f8AX9IctJWNKiiipAKRmCqWYgADJJ7UtNkfy42chiFBOFGSfoO9J7AZWkeKdJ1y6kttOlnMscYl2z2k0HmRk4DoZFUSLn+Jcjkc8iteuI8JamPEfiSTWdRstSs74WzRWtpc6Xc262sBdSwaWSNVeViEJCkgbQFzgu3b1TVkhdWU77V9P0y4s4L+6jhmvpvIto2PzSvjOAPoM+1P1DULTSdOnv8AUriO1tLdDJLNK2FRR3JrG8TaYtxfaPeQWQluY9QhDzpFl1iG4kFgMhc8+mas6/b2+r+H9RiazNzJBHJ5Sy25JEoQ7WTcOTzwy+4BrKUmoSkt1f8AJf5lJJzS9P1/yG6l4w0XSY4JL24nEc0InDw2c0qxxHo8hRCIl/2n2jg+hxdutb02y1HT7C5vIku9SZltIc5abapdiAOwUZz06DqRXHa9qssOi6b4bns9Vgt7vTkF9eW2l3NyY49oVol8qNsSNyMtjaOcE4FamraRB/wkHhW903TsGO72zTJbkOkK2k4QOcZCgvgBuhbHU1vZczXT/hyYu613tf8AC5oReMNHnvprSKW6aaFJJB/oM+2YR/f8ptmJiPSMsaNI8XaTreoT2Nkb2O6t4lmlivNOuLUqjEgN+9Rc5IPT0PpWFpWrf8JH43S41Gy1SyGnvNFp9tNpVzGhPKtPJM0YjyyghFDY2tkkswVNXw9pgvdK1KfXLMSSavczNPb3UWQYQxjjRlbt5arxjGSTjk1C2XoPq0a2kazp+vaauoaPdR3do7uiTR8qxRijYPcblPI4PUZFXa8o1XRdRbwfYQyWX+gxa7fS3ltc6TLfI0TTTmJmtUZXkXLIwxnGVbBAyNTTfCOs6h4O0GKPxBqenG1lEvlfZIYSIxIzJ+7lWZ0ZUKqqs/AADAHIDa107hLRtev4Ha3us6dp2oWFje3ccV1qMjR2kJPzTMqlmwB2AHJ6Dj1FVIfFmjz64NJjuJvtTSPEjNayrDK6Al0SYr5bsMNlVYkbW4+U4ztb0YrrHhe5jge8uob9Vur4wL5rRrbTgNIyKABuf0CgvwBmqS6qmv8AjqGDUbLU7WDSrp/sUb6VdBJ5ghUztN5flqgDOFG45zknOFBpexUkkr+X+f8AkdvWbrPiDTtBjibUXm3TMRHFbWstxI2BkkJGrNgDqcYGRk8itKuH8dWR/tmx1C6GtNYJZXEDDRTP5wmZo2j/ANR+82nY3OQucbuoqW7f1/XoJK5uyeL9HTUrexjlurqe5ijnQ2djPcII5CQjtJGjKgO08sRwCelWtY16w0KONr83LGUkJHa2ktzIcdTsiVmwOMnGBkc8ivPprDUkmsrmdfEEfjKe2sUaS3802JKf6zeU/ckfNJuEh3f3Oqk9V4r8Tz6ZbQwabZ6g011K8LXcel3FylqFHLlI0JbqAvRWPfANOWl7CXn2Ll74z0GwtLS6mvWeC8h+0RPbwSTDysAmVtinZGMjLthRnk1NN4o0iDW49JkuiLqTaBiFzGGYEqrShdiswGQpYE8YByK8/wBW0YadbwzaKviT7O2jR22lrZJcxyi6RpCpnUBSufMBPmgR8HcOlWb7TtVkv73SbiyuZb3UtZ0/UkuUt2NukcS2/mkygbVKmB8KSGOVwOaaScref62/LX09QdrP0/Rf8N6nb2HijR9U1abTrG7MlzDvyDC6pJsba/luQFk2t8rbCdp4ODVjTdZ07V5LxNMu47o2NwbW4MZyI5QoYpnoSAwzjoeOoIrifDtleS6zodhNp95C2iG9+2zT27JHIJGITa5G2TeDvO0nGMNg8Vv+EdMGlah4jhhsvsVodRT7LGkXlxmMWsCjYMAbQVI444I7UR1Tv2/VB3OlrHl8V6RBriaTLPMty8ghD/ZJTCJCu4Rmbb5Ycj+EtnkccitiuG1bVV1jxnDo+o2OpwadYXcMiMuk3Mi3s4IZD5qxmNIkbaclsll52qvzpaySB7NnWatrGn6Fpz3+r3cdpbIQpkkPcnAAHUkk4AHJpZtX0+31i20qa6jW/uo3kht85dkX7zY7AZHJrE8Z2kWteDb+S3sHubqJJEt99q3mq2drbAw3c4PI4YcjINS6hpir440e+trIBmE/2q4ji5P7sBN7AfgM/hSd0K7vYsWni7Rb26ubeG6kWS2jeZjLbSxLJGhwzxsygSqDjLIWAyOeRmOLxposujTaq0l7BZxFBvutOuIGkLnCCNHjDSEkgAICSSB1NcvqySeIvElw6WevtD/Zd3Z3cMlp5H2RXCgi2dlCSyOVHO6RQF4K5+aoljOdJ1J9Ik8QR6Ray2U9g1/aXNzcR3Eb5kYQzkTPFtEeVHX59nNCel35fnq/S34jlpt/Wh39t4h0u60SXV0uvLsoFczSTo0Rh2Z3B1cBkIxyGANW7K8g1HT7e9s5PMt7mJZYn2kblYZBweRwe9eZJoniq/0G+uktoL1NQ1CW+nt715bBpQsMccW2Ly5WVS0Zfy2IbhAx5YVz+o+H9fuNP0galZPDKNDtILBYtGm1CW0uULbmikDxC2l5iJaTC8AbsIaqKv8Ah+Kd/ueguv3/AINL/gntOpana6TYtd3rSCNSFAiieV2JOAFRAWY+wBNZr+M9ETSYtR+0XDRSytCkSWU7XBkXO5fICeYCMEkFeByeKra1qmu+HNOvNQmRNYjLJHaWdjps3mxljjdKyPIWUZySseQAcAnArlJrUCx0y/ifWgWvbi4vtWttGuI7uO4eMKPLtXjY+UVJTlHACrzu+cT0b/r+v+BuPsel2l3b39nDd2UyT286CSKWM5V1IyCDU1YXgqCe18EaTBdWA06SO2Vfso3fugOgIZmIOMEgkkHjJrdqnvoAUUUUgCiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooAKKKKACiiigAooooA/9k=) From this model my equation comes out to . The model itself has a P-value of and is well below the 5% level of significance which means, yet again, I would reject the null hypothesis of for the alternative . I want to take this model now and compare it to the second order model for price using age of appliances and crime rate per 100,000 people as predictors to test whether the quadratic terms contribute to predicting the price of home. When comparing these, I will have a reduced (the first order model I just made) and complete (second order model). In general, when comparing a reduced and complete model, the difference would be that the reduced model has fewer variables than the complete model to see if adding those additional variables is worth it. When comparing these, you also must have two models that are predicting the same thing (responses must match). They can, however, have completely difference predictor variables from each other. The reduced model is and the complete model is .

After running the complete model against the reduced model, you can see that the P-value of the test is . This means that the complete model is indeed a better fit than the reduced model in predicting the value of a house.

In conclusion, I, overall, would choose to use the higher second order model over either of the first order regression models. The reason for this is the diminishing returns from different variables or having specific variables that are just not plain linear. These analyses that were performed have great importance in practical use. For someone looking to move for a job, or someone looking to retire and sell their home, or just someone trying to get a re-mortgage at a bank. Being able to accurately predict the price of real estate in specific areas has great use.

Citations:

Barr, D. C. (2018, June 28). *Real Estate Valuation Using Regression Analysis – A Tutorial*. Toptal Finance Blog. Retrieved September 23, 2022, from https://www.toptal.com/finance/real-estate/real-estate-valuation

Muralidhar, K. (2022, January 5). *Demystifying R-Squared and Adjusted R-Squared - Towards Data Science*. Medium. Retrieved September 23, 2022, from <https://towardsdatascience.com/demystifying-r-squared-and-adjusted-r-squared-52903c006a60>

*The distinction between confidence intervals, prediction intervals and tolerance intervals. - FAQ 1506 - GraphPad*. (n.d.). Retrieved September 23, 2022, from <https://www.graphpad.com/support/faq/the-distinction-between-confidence-intervals-prediction-intervals-and-tolerance-intervals/>

*Heteroscedasticity Definition: Simple Meaning and Types Explained*. (2022, April 21). Investopedia. Retrieved September 25, 2022, from https://www.investopedia.com/terms/h/heteroskedasticity.asp