PONTIFICIA UNIVERSIDAD JAVERIANA

ANALISIS NUMÉRICO

TALLER 1

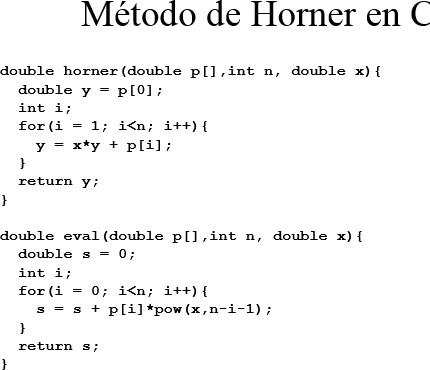
JOHAN DANIEL ORTEGÓN PARRA

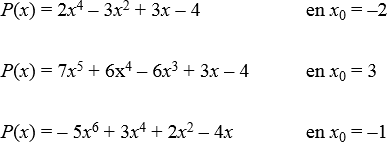
RICARDO RISCANEVO

BOGOTÁ D.C

2019

1. Evaluar el valor de un polinomio es una tarea que involucra para la maquina realizar un número de operaciones la cual debe ser mínimas. Para cada uno de los siguientes polinomios, hallar P(x) en el valor indicado y el número de operaciones mínimo para hacerlo (sugerencia utilizar el algoritmo Horner)





## Código Fuente (python 3)

from sympy import \*  
  
x = symbols('x')  
P1 = input("Por favor ingrese el polinomio a evaluar (use como variable x): ")  
Polinomio = Poly(P1)  
reemplazo\_variable = int(input("Por favor ingrese el valor por el que reemplazará la variable: "))  
coeficientes = Polinomio.all\_coeffs()  
resultado = coeficientes[0]  
iter = 0  
cant\_operaciones = 0  
while iter < len(coeficientes)-1:  
 resultado = reemplazo\_variable\*resultado + coeficientes[iter+1]  
 cant\_operaciones = cant\_operaciones+2  
 iter = iter+1  
  
print("El resultado es: ", resultado, "la cantidad de operaciones fueron: ", cant\_operaciones)

## Evaluación de los polinomios

en

Resultado: 10

Número de operaciones: 8

en

Resultado: 2030

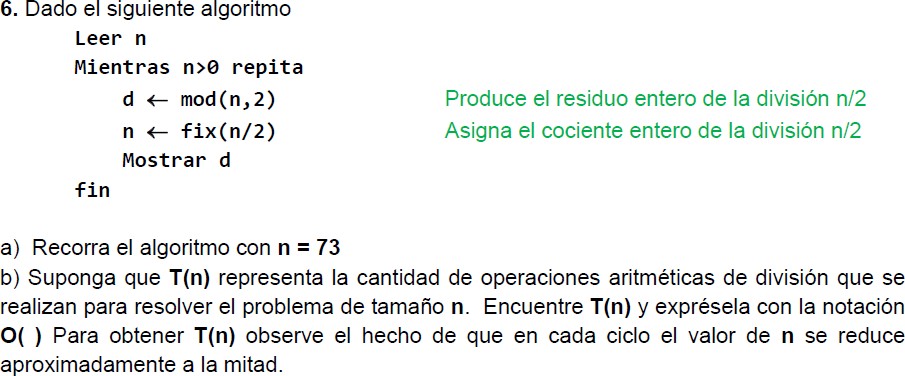
Número de operaciones: 10

en

Resultado: 4

Número de operaciones: 12

1. La eficiencia de un algoritmo esta denotada por **T(n)**



## Código fuente punto 2 (python 3)

n = int(input("Ingrese el numero n: "))  
while n > 0:  
 d = n%2  
 n = (n-d)/2  
 print('valor de d: ', d)

## Calculo de T(n)

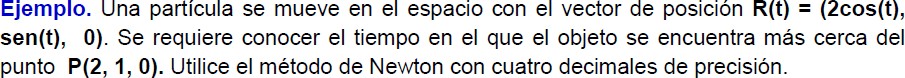
Dado que T(n) depende del numero de divisiones y al mismo tiempo el número de divisiones dependen directamente del número “n”

## Calculo de complejidad en términos o( )

Al observar el ciclo (while) del algoritmo podemos notar que la variable de la cual depende su finalización está avanzando de la forma lo cual expresa un decrecimiento y traduciendo al condicional del ciclo (while) quedaría

Despejando x: Por lo cual la complejidad es de

1. Utilice el método de Newton para resolver el problema, muestre gráficamente cómo se comporta la convergencia a la solución



## Imagen que contiene captura de pantalla Descripción generada automáticamenteGráficas, tablas y análisis

Grafica 1. Expresa el proceso de convergencia de la función usando el método de Newton, donde le eje X de la grafica expresa el numero de la iteración y el Y el valor del error.

Imagen que contiene captura de pantalla

Descripción generada automáticamente

|  |  |
| --- | --- |
| DATOS GRAFICA 1 | |
| ITERACIÓN | ERROR |
| 1 | 0,747 |
| 2 | 0,2747 |
| 3 | 0,1315 |
| 4 | 0,0651 |
| 5 | 0,0325 |
| 6 | 0,0162 |
| 7 | 0,0081 |
| 8 | 0,0041 |
| 9 | 0,002 |
| 10 | 0,001 |
| 11 | 0,0005 |
| 12 | 0,0003 |
| 13 | 0,0001 |
| 14 | 0,0001 |

Grafica 2. Expresa el proceso de convergencia de la función usando el método de Newton, donde le eje X de la gráfica expresa el numero de la iteración y el Y el valor del error.

|  |  |
| --- | --- |
| DATOS GRAFICA 2 | |
| ITERACIÓN | ERROR |
| 0 | 0,2934 |
| 1 | 0,1396 |
| 2 | 0,069 |
| 3 | 0,0344 |
| 4 | 0,0172 |
| 5 | 0,0086 |
| 6 | 0,0043 |
| 7 | 0,0021 |
| 8 | 0,0011 |
| 9 | 0,0005 |
| 10 | 0,0003 |
| 11 | 0,0001 |
| 12 | 0,0001 |

Viendo el comportamiento de las gráficas y las tablas de datos de donde se obtienen podemos ver que la disminución del error con el paso de las iteraciones describe un comportamiento que puede ser atribuido a la convergencia cuadrática.

## Código fuente (python 3)

import matplotlib.pyplot as plt  
#MODULO PARA ACCIONES GRAFICAS  
from pylab import \*  
#MODULO PARA EL MANEJO DE OPERACIONES MATEMATICAS Y MODULOS  
from sympy import \*  
from array import array  
t = symbols('t')  
PosX = 2\*cos(t) - 2  
PosY = sin(t) - 1  
derivadaX = PosX.diff(t)  
derivadaY = PosY.diff(t)  
#Declaracion del X y Y inicial  
X0 = 5  
Y0 = 0  
#Declarciond e la tolerancia  
Tol = 0.0001  
cont\_iteraciones = 0.0  
err = 1.0  
#Arreglos comportamiento de Newton  
ArrayX = []  
ArraYNumIteraciones = []  
  
ArrayY = []  
ArraYNumIteracionesY = []  
#Ciclo del algoritmo (Iteraciones)  
while (err > Tol) & (cont\_iteraciones < 50.0):  
  
 modificar = PosX.evalf(subs={t: X0})/derivadaX.evalf(subs={t: X0})  
 X1 = X0 - modificar  
 err = abs(X1 - X0)  
 print("{:^10}{:.3f}{:^10}{:.4f}{:^10}{:.4f}{:^10}{:.4f}".format('#iteracion: ', cont\_iteraciones,'\t X1: ' ,X1, 'error: ', err, 'Modificar: ', modificar))  
 ArrayX.append(err)  
 ArraYNumIteraciones.append(cont\_iteraciones)  
 X0=X1  
 cont\_iteraciones = cont\_iteraciones+1  
#REINICIAR VARIABLES  
err = 1  
cont\_iteraciones = 0  
while (err > Tol) & (cont\_iteraciones < 20.0):  
  
 modificar = PosY.evalf(subs={t: Y0})/derivadaY.evalf(subs={t: Y0})  
 Y1 = Y0 - modificar  
 err = abs(Y1 - Y0)  
 print("{:^10}{:.3f}{:^10}{:.4f}{:^10}{:.4f}{:^10}{:.4f}".format('#i: ', cont\_iteraciones, 'Y1: ', Y1, 'E: ', err, ' Modificar: ', modificar))  
 ArrayY.append(err)  
 ArraYNumIteracionesY.append(cont\_iteraciones)  
 Y0=Y1  
 cont\_iteraciones = cont\_iteraciones+1  
  
  
plt.plot(ArraYNumIteracionesY,ArrayY)  
plt.ylabel("Error")  
plt.xlabel("Número de iteraciones")  
plt.show()

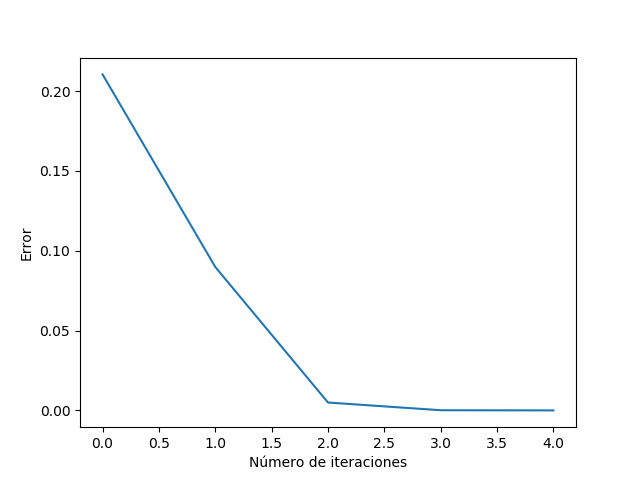
1. Resolver por dos métodos diferentes, grafique las soluciones y comparar sus soluciones

Encuentre una intersección de las siguientes ecuaciones en coordenadas polares

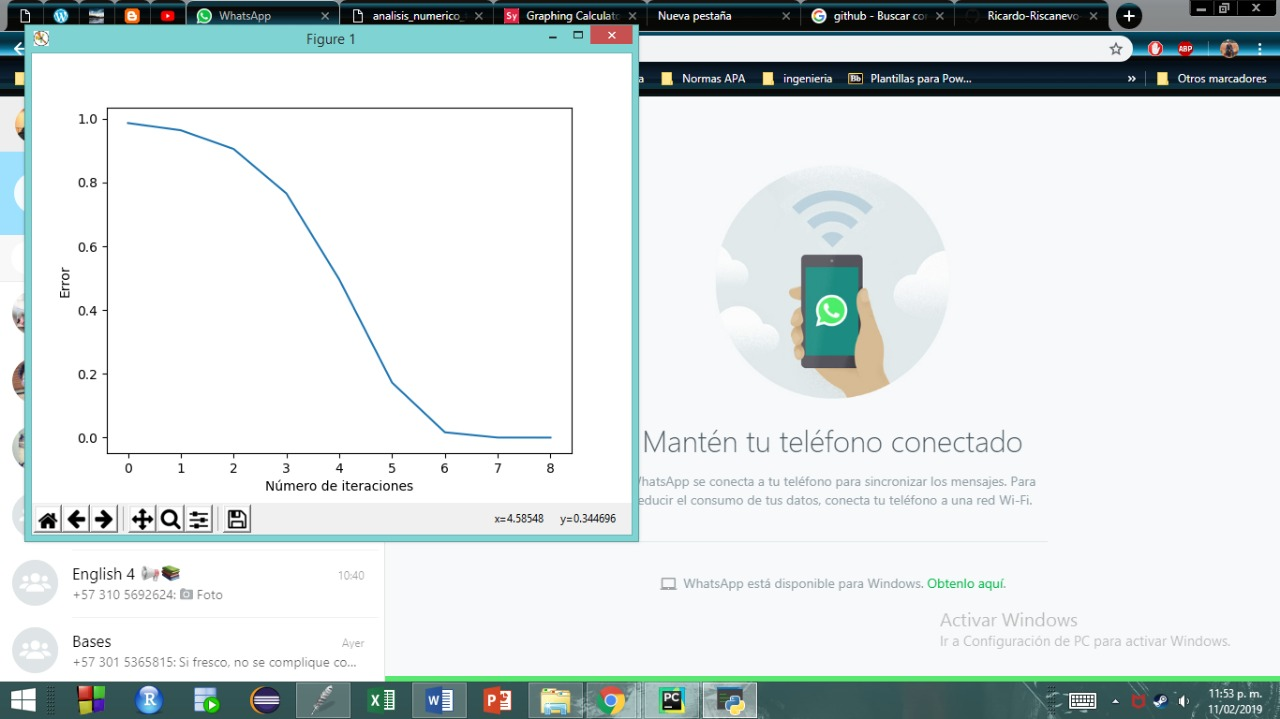
Para el desarrollo de este punto se empleó el método de newton y el método secante, obteniendo valores similares en los resultados de cada método evaluado sobre una misma función.

from sympy import \*  
  
t = symbols('t')  
Fn1 = 2+cos(3\*t) - 2  
derivadaFn1 = Fn1.diff(t)  
  
# Declaracion del X0 inicial  
X0 = 1  
  
# Declarcion de la tolerancia  
Tol = 0.0001  
cont\_iteraciones = 0.0  
err = 1.0  
  
# Ciclo del algoritmo Newton (Iteraciones)  
print('Metodo de Newton')  
while (err > Tol) & (cont\_iteraciones < 50.0):  
 modificar = Fn1.evalf(subs={t: X0}) / derivadaFn1.evalf(subs={t: X0})  
 X1 = X0 - modificar  
 err = abs(X1 - X0)  
 print(  
 "{:^10}{:.3f}{:^10}{:.5f}{:^10}{:.4f}".format('#iteracion: ', cont\_iteraciones, '\t X1: ', X1, 'error: ', err))  
 X0 = X1  
 cont\_iteraciones = cont\_iteraciones + 1  
  
# Inicializacion de variables  
cont\_iteraciones = 0.0  
err = 1.000  
X0 = 1  
X1 = 2  
# Ciclo del algoritmo Secante (Iteraciones)  
print('\nMetodo Secante')  
while err > Tol:  
 X2 = X1 - (((X1 - X0) \* Fn1.evalf(subs={t: X1})) / (Fn1.evalf(subs={t: X1}) - Fn1.evalf(subs={t: X0})))  
 err = abs(Fn1.evalf(subs={t: X2}))  
 print(  
 "{:^10}{:.3f}{:^10}{:.5f}{:^10}{:.4f}".format('#iteracion: ', cont\_iteraciones, '\t X2: ', X2, 'error: ', err))  
 # print('#iteracion: ', cont\_iteraciones,'\t X2: ' ,X2, 'error: ', err)  
 X0 = X1  
 X1 = X2  
 cont\_iteraciones = cont\_iteraciones + 1

from sympy import \*  
  
t = symbols('t')  
Fn1 = 2 - exp(t)  
derivadaFn1 = Fn1.diff(t)  
  
# Declaracion del X0 inicial  
X0 = 1  
  
# Declarcion de la tolerancia  
Tol = 0.0001  
cont\_iteraciones = 0.0  
err = 1.0  
  
# Ciclo del algoritmo Newton (Iteraciones)  
print('Metodo de Newton')  
while (err > Tol) & (cont\_iteraciones < 50.0):  
 modificar = Fn1.evalf(subs={t: X0}) / derivadaFn1.evalf(subs={t: X0})  
 X1 = X0 - modificar  
 err = abs(X1 - X0)  
 print(  
 "{:^10}{:.3f}{:^10}{:.5f}{:^10}{:.4f}".format('#iteracion: ', cont\_iteraciones, '\t X1: ', X1, 'error: ', err))  
 X0 = X1  
 cont\_iteraciones = cont\_iteraciones + 1  
  
# Inicializacion de variables  
cont\_iteraciones = 0.0  
err = 1.000  
X0 = 1  
X1 = 2  
# Ciclo del algoritmo Secante (Iteraciones)  
print('\nMetodo Secante')  
while err > Tol:  
 X2 = X1 - (((X1 - X0) \* Fn1.evalf(subs={t: X1})) / (Fn1.evalf(subs={t: X1}) - Fn1.evalf(subs={t: X0})))  
 err = abs(Fn1.evalf(subs={t: X2}))  
 print(  
 "{:^10}{:.3f}{:^10}{:.5f}{:^10}{:.4f}".format('#iteracion: ', cont\_iteraciones, '\t X2: ', X2, 'error: ', err))  
 # print('#iteracion: ', cont\_iteraciones,'\t X2: ' ,X2, 'error: ', err)  
 X0 = X1  
 X1 = X2  
 cont\_iteraciones = cont\_iteraciones + 1



Grafica 2. Expresa el proceso de convergencia de la función 2-e^t usando el método Secante, donde le eje X de la gráfica expresa el numero de la iteración y el Y el valor del error.



Grafica 2.1. Expresa el proceso de convergencia de la función 2-e^t usando el método de Newton, donde le eje X de la gráfica expresa el numero de la iteración y el Y el valor del error.

1. Resolver los ejercicios 13,14 y 15
2. El siguiente algoritmo permite calcular la raíz n-enésima de un número real a través de operaciones aritméticas básicas, siendo este proceso no muy preciso en el instante de calcular una raíz n no exacta.

## Código Fuente

# Ingreso de datos  
num = float(input('Ingrese el valor de numero a saca raíz: '))  
rz = int(input('Ingrese la raiz a sacar: '))  
# Inicialización de variables  
a = 0 # resultado  
cantidad = 0 # raíz más cercana  
  
#Búsqueda de la raiz más cercana o exacta   
while cantidad <= num:  
 if ( cantidad == num ):  
 break  
 a = a + 1  
 cantidad = a  
 for i in range(rz - 1): # Calculo de raices cercanas  
 cantidad = cantidad \* a  
if cantidad > num:  
 a = a - 1  
  
d = (1) / 10 # Declaración de un menor rango de busqueda  
#Búsqueda más precisa del valor de la raiz  
while (d > 0.01):   
 if cantidad == num:  
 break  
 cantidad = a  
 for i in range(rz - 1):  
 cantidad = cant \* a  
 if cantidad < num:  
 if cant + d < num:  
 a = a + d  
 continue  
 else:  
 break  
 d = d / 10  
 a = a + d  
  
print('La raiz ', rz, ' de ', num, ' es: ', a)

1. El siguiente es un procedimiento intuitivo para calcular una raíz real positiva de la ecuación f(x) = 0 en un intervalo [a, b] con precisión E

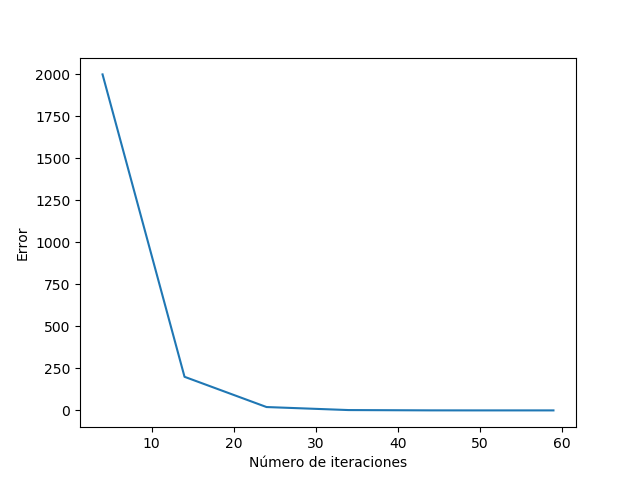
## Código Fuente

#MODULO PARA LE MANEJO DE POLINOMIOS  
from sympy import \*  
#ENTRADA DE POLINOMIO POR CONSOLA  
x = symbols('x')  
P1 = input("Por favor ingrese el polinomio a evaluar (use como variable x): ")  
poli = Poly(P1)  
#ESPECIFICACION DE LIMITES Y ERROR  
a = float(input('Por favor introducir valor de límite innferior(a): '))  
b = float(input('Por favor introducir valor de límite superior(b): '))  
E = float(input('Por favpr ingrese la precision (E): '))  
  
x1 = a  
d = (b-a)/10  
x0 = x1  
x1 = x1 + d  
  
while abs(d) >= E:  
 if poli(x0)\*poli(x1) <= 0:  
 x1 = x1 - d  
 d = d/10  
 x1 = x1 + d  
 else:  
 #print('valor de d = ', d,'X0', x0, "X1", x1, 'polinomio: ', poli(x0)\*poli(x1))  
 x0 = x1  
 x1 = x1 + d  
 if x1 > b:  
 print('La función ha superado el límite superior establecido en el rango, intente con uno nuevo')  
 break  
  
print('La raiz es :', x1)

1. Condiciones para que la raíz exista, sea única y pueda ser calculada

Para que la raíz exista la función debe estar sometida a un cambio de signo dentro del intervalo establecido, para determinar que la raíz es única la función debe ser derivable, debe existir y su solución no puede estar contenida en el intervalo dado. Final mente para que la raíz pueda ser calculada la función debe ser continua en el intervalo seleccionado.

1. Orden de convergencia y factor de convergencia del método



Grafica 3. Expresa el proceso de convergencia de la función usando el método intuitivo expresado en el punto 14, donde el eje X expresa el numero de la iteración y el eje Y el error

|  |  |
| --- | --- |
| DATOS GRAFICA 2 | |
| ITERACIÓN | ERROR |
| 0 | 2000 |
| 14 | 200.000 |
| 24 | 200.000 |
| 34 | 200.000 |
| 44 | 0,20000 |
| 49 | 0,02000 |
| 59 | 0,00200 |
| 69 | 0,00020 |
| 79 | 0,00002 |

Gracias a la apreciación de la grafica y los datos de donde procede podemos concluir que la convergencia del método es de carácter lineal y su factor de convergencia, debido a la manera en la que se comporta la disminución del error con el paso de las iteraciones, es de

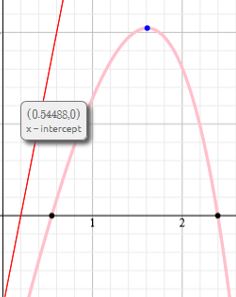
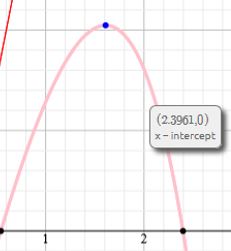
15) Se propone resolver la ecuación Con el método de punto fijo

a) Obtener la ecuación f(x) = 0 resolviendo la integral

b) Mediante un gráfico aproximado localice las raíces reales

![Imagen que contiene pared, interior

Descripción generada automáticamente](data:image/jpeg;base64,/9j/4AAQSkZJRgABAQEAYABgAAD/4RD4RXhpZgAATU0AKgAAAAgABAE7AAIAAAAPAAAISodpAAQAAAABAAAIWpydAAEAAAAeAAAQ0uocAAcAAAgMAAAAPgAAAAAc6gAAAAgAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAGRhbmllbCBvcnRlZ29uAAAABZADAAIAAAAUAAAQqJAEAAIAAAAUAAAQvJKRAAIAAAADODUAAJKSAAIAAAADODUAAOocAAcAAAgMAAAInAAAAAAc6gAAAAgAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAADIwMTk6MDI6MTAgMTI6NTQ6NTIAMjAxOTowMjoxMCAxMjo1NDo1MgAAAGQAYQBuAGkAZQBsACAAbwByAHQAZQBnAG8AbgAAAP/hCyFodHRwOi8vbnMuYWRvYmUuY29tL3hhcC8xLjAvADw/eHBhY2tldCBiZWdpbj0n77u/JyBpZD0nVzVNME1wQ2VoaUh6cmVTek5UY3prYzlkJz8+DQo8eDp4bXBtZXRhIHhtbG5zOng9ImFkb2JlOm5zOm1ldGEvIj48cmRmOlJERiB4bWxuczpyZGY9Imh0dHA6Ly93d3cudzMub3JnLzE5OTkvMDIvMjItcmRmLXN5bnRheC1ucyMiPjxyZGY6RGVzY3JpcHRpb24gcmRmOmFib3V0PSJ1dWlkOmZhZjViZGQ1LWJhM2QtMTFkYS1hZDMxLWQzM2Q3NTE4MmYxYiIgeG1sbnM6ZGM9Imh0dHA6Ly9wdXJsLm9yZy9kYy9lbGVtZW50cy8xLjEvIi8+PHJkZjpEZXNjcmlwdGlvbiByZGY6YWJvdXQ9InV1aWQ6ZmFmNWJkZDUtYmEzZC0xMWRhLWFkMzEtZDMzZDc1MTgyZjFiIiB4bWxuczp4bXA9Imh0dHA6Ly9ucy5hZG9iZS5jb20veGFwLzEuMC8iPjx4bXA6Q3JlYXRlRGF0ZT4yMDE5LTAyLTEwVDEyOjU0OjUyLjg1MjwveG1wOkNyZWF0ZURhdGU+PC9yZGY6RGVzY3JpcHRpb24+PHJkZjpEZXNjcmlwdGlvbiByZGY6YWJvdXQ9InV1aWQ6ZmFmNWJkZDUtYmEzZC0xMWRhLWFkMzEtZDMzZDc1MTgyZjFiIiB4bWxuczpkYz0iaHR0cDovL3B1cmwub3JnL2RjL2VsZW1lbnRzLzEuMS8iPjxkYzpjcmVhdG9yPjxyZGY6U2VxIHhtbG5zOnJkZj0iaHR0cDovL3d3dy53My5vcmcvMTk5OS8wMi8yMi1yZGYtc3ludGF4LW5zIyI+PHJkZjpsaT5kYW5pZWwgb3J0ZWdvbjwvcmRmOmxpPjwvcmRmOlNlcT4NCgkJCTwvZGM6Y3JlYXRvcj48L3JkZjpEZXNjcmlwdGlvbj48L3JkZjpSREY+PC94OnhtcG1ldGE+DQogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgIAogICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgCiAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAgICAKICAgICAgICAgICAgICAgICAgICAgICAgICAgIDw/eHBhY2tldCBlbmQ9J3cnPz7/2wBDAAcFBQYFBAcGBQYIBwcIChELCgkJChUPEAwRGBUaGRgVGBcbHichGx0lHRcYIi4iJSgpKywrGiAvMy8qMicqKyr/2wBDAQcICAoJChQLCxQqHBgcKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKioqKir/wAARCAIuAnADASIAAhEBAxEB/8QAHwAAAQUBAQEBAQEAAAAAAAAAAAECAwQFBgcICQoL/8QAtRAAAgEDAwIEAwUFBAQAAAF9AQIDAAQRBRIhMUEGE1FhByJxFDKBkaEII0KxwRVS0fAkM2JyggkKFhcYGRolJicoKSo0NTY3ODk6Q0RFRkdISUpTVFVWV1hZWmNkZWZnaGlqc3R1dnd4eXqDhIWGh4iJipKTlJWWl5iZmqKjpKWmp6ipqrKztLW2t7i5usLDxMXGx8jJytLT1NXW19jZ2uHi4+Tl5ufo6erx8vP09fb3+Pn6/8QAHwEAAwEBAQEBAQEBAQAAAAAAAAECAwQFBgcICQoL/8QAtREAAgECBAQDBAcFBAQAAQJ3AAECAxEEBSExBhJBUQdhcRMiMoEIFEKRobHBCSMzUvAVYnLRChYkNOEl8RcYGRomJygpKjU2Nzg5OkNERUZHSElKU1RVVldYWVpjZGVmZ2hpanN0dXZ3eHl6goOEhYaHiImKkpOUlZaXmJmaoqOkpaanqKmqsrO0tba3uLm6wsPExcbHyMnK0tPU1dbX2Nna4uPk5ebn6Onq8vP09fb3+Pn6/9oADAMBAAIRAxEAPwDv7b4H+G7i3WT7dqq7s8ebGe//AFzqX/hRPhv/AKCGq/8Af2P/AOIr0PTv+PCP8f5mrVAHmK/Avw2zMPt+q8H/AJ6x/wDxul/4UT4b/wCghqv/AH9j/wDiK9KT/WSfWn0AeYn4F+G/MC/b9V5Gf9bH/wDG6X/hRPhv/oIar/39j/8AiK9KP+vX/dNPoA8xb4F+G1A/0/VTkgf62P8A+N0v/CifDf8A0ENV/wC/sf8A8RXpUv3V/wB4fzp9AHmR+BPhsKT9v1X/AL+x/wDxFIvwK8NsoP2/VeRn/Wx//EV6a/3D9KSP/Vr9BQB5p/wonw3/ANBDVf8Av7H/APEVFb/A/wANzq5+3aqu1yv+tjOf/IdepVU0/wD1cv8A11b+lAHnv/CifDf/AEENV/7+x/8AxFIPgX4b8wr9v1XgZ/1sf/xuvTqYP9e30oA81/4UT4b/AOghqv8A39j/APiKRvgX4bDKPt+q8n/nrH/8br06mP8A6xPrQB5r/wAKJ8N/9BDVf+/sf/xFI/wL8Nohb7fqpx/01j/+N16dTJv9S30oA81/4UT4b/6CGq/9/Y//AIij/hRPhv8A5/8AVf8Av7H/APEV6bQehoA8xT4FeG2UH7fqo/7ax/8AxFL/AMKJ8N/9BDVf+/sf/wARXpUX+rH4/wA6fQB5bF8D/Dck0sf27VR5ZAz5sfP/AJDqX/hRPhv/AKCGq/8Af2P/AOIr0K1/4/Lr/eH9at0AeYn4F+Gw4X7fqvI/56x//G6X/hRPhv8A6CGq/wDf2P8A+Ir0o/69fpT6APMX+BfhtQP9P1U5OP8AWx//ABul/wCFE+G/+ghqv/f2P/4ivSpfur/vCn0AeZN8CvDYUn7fqvA/56x//EUi/Arw2yg/b9V5Gf8AWx//ABFemv8A6tvoaSP/AFa/QUAeaf8ACifDf/QQ1X/v7H/8RSL8C/DbZ/0/VRg4/wBbH/8AG69OpkXRv940Aea/8KJ8N/8AQQ1X/v7H/wDEVkw/CXw3N4tudE8/VR5Fss/nfaI/myQMbfL9+ua9jrkrL/krepf9g2P/ANCFAHP/APCifDf/AEENV/7+x/8AxFI3wL8NhlH2/VeT/wA9Y/8A43Xp1Mf76fWgDzX/AIUT4b/6CGq/9/Y//iKR/gV4bVSft+qnH/TWP/4ivTqZL/qjQB5r/wAKJ8N/8/8Aqv8A39j/APiKP+FE+G/+ghqv/f2P/wCIr00dBRQB5gnwL8Nsm43+qD/trH/8RWd4f+EHh3XNHjv2m1W2EjNsT7RG2VBwDnyx1r0fxHejT/B2pXJbayWsmw/7RBC/qRVjw9Zf2d4dsbTO7yoVGfXis7vnt5HWqcVhnUa1crL5LX80cEPgX4bLMPt+q8f9NY//AI3S/wDCifDf/QQ1X/v7H/8AEV6Un+sf6in1och5a3wP8NrdJD9u1U71Jz5sfGP+2dS/8KJ8N/8AQQ1X/v7H/wDEV6FL/wAhSH/cardAHmLfAvw2oH+n6qecf62P/wCN0v8Awonw3/0ENV/7+x//ABFelS/dH1p9AHmLfArw2qk/b9V4H/PWP/4ihfgV4bKg/b9V/wC/sf8A8RXpj/6tvoaE+4PpQB5p/wAKJ8N/9BDVf+/sf/xFIvwL8Ntn/T9VGDj/AFsf/wAbr06mRfxf7xoA81/4UT4b/wCghqv/AH9j/wDiKT/hRfhvzCv2/Vemc+bH/wDG69Opg/15/wB0UAea/wDCifDf/QQ1X/v7H/8AEVFN8D/DcUkSfbtVPmNtz5sfH/kOvUqqXf8Ax82v/XT+lAHnv/CifDf/AEENV/7+x/8AxFI3wK8NqpP2/VT/ANtY/wD4ivTqZL/qzQB5qPgT4bI/4/8AVf8Av7H/APEUf8KJ8N/9BDVf+/sf/wARXpo6CigDzFPgX4bdQft+qj/trH/8RS/8KJ8N/wDQQ1X/AL+x/wDxFelQ/wCqFPoA8xHwL8NlmH2/Vfl/6ax//G6X/hRPhv8A6CGq/wDf2P8A+Ir0pP8AWyfUfyp9AHmJ+BfhsOF+36ryCf8AWx//ABul/wCFE+G/+ghqv/f2P/4ivSm/1yfQ/wBKfQB5bcfA/wANwRq327VWywX/AFsY6n/rnUv/AAonw3/0ENV/7+x//EV6FqP+oT/rqv8AOrdAHmR+BPhsKT9v1Xj/AKax/wDxFIvwK8NsoP2/Vef+msf/AMRXpr/cP0pI/wDVr9KAPNP+FE+G/wDoIar/AN/Y/wD4ikX4F+G2z/p+qjBx/rY//jdenUyL+L/eNAHmv/CifDf/AEENV/7+x/8AxFJ/wovw35hX7fqvTOfNj/8AjdenUwf8fB/3R/WgDzX/AIUT4b/6CGq/9/Y//iKRvgX4bVlH2/VfmOP9bH/8br06mSffj/3v6GgDzX/hRPhv/oIar/39j/8AiKiufgf4bt7Z5ft2qtsGcebGM/8AkOvUqq6l/wAg2f8A3TQA2w3/AGJNm3HOM/U1Z/e/7H61Bp3/AB4R/j/M1aoAhTzN7429af8Avf8AY/WhP9ZJ9afQBCfM85fu52mn/vf9j9aD/r1/3TT6AIZPMwudv3h/On/vf9j9aJfur/vD+dPoAjbzdp+70pE8zy1xt6CpH+4fpSR/6tfoKAE/e/7H61Wsd/ly7Nv+sOc+tXKqaf8A6uX/AK6t/SgCx+9/2P1pg8zzj93OKmpg/wBe30oAP3v+x+tMfzN6Z29ampj/AOsT60AH73/Y/WmS+Z5TZ24xU1Mm/wBS30oAP3v+x+tB83H8FPoPQ0AQxeZ5Yxtp/wC9/wBj9aIv9WPx/nT6AKdtv+1XO3bncM5qz+9/2P1qva/8fl1/vD+tW6AIT5nnD7ucU/8Ae/7H60H/AF6/Sn0AQyeZhc7fvCn/AL3/AGP1ol+6v+8KfQBG/mbGzt6UieZ5a429BUj/AOrb6Gkj/wBWv0FACfvf9j9aZH5mGxt+8ampkXRv940AH73/AGP1rk7Lf/wtjUfu7v7Njz/30K6+uSsv+St6l/2DY/8A0IUAdV+9/wBj9aY/mb0zt61NTH++n1oAP3v+x+tMl8zyznbipqZL/qjQAg83H8FL+9/2P1p46CigDkvGrvLpGn6dsDjUNQgiI/2VcO36Ia6lVkRQqhAAMDk1zN6HvPHuiW6ONlnBNdyLnvjyx/6MNdVWUNZSfyO7Ee7QpU/Jy+bdvySIV8zzH+72p/73/Y/WhP8AWP8AUU+tThKcm/8AtKHON2w49Ks/vf8AY/Wq8v8AyFIf9xqt0AQyeZtGdvWn/vf9j9aJfuj60+gCJ/M2Nnb0oTzNgxt6U9/9W30NCfcH0oAT97/sfrTI/M+bG37xqamRfxf7xoAP3v8AsfrTB5nnH7udtTUwf68/7ooAP3v+x+tVrrf9ott2M7+MfSrlVLv/AI+bX/rp/SgCx+9/2P1pknmeWc7ampkv+rNACDzcD7tL+9/2P1p46CigCGLzPLGNtP8A3v8AsfrRD/qhT6AIV8zzH+71Gfyp/wC9/wBj9aE/1sn1H8qfQBCfM85fu5waf+9/2P1ob/XJ9D/Sn0AU77f5Kb9uPMXp9as/vf8AY/Wq+o/6hP8Arqv86t0ARt5mw/d6UieZ5Yxt6VI/3D9KSP8A1a/SgBP3v+x+tMj8z5sbfvGpqZF/F/vGgA/e/wCx+tMHmeefu52j+tTUwf8AHwf90f1oAP3v+x+tMfzN0edv3uPyNTUyT78f+9/Q0AH73/Y/Wq2ob/sE2/bt2nOOtXKq6l/yDZ/900AJYPtskG1j15A96seZ/sP+VQad/wAeEf4/zNWqAIUk+d/kbr6U/wAz/Yf8qE/1kn1p9AEJk/fA7G+6e1P8z/Yf8qD/AK9f900+gCGSTIX5G+8O3vT/ADP9h/yol+6v+8P50+gCNpPlPyN09KRJP3a/I3Qdqkf7h+lJH/q1+goATzP9h/yqtZNtjl+VjmQngVcqpp/+rl/66t/SgCx5n+w/5UwSfvidjdPSpqYP9e30oAPM/wBh/wAqY8nzp8jdfSpqY/8ArE+tAB5n+w/5UyWTMTfI3T0qamTf6lvpQAeZ/sP+VBk4+4/5U+g9DQBDFJiMfI35U/zP9h/yoi/1Y/H+dPoAp2zYurk7WOWHAHSrPmf7D/lVe1/4/Lr/AHh/WrdAEJk/fA7G6elP8z/Yf8qD/r1+lPoAhkkyB8jfeHan+Z/sP+VEv3V/3hT6AI3k+Rvkbp6UiSfu1+Rug7VI/wDq2+hpI/8AVr9BQAnmf7D/AJUyOTAb5G+8e1TUyLo3+8aADzP9h/yrk7J/+Lsakdrf8g2PjH+0K6+uSsv+St6l/wBg2P8A9CFAHVeZ/sP+VMeT50+RuvpU1Mf76fWgA8z/AGH/ACpksmYz8jflU1Ml/wBUaAEEnH3H/Kl8z/Yf8qeOgoJAGTwBQByWgul5431u9COTbxxWint3Zv5LXVeZ/sP+Vc54EWSTRLi9nAD3t3LNkDqM4H8q6asqXwX7ndj9K7h/KkvuSX5kKyfvH+Ru3an+Z/sP+VCf6x/qKfWpwlORs6lC208IeMc1Z8z/AGH/ACqvL/yFIf8AcardAEMkmVHyN19Kf5n+w/5US/dH1p9AETyfI3yN09KEk+QfI3T0p7/6tvoaE+4PpQAnmf7D/lTI5Mbvkb7x7VNTIv4v940AHmf7D/lTBJ++J2N930qamD/Xn/dFAB5n+w/5VWum3XFsdrDD9x14q5VS7/4+bX/rp/SgCx5n+w/5UySTMZ+RvyqamS/6s0AIJOB8jflS+Z/sP+VPHQUUAQxSYjHyN+VP8z/Yf8qIf9UKfQBCsn7x/kbqO3tT/M/2H/KhP9bJ9R/Kn0AQmT98vyN0Pan+Z/sP+VDf65Pof6U+gCnfNuhQbWH7xTyPerPmf7D/AJVX1H/UJ/11X+dW6AI2k+Q/I3T0pEkxGPkbp6VI/wBw/Skj/wBWv0oATzP9h/ypkcmN3yN949qmpkX8X+8aADzP9h/ypgk/fk7G+6O1TUwf8fB/3R/WgA8z/Yf8qY8mWj+Rvvensampkn34/wDe/oaADzP9h/yqtqD7rCYbWGVPJHFXKq6l/wAg2f8A3TQAmnsq2KBmAPPBPuas+Yn99fzqvp4BsUJAJ5/mas7V/uj8qAI0dN7/ADDr60/zE/vr+dNRRvfgdfSn7V/uj8qAIzInnL8w+6e9P8xP76/nTSo89eB909qftX+6PyoAjlkQhcMPvDv70/zE/vr+dNlUbV4H3h296ftX+6PyoAa0ibD8y9PWkSRPLX5l6DvTnVdh4HT0pEUeWvA6DtQAvmJ/fX86q2LKscu4gZlJ5NW9q/3R+VVbAAxy5Gf3p/pQBZ8xP76/nTA6ecfmHT1qTav90flTAo848Dp6UAO8xP76/nTHkTenzDr61JtX+6PypjqPMTgdfSgB3mJ/fX86ZNIhhbDDp61JtX+6PypkyjyW4HT0oAd5if31/OgyJj76/nS7V/uj8qCq46D8qAI4pEEYyw796f5if31/OmxKPLHA79qftX+6PyoAqWzKLu5JIALDBz1q15if31/Oq1sAbu6yOjCrW1f7o/KgCMunnA7h09af5if31/OmlR5y8Dp6U/av90flQBHK6ELhh94d6f5if31/OmyqMLwPvDtT9q/3R+VADXkTY3zL09aRJE8tfmXoO9OdV8tuB09KRFHlrwOg7UAL5if31/OmRyIA3zD7x71JtX+6PypkSjDcD7x7UAO8xP76/nXJWTr/AMLZ1I7hj+zY+c/7Qrrtq/3R+VclZAf8La1IYGP7Nj/9CFAHWeYn99fzpjum9PmHX1qTav8AdH5Ux1G9OB19KAHeYn99fzpksiGM4YfnUm1f7o/KmSqPKPA/KgBwkTH31/OsvxNfx2PhbUrgyAFbZwpB/iIwP1IrVCrjoPyrmfHLF9KsrBIw/wBvv4YSMfwhvMP6IazqO0GzrwcFPEQi9rq/p1/A0fDNulh4Z0+23g7IVzk9zz/WtTzE/vr+dMt40W3RVUYAwOKk2r/dH5VcVZWMKk3Um5vq7kaSJ5j/ADDqO9P8xP76/nTUUeY/A6jtT9q/3R+VMzKkjKdShYEYCNk5q15if31/Oq0gH9pwjHGxuKtbV/uj8qAI5ZEKjDDr60/zE/vr+dNlUbRwOvpT9q/3R+VADHkTy2+Zeh70JImwfMvT1pXUeW3A6HtQirsHA6elAC+Yn99fzpkciDd8w+8e9SbV/uj8qZGo+bgfePagB3mJ/fX86YJE84/MPu+tSbV/uj8qYFHnngfd9KAHeYn99fzqrdMpuLYgggSc89OKt7V/uj8qq3YAuLXA6yc/lQBZ8xP76/nTZJEMZww/On7V/uj8qZKo8s8D8qAFEiYHzr+dL5if31/OgKuBwPypdq/3R+VAEcUiCMZYfnT/ADE/vr+dNiUeWOB+VP2r/dH5UARo6eY/zDqO/tT/ADE/vr+dNRR5knA6jt7U/av90flQBGZE85fmHQ96f5if31/OmlR5y8Doe1P2r/dH5UAVL9laFNpB/eKeD71a8xP76/nVbUABAmBj96v86tbV/uj8qAGtImw/MvT1pEkTy1+ZenrTnVdh4HT0pI1HlrwOnpQAvmJ/fX86ZHIg3ZYfePepNq/3R+VMjUfNwPvHtQA7zE/vr+dMDp55O4Y2jv8AWpNq/wB0flTAo+0HgfdHb60AO8xP76/nTHdN0fzD73r7GpNq/wB0flTJFG+Pgfe9PY0AO8xP76/nVbUWVtPmCsCSpwAatbV/uj8qq6iANOmIAB2mgBdO/wCPCP8AH+Zq1VOwQPZISWHXocd6s+UP7z/99GgAT/WSfWn1CkYLvy3X+8af5Q/vP/30aAA/69f900+oTGPOAy33T/Eaf5Q/vP8A99GgAl+6v+8P50+oZIwAvLfeH8R9af5Q/vP/AN9GgBz/AHD9KSP/AFa/QU1ohtPzN0/vGkSIGNfmboP4jQBLVTT/APVy/wDXVv6VY8of3n/76NVrFA0cuSwxIRwcUAXKYP8AXt9KPKH95/8Avo0wRjziMt0/vGgCamP/AKxPrR5Q/vP/AN9GmPGN6ct1/vGgCamTf6lvpR5Q/vP/AN9GmSxgRMct0/vGgCag9DTPKH95/wDvo0GIY+8//fRoAIv9WPx/nT6hijBjHLf99Gn+UP7z/wDfRoAr2v8Ax+XX+8P61bqnbIGurkZbhh0NWfKH95/++jQAH/Xr9KfUJjHnAZbp/eNP8of3n/76NABL91f94U+oZIwAvLfeH8Rp/lD+8/8A30aAHP8A6tvoaSP/AFa/QU14gEb5m6f3jSJEDGvzN0H8RoAlpkXRv940eUP7z/8AfRpkcYIblvvH+I0ATVyVl/yVvUv+wbH/AOhCuq8of3n/AO+jXJ2SD/hbGpLlv+QbH3/2hQB19Mf76fWjyh/ef/vo0x4wHTluv940ATUyX/VGjyh/ef8A76NMljAjPLf99GgCYdBXL6sDffEPRLVH+WzhnvJF9/ljX/0Nq6QRDH3n/wC+jXM6PGl9481y7IcG1jhtEbcf9pm/9lrKpraPd/8ABO7B+77Sp/LF/j7v6nTw/wCqFPqGKMGMct/30af5Q/vP/wB9GtThBP8AWP8AUU+oVjHmPy3b+I0/yh/ef/vo0AV5f+QpD/uNVuqciAalCuTgoec81Z8of3n/AO+jQAS/dH1p9QyRgKOW6/3jT/KH95/++jQAr/6tvoaE+4PpTHiARvmbp/eNCRAoPmbp/eNAEtMi/i/3jR5Q/vP/AN9GmRxg7uW+8f4jQBNTB/rz/uijyh/ef/vo0wRjziMt93+8aAJqqXf/AB82v/XT+lWPKH95/wDvo1WukC3FsAScvjk+1AFymS/6s0eUP7z/APfRpskYEZ5b/vo0ASjoKKjEQwPmf/vo0vlD+8//AH0aACH/AFQp9QxRgxjlv++jT/KH95/++jQAJ/rZPqP5U+oVjHmPy3UfxH0p/lD+8/8A30aABv8AXJ9D/Sn1CYx5yjLdD/Eaf5Q/vP8A99GgCvqP+oT/AK6r/OrdU75AkKEFj+8UcnPerPlD+8//AH0aAHP9w/Skj/1a/SmtENh+Zun940iRAxj5m6f3jQBLTIv4v940eUP7z/8AfRpkcYO7lvvH+I0ATUwf8fB/3R/Wjyh/ef8A76NMEY88jLfdH8RoAmpkn34/97+ho8of3n/76NMeMBo+W+9/ePoaAJqq6l/yDZ/901P5Q/vP/wB9Gq2oIEsJmBY4U9TkUAO07/jwj/H+Zq1WZYR3xs02XEAXnAMJPf8A3qseXqH/AD82/wD34P8A8VQBYT/WSfWn1RSO/wB74ubfrz+4P/xVP8vUP+fm3/78H/4qgCwf9ev+6afVEx3/AJw/0m3zg/8ALA//ABVP8vUP+fm3/wC/B/8AiqALEv3V/wB4fzp9UZI7/C5ubf7w/wCWB9f96n+XqH/Pzb/9+D/8VQBaf7h+lJH/AKtfoKqtHqG0/wCk2/T/AJ4H/wCKpEj1Dy1xc2/Qf8sD/wDFUAXaqaf/AKuX/rq39KPL1D/n5t/+/B/+KqtZR3xjl2XEA/eHOYSef++qANSmD/Xt9Kr+XqH/AD82/wD34P8A8VTBHf8AnH/SbfOP+eB/+KoAvUx/9Yn1qv5eof8APzb/APfg/wDxVMePUN6ZuLfrx+5P/wAVQBepk3+pb6VX8vUP+fm3/wC/B/8AiqZLHf8AlNm5t8Y/54n/AOKoAvUHoaqeXqH/AD82/wD34P8A8VQY9Qx/x82//fg//FUAWIv9WPx/nT6oxR6h5Yxc2+P+uB/+Kp/l6h/z82//AH4P/wAVQAWv/H5df7w/rVusu3jvvtVztuIAdwyTCef/AB6rPl6h/wA/Nv8A9+D/APFUAWD/AK9fpT6omO/84f6Rb5x/zwP/AMVT/L1D/n5t/wDvwf8A4qgCxL91f94U+qMkd/gZuLf7w/5YH/4qn+XqH/Pzb/8Afg//ABVAFp/9W30NJH/q1+gqq8eobGzc2/T/AJ4H/wCKpEj1Dy1xc2/Qf8sD/wDFUAXaZF0b/eNV/L1D/n5t/wDvwf8A4qmRx3+Gxc2/3j/yxP8A8VQBS8T+J7bwxZ201xE873NzFbpGhwcu4XcfYZzWZYnPxZ1E+umR/wDoQrF8eeFvF+pq9xpeo6fOrXFrtt209y8YSZGJD+cBgY3EYycYBFXtMi1FfidfLNc27TjTI97rAQp+YdBu4/M0Ad1TH++n1qv5eof8/Nv/AN+D/wDFUx47/embm36/88T/APFUAXqZL/qjVfy9Q/5+bf8A78H/AOKpkseoeWc3Nvj/AK4H/wCKoAulgqbmOABkmub8DCSTR7q+n5a+vZZg3quQo/8AQam8SXF7YeGNQuZLmDasDD5YSDkjA/i9TTvDun3th4bsLeK4gCrCp+aE5yeT/F6msnrUXkjuj7mDk/5pJfcm3+aNqH/VCn1Rijv/ACxi5t8f9cD/APFU/wAvUP8An5t/+/B/+KrU4Swn+sf6in1RSPUPMfFzb9R/yxP/AMVT/L1D/n5t/wDvwf8A4qgAl/5CkP8AuNVusuSO+/tGLNxBu2HB8k4/9Cqz5eof8/Nv/wB+D/8AFUAWJfuj60+qMkeobRm5t+v/ADwP/wAVT/L1D/n5t/8Avwf/AIqgCy/+rb6GhPuD6VUePUNjZubfp/zwP/xVCR6hsGLm36f88D/8VQBdpkX8X+8ar+XqH/Pzb/8Afg//ABVMjjv/AJsXNv8AeP8AyxP/AMVQBepg/wBef90VX8vUP+fm3/78H/4qmCPUPOP+k2+dv/PA/wDxVAF6ql3/AMfNr/10/pR5eof8/Nv/AN+D/wDFVWuo777RbbriAnfxiE8cf71AGpTJf9War+XqH/Pzb/8Afg//ABVMkj1Dyzm5t/8Avwf/AIqgC8OgoqmI9QwP9Jt/+/B/+KpfL1D/AJ+bf/vwf/iqALEP+qFPqjFHqHljFzb4/wCuJ/8Aiqf5eof8/Nv/AN+D/wDFUAWE/wBbJ9R/Kn1RWO/8x8XFvnIz+4Pp/vU/y9Q/5+bf/vwf/iqALDf65Pof6U+qJj1Dzl/0m3zg/wDLE/8AxVP8vUP+fm3/AO/B/wDiqADUf9Qn/XVf51brLvo74QpvuICPMXpCRzn/AHqs+XqH/Pzb/wDfg/8AxVAFp/uH6Ukf+rX6VVaPUNhzc2/T/ngf/iqRI9Q8sYubfp/zwP8A8VQBdpkX8X+8ar+XqH/Pzb/9+D/8VTI47/5sXNv94/8ALE//ABVAF6mD/j4P+6P61X8vUP8An5t/+/B/+Kpgjv8Azj/pFvnaP+WJ/wDiqAL1Mk+/H/vf0NV/L1D/AJ+bf/vwf/iqY8d/uTNzb/e4/cn0P+1QBeqrqX/INn/3TSeXqH/Pzb/9+D/8VVbUI74WE2+4gK7TkCEg/wDoVAFrTv8Ajwj/AB/matVTsGZbJAqFhzyCPWrO9/8Ank35igAT/WSfWn1Cjtvf92evqKfvf/nk35igAP8Ar1/3TT6hLt5w/dn7p7in73/55N+YoAJfur/vD+dPqGR2wv7sj5h3HrT97/8APJvzFADn+4fpSR/6tfoKazttP7tunqKRHby1/dt0HcUAS1U0/wD1cv8A11b+lWN7/wDPJvzFVrFiI5dqFv3h6EcUAXKYP9e30o3v/wA8m/MUwO3nH92enTIoAmpj/wCsT60b3/55N+Ypju29P3Z6+ooAmpk3+pb6Ub3/AOeTfmKZK7GJsxkceooAmoPQ0ze//PJvzFIXfH+qb8xQAsX+rH4/zp9QxO3lj92x/EU/e/8Azyb8xQBXtf8Aj8uv94f1q3VO2Yi6uSEJJYZGRxVne/8Azyb8xQAH/Xr9KfUJdvOH7s9OmRT97/8APJvzFABL91f94U+oZHbAzGR8w7in73/55N+YoAc/+rb6Gkj/ANWv0FNd22N+7bp6ikR28tf3bdB3FAEtMi6N/vGje/8Azyb8xTI3bDfuyfmPcUATVyVl/wAlb1L/ALBsf/oQrqt7/wDPJvzFcnZM3/C2NSOw5/s2PjI/vCgDr6Y/30+tG9/+eTfmKY7tvT92evqKAJqZL/qjRvf/AJ5N+Ypkrt5ZzGw/EUAYHjhpJNHs7GJdxvr6GEr6qCXP6JXSKoRQqjAAwB6VyurOb7x/odouR9khmu3TI5+6i/8AoTV1G9/+eTfmKyjrOT+R3Yj3KFKHdOX3u35JBD/qhT6hidhGMRk/iKfvf/nk35itThBP9Y/1FPqFHbzH/dnt3FP3v/zyb8xQBXl/5CkP+41W6pyMf7ShOwg7DhcjmrO9/wDnk35igAl+6PrT6hkdto/dkc+op+9/+eTfmKAFf/Vt9DQn3B9KY7t5bfu26eooR22D923T1FAEtMi/i/3jRvf/AJ5N+Ypkbt837sn5j3FAE1MH+vP+6KN7/wDPJvzFMDt5x/dn7vTIoAmqpd/8fNr/ANdP6VY3v/zyb8xVa6Ym4tsoRh+Bkc8UAXKZL/qzRvf/AJ5N+Ypkjt5Z/dsPxFAEw6Ciow74H7pvzFLvf/nk35igAh/1Qp9QxO3ljEZP4in73/55N+YoAE/1sn1H8qfUKu3mP+7PUdx6U/e//PJvzFAA3+uT6H+lPqEu3nL+7PQ9xT97/wDPJvzFAFfUf9Qn/XVf51bqnfMWhTchX94vJI9as73/AOeTfmKAHP8AcP0pI/8AVr9KaztsP7tunqKRHbyx+7bp6igCWmRfxf7xo3v/AM8m/MUyN2+b92T8x7igCamD/j4P+6P60b3/AOeTfmKYHbzz+7P3RxkUATUyT78f+9/Q0b3/AOeTfmKY7tuj/dt971HoaAJqq6l/yDZ/901Pvf8A55N+YqtqDFrCYMhUbTySOKAHad/x4R/j/M1aqnYSKlkiscEZ4/GrPnR/3xQAJ/rJPrT6hSVA7/MOtP8AOj/vigAP+vX/AHTT6hMqecp3DG00/wA6P++KACX7q/7w/nT6hklQhcMPvD+dP86P++KAHP8AcP0pI/8AVr9BTWmj2n5h0pEmjEa5YdBQBLVTT/8AVy/9dW/pVjzo/wC+KrWLqkcu44zISKALlMH+vb6UedH/AHxTBKnnE7hjFAE1Mf8A1ifWjzo/74pjyoXT5h1oAmpk3+pb6UedH/fFMllQxMAw6UATUHoaZ50f98UGaPH3hQARf6sfj/On1DFKgjGWFP8AOj/vigCva/8AH5df7w/rVuqds6rdXJJwGYY96s+dH/fFAAf9ev0p9QmVPOB3DGKf50f98UAEv3V/3hT6hklQhcMPvCn+dH/fFADn/wBW30NJH/q1+gprzRlG+YdKRJoxGuWHQUAS0yLo3+8aPOj/AL4pkcqANlh940ATVyVl/wAlb1L/ALBsf/oQrqvOj/viuTspE/4WxqLbuDpsYz/wIUAdfTH++n1o86P++KY8qF0+YdaAJqZL/qjR50f98VHNPEIWJcAAZNAHPaPi9+IGuXbR/wDHpDBaRt7/ADO3/oS11Fcx4Hcto93ezyhmvr6WYHP8IIQfoldJ50f98VlS+G/fU7se/wB+4fypR+5JP8Qh/wBUKfUMUqCMAsKf50f98VqcIJ/rH+op9QrKnmP8w7U/zo/74oAry/8AIUh/3Gq3VOR1OpQsD8oQ5NWfOj/vigAl+6PrT6hklQqMMOtP86P++KAFf/Vt9DQn3B9KY80ZRsMOlCTRhB8w6UAS0yL+L/eNHnR/3xTI5UG7LD7xoAmpg/15/wB0UedH/fFMEqecTuGNtAE1VLv/AI+bX/rp/SrHnR/3xVa6dWuLYqchXyfbigC5TJf9WaPOj/vimySoYzhhQBKOgoqMTR4HzCl86P8AvigAh/1Qp9QxSoIxlhT/ADo/74oAE/1sn1H8qfUKyp5j/MOSP5U/zo/74oAG/wBcn0P9KfUJlTzlO4Ywaf50f98UAV9R/wBQn/XVf51bqnfOrwoFOT5in9as+dH/AHxQA5/uH6Ukf+rX6U1po9h+YdKRJoxGMsOlAEtMi/i/3jR50f8AfFMjlQbssPvGgCamD/j4P+6P60edH/fFMEqeeTuGNooAmpkn34/97+ho86P++KY8qFo8MOG/oaAJqq6l/wAg2f8A3TU/nR/3xVbUHV7CZUOSVOBQA7Tv+PCP8f5mrVVdO/48I/x/matUAMT/AFkn1p9MT/WSfWn0AMP+vX/dNPph/wBev+6afQAyX7q/7w/nT6ZL91f94fzp9ACP9w/Skj/1a/QUr/cP0pI/9Wv0FADqqaf/AKuX/rq39Kt1U0//AFcv/XVv6UAW6YP9e30p9MH+vb6UAPpj/wCsT60+mP8A6xPrQA+mTf6lvpT6ZN/qW+lAD6D0NFB6GgBkX+rH4/zp9Mi/1Y/H+dPoAqWv/H5df7w/rVuqlr/x+XX+8P61boAYf9ev0p9MP+vX6U+gBkv3V/3hT6ZL91f94U+gBH/1bfQ0kf8Aq1+gpX/1bfQ0kf8Aq1+goAdTIujf7xp9Mi6N/vGgB9clZf8AJW9S/wCwbH/6EK62uSsv+St6l/2DY/8A0IUAdbTH++n1p9Mf76fWgB9ZXie7Fj4X1G4bPywMBj1PA/U1q1zPjt5H0W2socFr68ihIPdclj/6DUVHaDZ1YOCqYiEXtdX9Ov4Gl4Zs1sPC+nW6AjbbqTn1Iyf1JrUpFAVAFGABgClqoqySMak3UnKb6u4yH/VCn0yH/VCn0zMYn+sf6in0xP8AWP8AUU+gCpL/AMhSH/cardVJf+QpD/uNVugBkv3R9afTJfuj60+gBr/6tvoaE+4PpQ/+rb6GhPuD6UAOpkX8X+8afTIv4v8AeNAD6YP9ef8AdFPpg/15/wB0UAPqpd/8fNr/ANdP6Vbqpd/8fNr/ANdP6UAW6ZL/AKs0+mS/6s0APHQUUDoKKAGQ/wCqFPpkP+qFPoAYn+tk+o/lT6Yn+tk+o/lT6AGN/rk+h/pT6Y3+uT6H+lPoAqaj/qE/66r/ADq3VTUf9Qn/AF1X+dW6AEf7h+lJH/q1+lK/3D9KSP8A1a/SgB1Mi/i/3jT6ZF/F/vGgB9MH/Hwf90f1p9MH/Hwf90f1oAfTJPvx/wC9/Q0+mSffj/3v6GgB9VdS/wCQbP8A7pq1VXUv+QbP/umgBLBFeyRmGSc9/erHkp/d/WoNO/48I/x/matUAQpEhd+O/rT/ACU/u/rQn+sk+tPoAhMSecBjjae9P8lP7v60H/Xr/umn0AQyRIAuB/EO/vT/ACU/u/rRL91f94fzp9AEbQptPHb1pEiQxrx2HepH+4fpSR/6tfoKAE8lP7v61WsUV45dwziQgVcqpp/+rl/66t/SgCx5Kf3f1pgiTziMcY9ampg/17fSgA8lP7v60x4k3px39ampj/6xPrQAeSn939aZLEgiYgdvWpqZN/qW+lAB5Kf3f1oMKY6frT6D0NAEMUSGMZH60/yU/u/rRF/qx+P86fQBTtkVrq5BHCsMVZ8lP7v61Xtf+Py6/wB4f1q3QBCYk84DHb1p/kp/d/Wg/wCvX6U+gCGSJAFwP4h3p/kp/d/WiX7q/wC8KfQBG8SBG47etIkSGNeOw71I/wDq2+hpI/8AVr9BQAnkp/d/WmRxIQ2R/Ee9TUyLo3+8aADyU/u/rXJ2Ua/8LY1JccDTY+/+0K6+uSsv+St6l/2DY/8A0IUAdV5Kf3f1pjxIHTjv61NTH++n1oAPJT+7+tcrrkcV5450SzUkG1imu3Hbqqr/AOzV1tcpp5N74+126eP5bOGCzjb35kb/ANGLWVTWy7v/AIJ3YP3faVP5Yv8AH3f1OnEKY6frS+Sn939aeOgorU4SGKJDGCR+tP8AJT+7+tEP+qFPoAhWJPMfj070/wAlP7v60J/rH+op9AFORFGpQqBwUORVnyU/u/rVeX/kKQ/7jVboAhkiQKMDv60/yU/u/rRL90fWn0ARPEgRuO3rQkSFBx29ae/+rb6GhPuD6UAJ5Kf3f1pkcSHdkfxHvU1Mi/i/3jQAeSn939aYIk84jH8PrU1MH+vP+6KADyU/u/rVa6RVuLYAcM+D+VXKqXf/AB82v/XT+lAFjyU/u/rTZIkEZwP1qWmS/wCrNACCFMDj9aXyU/u/rTx0FFAEMUSGMZH60/yU/u/rRD/qhT6AIViTzH46Ed/an+Sn939aE/1sn1H8qfQBCYk85Rjse9P8lP7v60N/rk+h/pT6AKd8ipChUY/eKOvvVnyU/u/rVfUf9Qn/AF1X+dW6AI2hTYeO3rSJEhjHHb1qR/uH6Ukf+rX6UAJ5Kf3f1pkcSHdkfxHvU1Mi/i/3jQAeSn939aYIk88jHG0d6mpg/wCPg/7o/rQAeSn939aY8SBo+Orevsampkn34/8Ae/oaADyU/u/rVbUEVLCZlGCFOOauVV1L/kGz/wC6aAG2CsbJCr7RzxjPerOx/wDnof8AvkVBp3/HhH+P8zVqgCFFfe/7zv6Cn7H/AOeh/wC+RQn+sk+tPoAhKv5w/efwnsKfsf8A56H/AL5FB/16/wC6afQBDIr4XMmfmHYetP2P/wA9D/3yKJfur/vD+dPoAjZH2n94enoKRFfy1/eHoOwqR/uH6Ukf+rX6CgBNj/8APQ/98iq1iGMcu1tv7w5461cqpp/+rl/66t/SgCxsf/nof++RTAr+cf3nb0FTUwf69vpQAbH/AOeh/wC+RTHV96fvO/oKmpj/AOsT60AGx/8Anof++RTJVfymzJnj0FTUyb/Ut9KADY//AD0P/fIpCj4/1h/IVJQehoAhiV/LGJMfgKfsf/nof++RRF/qx+P86fQBTtgxurkBsEMMnHWrOx/+eh/75FV7X/j8uv8AeH9at0AQlX84fvO3oKfsf/nof++RQf8AXr9KfQBDIr4XMmfmHYU/Y/8Az0P/AHyKJfur/vCn0ARur7G/eHp6CkRX8tf3h6DsKkf/AFbfQ0kf+rX6CgBNj/8APQ/98imRq+GxJj5j2FTUyLo3+8aADY//AD0P/fIrk7JW/wCFsakN/P8AZsfOP9oVtal4n0XSNQt7LU9Rhtrm5YLFHIcFiTgD2ySOtY9l/wAla1L/ALBsf/oQoA6rY/8Az0P/AHyKY6vvT9539BU1Mf76fWgBGDIhZpcBRknArmPBcUj6Lfag0u/7ffzTA46gN5Y/RBWz4jvRp/hu/uiM+XC3H14/rUPh2zFh4Q062UbdtshYH+8Rk/qTWT1qLyR3Q9zByf8ANJL5JNv8bGoEfH+sP5Cl2P8A89D/AN8injoKK1OEhiVzGMSY/AU/Y/8Az0P/AHyKIf8AVCn0AQqr+Y/7z07Cn7H/AOeh/wC+RVeDULSa+lt4rqF5l+9GrgsPwq3Taa3ApyBv7ShBbJ2HBx0qzsf/AJ6H/vkVXl/5CkP+41W6QEMivtGZM8+gp+x/+eh/75FEv3R9afQBE6v5bfvD09BQivsH7w9PQU9/9W30NCfcH0oATY//AD0P/fIpkav82JP4j2FTUyL+L/eNABsf/nof++RTAr+cf3n8PoKmpg/15/3RQAbH/wCeh/75FVroMLi2y2SX4OOnFXKqXf8Ax82v/XT+lAFjY/8Az0P/AHyKbIr+WcyZ/AVLTJf9WaAECPgfvD+Qpdj/APPQ/wDfIp46CigCGJX8sYkx+Ap+x/8Anof++RRD/qhT6AIVV/Mf953HYelP2P8A89D/AN8ihP8AWyfUfyp9AEJV/OX952PYU/Y//PQ/98ihv9cn0P8ASn0AU74MIU3Nu/eL296s7H/56H/vkVX1H/UJ/wBdV/nVugCNkfYf3h6egpEV/LH7w9PQVI/3D9KSP/Vr9KAE2P8A89D/AN8imRq/zYkx8x7CpqZF/F/vGgA2P/z0P/fIpgV/PP7znaOcCpqYP+Pg/wC6P60AGx/+eh/75FMdX3R/vP4vQehqamSffj/3v6GgA2P/AM9D/wB8iq2oKwsJiz7htORjGauVV1L/AJBs/wDumgCtYTXgskCWqMOeTNjv9Ksede/8+cf/AH//APsaXTv+PCP8f5mrVAFJJr3e+LSPr/z2/wDsad517/z5x/8Af/8A+xqwn+sk+tPoApGa984f6JHnaf8Alt/9jTvOvf8Anzj/AO//AP8AY1YP+vX/AHTT6AKUk17hc2kY+Yf8tvf/AHad517/AM+cf/f/AP8AsasS/dX/AHh/On0AU2mvdp/0OPp/z3/+xoSa98tcWkfQf8t//satv9w/Skj/ANWv0FAFbzr3/nzj/wC//wD9jVaymuxHLttUb94c/vsf0rUqpp/+rl/66t/SgA869/584/8Av/8A/Y00TXvnH/RI84/57f8A2NXaYP8AXt9KAK/nXv8Az5x/9/8A/wCxprzXu9P9Ej6/89v/ALGrtMf/AFifWgCv517/AM+cf/f/AP8AsabLNe+U2bSMDH/Pb/7GrtMm/wBS30oAr+de/wDPnH/3/wD/ALGgzXuP+POP/v8A/wD2NW6D0NAFKKa98sYtIz/22/8Asad517/z5x/9/wD/AOxqxF/qx+P86fQBl2812Lq5xaoSWGR53T9Ks+de/wDPnH/3/wD/ALGi1/4/Lr/eH9at0AUjNe+cP9Ejzj/nt/8AY07zr3/nzj/7/wD/ANjVg/69fpT6AKUk17gZtIx8w/5bf/Y07zr3/nzj/wC//wD9jViX7q/7wp9AFN5r3Y3+hx9P+e//ANjQk175a4tI+g/5b/8A2NW3/wBW30NJH/q1+goArede/wDPnH/3/wD/ALGmxzXvzYtI/vH/AJbf/Y1dpkXRv940AcN431HTru3n8O3osILnUY8zs9yqtHEv8bEjqOi9eSKdpU87fE28aGBHB0uLH73qNwwc4rq7vQdHv7gz32lWNzMRgyTWyOxH1IrAsQB8WtSAGANNjwB/vCgDo/Ovf+fOP/v/AP8A2NNea93J/okfX/nt/wDY1dpj/fT60Acp42mv59Ht7BLeNHvrqOHHnZ3DOT29q6CSW8ERH2OMAek3T/x2sbWdl7480KyJObaOW7YDp2Vf5NXSS/6o1lHWcn8jur+7QpQ9Zfe7fkiuJr3H/HnH/wB//wD7Gjzr3/nzj/7/AP8A9jVsdBRWpwlBLi7SDcbWMKBkkz//AGNU5NQvL8GG0TyiRgsDnH44oup5LyRLK36Z+Y1q21slrCI4x9T60t2dSjGlHmkrt9D578GfCbxronxKGq3MyrFbys8lwJSTOD298+9e5warcGQQSQK0vTLPtz+hrUT/AFj/AFFUdVs/Mj+0RDEqc8dxXpZlmVfMakata10raKxjh400vZvr1GSTXf8AaMJNqm7YcDzuv6VZ869/584/+/8A/wDY1Vs7r7XdW7H76owb61q15xMouMnFlKSa92jNpGOf+e3/ANjTvOvf+fOP/v8A/wD2NWJfuj60+gkpvNe7GzaR9P8Anv8A/Y0JNe7Bi0j6f89//satP/q2+hoT7g+lAFbzr3/nzj/7/wD/ANjTY5r35sWkf3j/AMtv/sau0yL+L/eNAFfzr3/nzj/7/wD/ANjTRNe+cf8ARI87f+e3/wBjV2mD/Xn/AHRQBX869/584/8Av/8A/Y1Wuprs3FtutUBD8DzuvH0rUqpd/wDHza/9dP6UAHnXv/PnH/3/AP8A7GmyTXvlnNpH/wB/v/sau0yX/VmgCuJr3A/0OP8A7/8A/wBjR517/wA+cf8A3/8A/satjoKKAKUU175YxaRn/tt/9jTvOvf+fOP/AL//AP2NWIf9UKfQBSWa98x/9Ej6j/lt7f7tO869/wCfOP8A7/8A/wBjVhP9bJ9R/Kn0AUjNe+cv+iR5wf8Alt/9jTvOvf8Anzj/AO//AP8AY1Yb/XJ9D/Sn0AZd9NdmFN9qijzF6TZ7/SrPnXv/AD5x/wDf/wD+xo1H/UJ/11X+dW6AKbTXu0/6HH0/57//AGNCTXvljFpH0/57/wD2NW3+4fpSR/6tfpQBW869/wCfOP8A7/8A/wBjTY5r35sWkf3j/wAtv/sau0yL+L/eNAFfzr3/AJ84/wDv/wD/AGNME175x/0SPO0ced/9jV6mD/j4P+6P60AV/Ovf+fOP/v8A/wD2NNea93R5tI/vf89vY/7NXaZJ9+P/AHv6GgCv517/AM+cf/f/AP8Asar6hNeGwmD2qKu05Imzj9K06q6l/wAg2f8A3TQA2wcJZIrZzz0BPerPnL/tf98moNO/48I/x/matUAQpKod/vdf7pp/nL/tf98mhP8AWSfWn0AQmVfOB+b7p/hNP85f9r/vk0H/AF6/7pp9AEMkqkL977w/hPrT/OX/AGv++TRL91f94fzp9AETSrtP3un900JKojX73QfwmpH+4fpSR/6tfoKAE85f9r/vk1WsnCRy5zzITwCauVU0/wD1cv8A11b+lAFjzl/2v++TTBKvnE/N0/umpqYP9e30oAPOX/a/75NMeVS6fe6/3TU1Mf8A1ifWgA85f9r/AL5NMllUxMBu6f3TU1Mm/wBS30oAPOX/AGv++TSGZcfxf98mpKD0NAEMUqiMfe/75NP85f8Aa/75NEX+rH4/zp9AFO3cLdXJOcMRjANWfOX/AGv++TVe1/4/Lr/eH9at0AQmVfOB+bp/dNP85f8Aa/75NB/16/Sn0AQySqQPvfeH8Jp/nL/tf98miX7q/wC8KfQBE8qlG+90/umhJVEa/e6D+E1I/wDq2+hpI/8AVr9BQAnnL/tf98mmRyqA33vvH+E1NTIujf7xoAPOX/a/75NclZSL/wALY1FucHTY/wCE/wB4V2FclZf8lb1L/sGx/wDoQoA6rzl/2v8Avk0x5VLp97r/AHTU1RysE2s3AGSaAOa0yU3nxB1m5dCY7SGG0jfaeuPMP/owV0csqmMgbv8Avk1z3gRPN0y+1Hfv/tDUJ5Qf9lXMa/8AjqCukl/1RrKl8N++p3Y/Su4fypR+5JP8biCZcfxf98mq1/fLb2rFc724XIIq6OlYz/8AEy1cL1ii61oznoxUpXlsibSoVghMsmTJJz908CtDzl/2v++TSQDEKgVJT2InNzk5MhWVfMf73b+E04yoRzu/75NKn+sf6in0EGFEFsta5yI2zt49a2vOX/a/75NZOuAiaJl6gVqWs3n2scg/iHP1pLsdNX34RqfJiSSqVH3uv900/wA5f9r/AL5NEv3R9afTOYieVSjfe6f3TQkqhB97p/dNPf8A1bfQ0J9wfSgBPOX/AGv++TTI5VG7733j/CampkX8X+8aADzl/wBr/vk0wSr5xPzfd/umpqYP9ef90UAHnL/tf98mq104a4tiM/K+TkEdquVUu/8Aj5tf+un9KALHnL/tf98mmSSqYz97/vk1NTJf9WaAEEy4H3v++TS+cv8Atf8AfJp46CigCGKVRGPvf98mn+cv+1/3yaIf9UKfQBCsq+Y/3uSP4T6U/wA5f9r/AL5NCf62T6j+VPoAhMq+cp+bof4TT/OX/a/75NDf65Pof6U+gCnfOHhQDP8ArFPII71Z85f9r/vk1X1H/UJ/11X+dW6AI2lXYfvdP7ppElURj73T+6akf7h+lJH/AKtfpQAnnL/tf98mmRyqN33vvH+E1NTIv4v940AHnL/tf98mmCVfOJ+b7o/hPvU1MH/Hwf8AdH9aADzl/wBr/vk0x5VLR/e4b+6fQ1NTJPvx/wC9/Q0AHnL/ALX/AHyarag4ewmVc5KnqCKuVV1L/kGz/wC6aADTjixjz7/zNWsj1qpYIr2SFlDHnkj3NWPKj/uL+VACIR5j896kyPWoUiQu/wAi9fSn+VH/AHF/KgBCR568/wAJqTI9ahMSeco2Ljae1P8AKj/uL+VACSkbV5/iH86kyPWoZIkAXCL94dven+VH/cX8qAFcjYee1EZHlrz2FNaKPafkXp6UJFGY1+Reg7UASZHrVSwOI5c/89W/pVjyo/7i/lVaxRWjl3KDiUgZFAFzI9ajBHntz2pfKj/uL+VMESecRsXGPSgCbI9ajcjzE570vlR/3F/KmvEm9PkXr6UAS5HrUcxHktz2pfKj/uL+VNliQRMQijj0oAlyPWkJGOtN8qP+4v5UGKPH3F/KgAiI8sc+tPyPWoookMYyi/lTvKj/ALi/lQBXtT/pl1/vCreR61TtkVrq5BUEBhgEdKs+VH/cX8qAEJHnLz2qTI9ahMSecBsXGPSn+VH/AHF/KgBJSMLz/EKkyPWoZI0AXCL94dqf5Uf9xfyoAVyPLbntRGR5a89hTXij2N8i9PShIozGuUXoO1AEmR61HERhuf4jS+VH/cX8qZHEhDZRfvHtQBNketcjZH/i7Wpf9g2P/wBCFdX5Uf8AcX8q5OyjT/hbOpLtGP7Nj4x/tCgDr8j1rK8SXw07QLu7xu8qFjj14rS8qP8AuL+Vcz46j87SLawgKpJfXccGOmQTzUVHaDaOrB01UxEIy2ur+nU0/C9mun+E9Mtguwpax7x/tFQW/UmtOUjyjzR5Mf8AzzX8qbLEgjOEX8qqK5UkY1ajqVJTe7d/vItQuPs9izA/MRtFRaRB5Npvb70hyaqXoF1qcVtGAFX72BWuIYwAAi8e1G7NZe5SUer1EhI8oc1JketQxRIYhlFP4U/yo/7i/lTOYRCPMfnuKkyPWokiTzH+Reo7U7yo/wC4v5UAU7yMTXiIejRMKi0SX91JC3VGqxIijUoVCjaUORjrVJEW315kKgpJ0BHrSe500vehKHzNWUjaOe9SZHrUMkSBRhF6+lP8qP8AuL+VM5hXI8tuexoQjYOe1NeKMRt8i9PShIoyg+RenpQBJketRxEfNz/EaXyo/wC4v5U2OJDuyi/ePagCXI9ajBHnnn+Gl8qP+4v5UwRJ5xGxcbfSgCbI9aqXZ/0i1/66f0qx5Uf9xfyqtdIq3FsFUAM+DgdeKALmR60yUjyzzR5Uf9xfypskSCM4RfyoAkBGBzS5HrTBFHgfIv5UeVH/AHF/KgBIiPKHNSZHrUUUSGMZRT+FO8qP+4v5UAIhHmyc9x/KpMj1qFI08x/kXqO3tT/Kj/uL+VACMR5y89jUmR61EYk85RsXGD2p3lR/3F/KgCvqBzAmP+eq/wA6t5HrVO/RUhQqoB8xRwPerPlR/wBxfyoAVyNh57URkeWvPamtFHsPyL09KEijMa5RenpQBJketRxEfNz/ABGl8qP+4v5UyONDuyi/ePagCbI9ajBH2g8/wj+tL5Uf9xfypgjTzyNi42jt9aAJsj1qOQjfHz/F/Q0vlR/3F/KmPEgaPCL9709jQBNketVdSOdOmx/dNT+VH/cX8qr6gipp8zIoUhTggdKAF07/AI8I/wAf5mrVU7Bd1khDMvXgfWrPln/no9AAn+sk+tPqFEO9/nbrT/LP/PR6AA/69f8AdNPqExnzl+dvumn+Wf8Ano9ABL91f94fzp9QyRkBfnb7w/nT/LP/AD0egBz/AHD9KSP/AFa/QU1oztP7xulIkZ8tf3jdBQBLVTT/APVy/wDXVv6VY8s/89HqtYrujlwzLiQjigC5TB/r2+lHln/no9MCHziN7dKAJqY/+sT60eWf+ej0x4zvT5260ATUyb/Ut9KPLP8Az0emSxkRN87HigCag9DTPLP/AD0egxnH+segAi/1Y/H+dPqGKMmMfOwp/ln/AJ6PQBXtf+Py6/3h/WrdU7Zc3VyNxGGHI71Z8s/89HoAD/r1+lPqEofOHzt0p/ln/no9ABL91f8AeFPqGRCAvzt94U/yz/z0egBz/wCrb6Gkj/1a/QU14zsb943SkSM+Wv7xugoAlpkXRv8AeNHln/no9MjjJDfO33jQBNXJWX/JW9S/7Bsf/oQrqvLP/PR65OyQ/wDC2NSG9v8AkGx8/wDAhQB19ctrZS88d6DZMDm3WS7OOnov6g103ln/AJ6PXL2CyXfxE1WdmLR2kMVqjccEjeR/4/WVTWy7v/gndg/dc6n8sX+Pu/qdXUVy4jtnc/wjNO8s/wDPR6ztYcx26xK7FpDjGe1aM5acOeaiN0eMySS3T9WOB/X+la1VrS28m1RA7DjJx61N5Z/56PQth1p882wh/wBUKfUMSExj52FP8s/89HpmQJ/rH+op9QrGfMf527U/yz/z0egCvL/yFIf9xqqawvl3FvODgg4NWpFxqUK7m5Q89xUeqwFrFjuY7Tnmk9jahK1RFx2Dxqw6EgipKoWjGXT4WLtnoR6Yq55Z/wCej0zOS5ZNCv8A6tvoaE+4PpTHjPlt+8bpQkZ2D943SgklpkX8X+8aPLP/AD0emRxn5vnb7xoAmpg/15/3RR5Z/wCej0wRnzj87fdoAmqpd/8AHza/9dP6VY8s/wDPR6rXS4uLYbmOX6ntxQBcpkv+rNHln/no9MkjIjPztQBMOgoqMRnA/eNS+Wf+ej0AEP8AqhT6hijJjHztT/LP/PR6ABP9bJ9R/Kn1CqHzH+duo/lT/LP/AD0egAb/AFyfQ/0p9QmM+cvzt0NP8s/89HoAr6j/AKhP+uq/zq3VO+XbCmWZv3ijn61Z8s/89HoAc/3D9KSP/Vr9Ka0Z2H943SkSM+WP3jdKAJaZF/F/vGjyz/z0emRoTu+dvvGgCamD/j4P+6P60eWf+ej0wIfPI3t90UATUyT78f8Avf0NHln/AJ6PTHQ7o/nb739DQBNVXUv+QbP/ALpqfyz/AM9HqtqC7bCYlmbCng9DQA7Tv+PCP8f5mrVVLDf9iTZtxz1+tWP3votAAn+sk+tPqFPM3vjb1p/730WgAP8Ar1/3TT6hPmecvC52mn/vfRaACX7q/wC8P50+oZPMwudv3h/On/vfRaAHP9w/Skj/ANWv0FNbzNp4XpSJ5nlrjb0FAEtVNP8A9XL/ANdW/pVj976LVax3eXLsx/rDnPrQBcpg/wBe30o/e+i0weZ5x+7nFAE1Mf8A1ifWj976LTH8zen3etAE1Mm/1LfSj976LTJfM8ps7cYoAmoPQ0z976LQfNx0WgAi/wBWPx/nT6hi8zyxjbT/AN76LQBXtf8Aj8uv94f1q3VO23farnbjO4ZzVn976LQAH/Xr9KfUJ8zzh93OKf8AvfRaACX7q/7wp9QyeZgZ2/eFP/e+i0AOf/Vt9DSR/wCrX6Cmv5mxs7elInmeWuNvQUAS0yLo3+8aP3votMj8zDY2/eNAE1clZf8AJW9S/wCwbH/6EK6r976LXJ2W/wD4WxqX3d39mx5/76FAHXMQqknoBk1yvggLcWV7qasWGoajPKpP90OVX/x1RWvr99Lpvh2/vMIfIgZ8fhVfwxYyab4V0m1KKjx2yBx/tbRu/XNZPWovJHdD3MHN/wA0kvkrt/oblYlwftmsYHKRD/P861J5ZIYHkbbhRms3S43MM1wcZdsc1o+xlS92Ep/I2R0FFMHm46LR+99FpnMEP+qFPqGLzPLGNuKf+99FoAE/1j/UU+oU8zzH+72p/wC99FoAry/8hSH/AHGqe4QSW8iHoVNV5N39pQ5xu2HHpVn956LQNOzuZekSZtXiPVZM/wCfyrXrDtN8OqTxcAsc4/z9a2f3votJbG+IX7y/fUV/9W30NCfcH0pr+Z5bZ29KRPM2D7vSmc5LTIv4v940fvfRaZH5nzY2/eNAE1MH+vP+6KP3votMHmecfu520ATVUu/+Pm1/66f0qx+99FqtdbvtFtuxnfxj6UAXKZL/AKs0fvfRabJ5nlnO2gCUdBRTB5mBwtH730WgAh/1Qp9QxeZ5YwFp/wC99FoAE/1sn1H8qfUK+Z5j/d6jP5U/976LQAN/rk+h/pT6hPmecv3c4NP/AHvotAFfUf8AUJ/11X+dW6p32/yU34x5i9PrVn976LQA5/uH6Ukf+rX6U1vM2H7vSkTzPLXAXpQBLTIv4v8AeNH730WmR+Z82Nv3jQBNTB/x8H/dH9aP3votMHmeefu52igCamSffj/3v6Gj976LTH8zdHkL97j8jQBNVXUv+QbP/ump/wB76LVbUN/2Cbft27TnHWgB2nf8eEf4/wAzVquNsfHASzQf8I3r568izX1/36sf8J0v/QteIP8AwDX/AOLoA6dP9ZJ9afXJJ45Ad/8AimvEHX/nzX/4un/8J0v/AELXiD/wDX/4ugDpz/r1/wB00+uSPjkecD/wjXiDof8AlzX/AOLp/wDwnS/9C14g/wDANf8A4ugDp5fur/vD+dPrkpPHIIX/AIprxB94f8ua+v8Av0//AITpf+ha8Qf+Aa//ABdAHUv9w/Skj/1a/QVyzeOhtP8AxTXiDp/z5r/8XQnjpRGv/FNeIOg/5c1/+LoA6uqmn/6uX/rq39KwP+E6X/oWvEH/AIBr/wDF1WsvHARJf+Kb185kJ4s1/wDi6AOzpg/17fSuY/4Tpf8AoWvEH/gGv/xdMHjkecT/AMI14g6f8+a//F0AdbTH/wBYn1rmP+E6X/oWvEH/AIBr/wDF0x/HI3p/xTXiDr/z5r/8XQB1tMm/1LfSuY/4Tpf+ha8Qf+Aa/wDxdMl8cgxMP+Ea8QdP+fNf/i6AOtoPQ1yv/CdL/wBC14g/8A1/+LoPjoY/5FrxB/4Br/8AF0AdPF/qx+P86fXJx+OQIx/xTXiD/wAA1/8Ai6d/wnS/9C14g/8AANf/AIugDftf+Py6/wB4f1q3XGW/jgLdXJ/4RvXzkjgWa8f+P1Z/4Tpf+ha8Qf8AgGv/AMXQB05/16/Sn1yR8cjzgf8AhGvEHT/nzX/4un/8J0v/AELXiD/wDX/4ugDp5fur/vCn1yUnjkED/imvEH3h/wAua/8AxdP/AOE6X/oWvEH/AIBr/wDF0AdS/wDq2+hpI/8AVr9BXLN46BRv+Ka8QdP+fNf/AIuhPHQEa/8AFNeIOn/Pmv8A8XQB1dMi6N/vGuY/4Tpf+ha8Qf8AgGv/AMXTI/HIAb/imvEH3j/y5r/8XQB1tclZf8lb1L/sGx/+hCn/APCdL/0LXiD/AMA1/wDi65i08Yhfidf3P9ga2d1gi+WLVd4+YckbulAHV+O83Ghwacj7H1C6itx7gtz+ldG/30+tedav4uj1DxTo6t4f1oCzL3BiNsA7HGFIG7kA1tv46G5f+Ka8QcH/AJ81/wDi6yjrOT+X9fed1f3cPSh6y+92/KJt61LttliXrI1WYYvI09I/RRmvnNvj/rF58V102XRB/Z0d01sLZYz9pwCRnrjd7dK9pl8cgxn/AIprxB/4Br/8XWnU55TXs1BfM6wdBRXKjx0uP+Ra8Qf+Aa//ABdH/CdL/wBC14g/8A1/+LpmJ08P+qFPrkovHIEY/wCKa8Qf+Aa//F0//hOl/wCha8Qf+Aa//F0AdOn+sf6in1yS+OR5j/8AFNeIO3/Lmv8A8XT/APhOl/6FrxB/4Br/APF0Ab8v/IUh/wBxqt1xknjgHUYm/wCEb1/hDx9jXP8A6HVn/hOl/wCha8Qf+Aa//F0AaN0PJ15G7OAT/L+lbNfPnxc+N+qeHNd0+20fRJbYmISyNqcJVn+YjCgN0465716RoHxMbV/D9lfy+GNbV7iIOwhtQyZ/2SWGRSRtUmpKNuiO5f8A1bfQ0J9wfSuWfx0Cjf8AFNeIOn/Pmv8A8XQnjpQg/wCKa8QdP+fNf/i6ZidXTIv4v941zH/CdL/0LXiD/wAA1/8Ai6ZH45A3f8U14g+8f+XNf/i6AOtpg/15/wB0VzH/AAnS/wDQteIP/ANf/i6YPHI84n/hGvEH3f8AnzX/AOLoA62ql3/x82v/AF0/pWB/wnS/9C14g/8AANf/AIuq1z44DT2x/wCEb18bXzzZrzx/v0AdnTJf9Wa5j/hOl/6FrxB/4Br/APF02TxyDGf+Ka8Qf+Aa/wDxdAHWDoKK5UeOhgf8U14g/wDANf8A4uj/AITpf+ha8Qf+Aa//ABdAHTw/6oU+uSi8dKIx/wAU14g/8A1/+Lp//CdL/wBC14g/8A1/+LoA6dP9bJ9R/Kn1yS+OR5jn/hGvEHUf8ua+n+/T/wDhOl/6FrxB/wCAa/8AxdAHTt/rk+h/pT65I+OR5yn/AIRrxB0P/Lmv/wAXT/8AhOl/6FrxB/4Br/8AF0Ab+o/6hP8Arqv86t1xl944DwoP+Eb18fvFPNmvr/v1Z/4Tpf8AoWvEH/gGv/xdAHUv9w/Skj/1a/SuWbx0Cp/4prxB0/581/8Ai6E8dAIP+Ka8QdP+fNf/AIugDq6ZF/F/vGuY/wCE6X/oWvEH/gGv/wAXTI/HIG7/AIprxB94/wDLmv8A8XQB1tMH/Hwf90f1rmP+E6X/AKFrxB/4Br/8XTB45HnE/wDCNeIPuj/lzX/4ugDraZJ9+P8A3v6GuY/4Tpf+ha8Qf+Aa/wDxdMfxyCyf8U14g4b/AJ819D/t0AdbVXUv+QbP/umuf/4Tpf8AoWvEH/gGv/xdV7/xwHsJl/4RvX1yvU2a4/8AQ6AMLwt4uvNW8TwHUZr/AE/T55ZItNhjgTyLjYcHzJCSxY9QAFABxknNen1xOgeDGsprNrrVvP0+xmkns7MwhWiZmJ+Z93zAZOBgYHrXaeYn99fzoARP9ZJ9afUSSJvf5l6+tP8AMT++v50AIf8AXr/umn1EZE85fmX7p70/zE/vr+dACS/dX/eH86fUUsiELhl+8O/vT/MT++v50AK/3D9KSP8A1a/QUjSJtPzr09aRJE8tfnXoO9AElcLda/qC+MtIsrB1j0+S+kiuW25MzeWW2g9guAT65HTBrptW0TStca3Opxecbdi0WJmTaTjP3SM9B1rlz8NfD91rNpqaxG3ktLxp2USuRKccfxcc88CgDvKYP9e30pfMT++v50wSJ5xO5enrQBLTH/1ifWl8xP76/nTHkTenzL19aAJaZN/qW+lL5if31/OmSyIYWwy9PWgCWg9DTfMT++v50GRMffX86AEi/wBWPx/nT6iikQRjLL371T1fSNM160W21WMTQo4kCiVkw2CM5Ug9zQBy/iaLW7S8k1PSdZnSVbu3jj09YkMU6tIFcNkbidpJyGGMZIruFJKDcMHHIriZvC+ry+IXudO8QwWVpCojggex80xgjBKuZB82OMkHrXaI6qihpAxAwST1oAD/AK9fpT6iMiecPmXp60/zE/vr+dACS/dX/eFPqKWRCFwy/eHen+Yn99fzoAV/9W30NJH/AKtfoKR5E2N869PWkSRPLX516DvQBJTIujf7xpfMT++v50yORAGyy/ePegCWuSsv+St6l/2DY/8A0IV1fmJ/fX865KzdR8WNSYsMf2bHzn/aFAFrTd938QtXuSQ0VpBFbIfQkBz/ADroJ3CAMTgDJrm/A7w3FlqGpo//ACEL+aUbj/CHIX9AK2NXnVbPCsCWOODWVP4L99T0cXG+J9l/LaP3JJ/jcxNF8K6I+vT6+dKtf7QZuLjyxuB7n6+9dTL/AKo1W05UgsY1LKCRuPPrU8siGM4ZfzrRbHHWknUdiUdBRTRImPvr+dHmJ/fX86ZkJD/qhT6ihkQRDLL+dP8AMT++v50AIn+sf6in1EkieY/zL270/wAxP76/nQBxPiOPXLDxZpV7Y6tNN9ou1ibT/KTyhCep6bsgck7se1dxXF3fh7XJvGX9or4lhS3dSqRCwy0Mf91X8zGT64/Cuy8xP76/nQBz/i/w5pGu2UT6tp1vdtA4MbSoCV/GtnTxGunQLCixxqgVVUYAA4qPUir2EgDKT9abpMynT0DMAVJHJpdTosnRv2Zdf/Vt9DQn3B9Ka8ieW3zr0PehJE2D516etM5ySmRfxf7xpfMT++v50yORBuyy/ePegCWmD/Xn/dFL5if31/OmCRPOJ3L931oAlriPH2v3lhNp0GkOEkW7j+0y43bVYkBR7nB+gHTmu18xP76/nXFeLfh7oXiS9iuZY/KupbhJJp0kc7goxggMAOABmgDt6ZL/AKs02IQwQpFEyhI1CqN2cAcClkkQxnDL+dAEg6CimCRMD51/Ol8xP76/nQAkP+qFPqKKRBGMsv50/wAxP76/nQAif62T6j+VPqJJE8yT5l6jv7U/zE/vr+dACN/rk+h/pT6iMiecvzL0Pen+Yn99fzoA8/8AiR4pvrC6tdI0mK6BK/ary5tYVlkhhUjhFYgbjnOTkAKeDkV2miXMN5odpcWt1LdxSRBlnmADuPVsADP0Fc/4r8My6pqEOo6Xqn2C5MZtZ/3IlEkTMD03DDDHB5xk8V0Ol2VrpGlW9hauPKgTauW5NAFx/uH6Ukf+rX6UjSJsPzr09aRJE8tfnXp60ASUyL+L/eNL5if31/OmRyIN2WX7x70AS0wf8fB/3R/Wl8xP76/nTBInnk7lxtHf60AS0yT78f8Avf0NL5if31/OmPIm6P5l+96+xoAlrifibqF9p2lWbw3k9jpzzlb+5tUVpo02HaVDAjG7bng4Ga7TzE/vr+dcz4y0GXW7e2ubDURZ3VkzMm6Lzo3DIVKsmRnhj3oA3tPANihIyef5mrO1fQflVbTv+PCP8f5mrVAEaKN78DrT9q+g/Kmp/rJPrT6AIyo85eB900/avoPypp/16/7pp9AEcqjavA+8P50/avoPypsv3V/3h/On0ANdV2HgdPSkRV8teB0HanP9w/Skj/1a/QUALtX0H5VVsADHLkZ/en+lW6qaf/q5f+urf0oAtbV9B+VMCjzjwOlSUwf69vpQA7avoPypjqPMTgdakpj/AOsT60AO2r6D8qZMo8luB0qSmTf6lvpQA7avoPypCq46D8qdQehoAjiVfLHA70/avoPypsX+rH4/zp9AFS2AN3dZHRhirW1fQflVW1/4/Lr/AHh/WrdAEZUecvA6elP2r6D8qaf9ev0p9AEcqjC8D7wp+1fQflTZfur/ALwp9ADHVdjcDp6UIq+WvA6DtTn/ANW30NJH/q1+goAXavoPypkajDcD7xqSmRdG/wB40AO2r6D8q4LUr3+y/HHiG+UAm20USgH1BzXfV5X4vAufHt5pvmbH1GC2th7hpVDfpmoqNqDaOrB01UxEIS2bV/Tr+B3nhXTv7N8J6ZaSRhJIrZBIMfxY5/WjU/31/BbJj1Na44UewrGtT9p1qSXqFOB/IUWslFFxqOdSdeXm/mzYCKBgKMfSmyqPLPAqSmS/6o1ZxChVx0H5Uu1fQflSjoKKAI4VBiHAp+1fQflTYf8AVCn0ARoo8x+B1FP2r6D8qan+sf6in0AVJAP7ThGONjVa2r6D8qqy/wDIUh/3Gq3QBBdIDbsABzVHRDmKWNh91s/5/KtKX7o+tZelkx6lcxevP6//AF6T3OinrSmvQ1HVfLbgdD2oRV2DgdPSlf8A1bfQ0J9wfSmc4u1fQflTI1HzcD7xqSmRfxf7xoAdtX0H5UwKPPPA+7UlMH+vP+6KAHbV9B+VVbsAXFrgdZOfyq3VS7/4+bX/AK6f0oAtbV9B+VMlVfLPAqSmS/6s0AKFXA4H5Uu1fQflSjoKKAI4lXyxwKftX0H5U2H/AFQp9AEaKPMk4HUfyp+1fQflTU/1sn1H8qfQBGVHnLwOhp+1fQflTW/1yfQ/0p9AFTUABAmBj96v86tbV9B+VVdR/wBQn/XVf51boAa6rsPA6elIir5a8DpTn+4fpSR/6tfpQAu1fQflTI1HzcD7xqSmRfxf7xoAdtX0H5UwKPPPA+6P61JTB/x8H/dH9aAHbV9B+VMkUb4+B97+hqSmSffj/wB7+hoAdtX0H5VV1EAadMQMHaat1V1L/kGz/wC6aAG2CB7JCSw69Djuas+UP7z/APfRqDTv+PCP8f5mrVAEKRgu/wAzcH+8af5Q/vP/AN9GhP8AWSfWn0AQmIecBub7p/iNP8of3n/76NB/16/7pp9AEMkQAX5m+8P4j60/yh/ef/vo0S/dX/eH86fQBE0QCn5m6f3jQkQMa/M3QfxGpH+4fpSR/wCrX6CgBPKH95/++jVWyQNHLksMSEcHFXaqaf8A6uX/AK6t/SgCx5Q/vP8A99GmCMecRubp/eNTUwf69vpQAeUP7z/99GmPEN6fM3X+8ampj/6xPrQAeUP7z/8AfRpksQETHc3T+8ampk3+pb6UAHlD+8//AH0aQxDH3n/76NSUHoaAIYogYx8zf99Gn+UP7z/99GiL/Vj8f50+gClboGurkZIwR0NWvKH95/8Avo1Xtf8Aj8uv94f1q3QBCYx5wG5un940/wAof3n/AO+jQf8AXr9KfQBDJGAB8zfeH8Rp/lD+8/8A30aJfur/ALwp9AETxAI3zN0/vGhIgY1+Zug/iNSP/q2+hpI/9Wv0FACeUP7z/wDfRpkcQIb5m+8f4jU1Mi6N/vGgA8of3n/76NecXun/AGz47Wm4M0cFr5rHJ4IX5T+eK9KriNJnE/xn1sKwYRafEvHY5GRWVTWy7v8A4J3YP3XOp/LF/j7v6nW3eILSSTc2QvHzHrVLSbfFsshyC7Hoe1Sa3Li2SIdXbmrcMXkwwR4wVGD9cVp1Mvhoer/Il8of3n/76NMliAjJ3N/30ampkv8AqjTOYQRDH3n/AO+jS+UP7z/99GnjoKKAIYogYx8zf99Gn+UP7z/99GiH/VCn0AQrEPMf5m7fxGn+UP7z/wDfRoT/AFj/AFFPoApSIBqMK5blDznmrXlD+8//AH0ary/8hSH/AHGq3QBDJEAo+Zuv941mIvl+IGXJAcY6+3/1q1pfuj61l3p8rXIH9QB/Okzow+rku6ZpPEAjfM3T+8aEiBQfM3T+8ae/+rb6GhPuD6UznE8of3n/AO+jTI4gd3zN94/xGpqZF/F/vGgA8of3n/76NMEQ84jc33f7xqamD/Xn/dFAB5Q/vP8A99Gqt0gW4thljufHJ9qu1Uu/+Pm1/wCun9KALHlD+8//AH0aZJEBGfmb/vo1NTJf9WaAEEQwPmf/AL6NL5Q/vP8A99GnjoKKAIYogYx8zf8AfRp/lD+8/wD30aIf9UKfQBCsQ8xxubqP4j6U/wAof3n/AO+jQn+tk+o/lT6AITEPOUbm6H+I0/yh/ef/AL6NDf65Pof6U+gClfIEhQgsf3ijk571a8of3n/76NV9R/1Cf9dV/nVugCJohtPzN0/vGhIgUHzN0/vGpH+4fpSR/wCrX6UAJ5Q/vP8A99GmRxg7vmb7x/iNTUyL+L/eNAB5Q/vP/wB9GmCMecRub7o/iNTUwf8AHwf90f1oAPKH95/++jTHiAZPmblv7x9DU1Mk+/H/AL39DQAeUP7z/wDfRqtqCBLCZgWOFPBORVyqupf8g2f/AHTQA2wDmyTYQBzwRnvVnEv95f8AvmoNO/48I/x/matUAQoJN74ZevPFPxL/AHl/75oT/WSfWn0AQkSecPmXO09qfiX+8v8A3zQf9ev+6afQBDIJMLll+8O3vT8S/wB5f++aJfur/vD+dPoAjYSbT8y9P7tIgk8tcMvQfw1I/wBw/Skj/wBWv0FACYl/vL/3zVayDmOXYQP3hzkd6uVU0/8A1cv/AF1b+lAFjEv95f8AvmmASecfmXOPSpqYP9e30oAMS/3l/wC+aY4k3pll6+lTUx/9Yn1oAMS/3l/75pkok8pssuMelTUyb/Ut9KADEv8AeX/vmkIlx95f++akoPQ0AQxCTyxhl/Kn4l/vL/3zRF/qx+P86fQBTtw/2q52kA7hnI61ZxL/AHl/75qva/8AH5df7w/rVugCEiTzh8y5x6U/Ev8AeX/vmg/69fpT6AIZBJgZZfvDtT8S/wB5f++aJfur/vCn0AROJNjZZen92hBJ5a4Zeg/hqR/9W30NJH/q1+goATEv95f++aZGJMNhl+8e1TUyLo3+8aADEv8AeX/vmvMPh/O198Rddvl4+1RtIu4fw+ZxXoWv3x0zw7qF8pAa3tpJVz6hSRXF+CbJtN8YG2lXa8ejQh/rkZrJ61F5HdD3MJN/zNL7rt/odXdB7nWY4iVOzGcD8a03Em9MsvX0rO0oeffT3JHGePxrUf76fWtEY19GodkGJf7y/wDfNMlEnlnLLj6VNTJf9UaZziAS4+8v/fNLiX+8v/fNPHQUUAQxCTyxhlx9KfiX+8v/AHzRD/qhT6AIVEnmP8y9u1PxL/eX/vmhP9Y/1FPoApyB/wC0YskbthwcVZxL/eX/AL5qvL/yFIf9xqt0AQyCTaMsvX0rN1cMk1tIxBIbsPpWrL90fWqGuLmzRu4ek9jfDu1VFw+Y0JO5cFc/dpUEmwYZen92kibfZKw7p/SpE+4PpTMWrOwmJf7y/wDfNMjEnzYZfvHtU1Mi/i/3jQIMS/3l/wC+aYBJ5x+Zc7fSpqYP9ef90UAGJf7y/wDfNVroP9ottxBO/jA6cVcqpd/8fNr/ANdP6UAWMS/3l/75pkgk8s5ZfyqamS/6s0AIBLgfMv8A3zS4l/vL/wB808dBRQBDEJPLGGX8qfiX+8v/AHzRD/qhT6AIVEnmPhlzkZ49qfiX+8v/AHzQn+tk+o/lT6AISJPOX5lzg9qfiX+8v/fNDf65Pof6U+gCnfBxCm8gjzF6DHerOJf7y/8AfNV9R/1Cf9dV/nVugCJhJsPzL0/u0IJPLGGXp/dqR/uH6Ukf+rX6UAJiX+8v/fNMjEnzYZfvHtU1Mi/i/wB40AGJf7y/980wCTzz8y52jtU1MH/Hwf8AdH9aADEv95f++aY4k3Jll+9xx7GpqZJ9+P8A3v6GgAxL/eX/AL5qtqAcWE28grtOQBirlVdS/wCQbP8A7poAbYMVskAUsOeR9TVne3/PNvzFQad/x4R/j/M1aoAhR23v+7PX1FP3t/zzb8xQn+sk+tPoAhLt5w/dn7p7in72/wCebfmKD/r1/wB00+gCGR2IX92R8w7j1p+9v+ebfmKJfur/ALw/nT6AI2dtp/dnp6ikR28tf3Z6DuKkf7h+lJH/AKtfoKAE3t/zzb8xVayYrHLhS37w9O1XKqaf/q5f+urf0oAsb2/55t+YpgdvOP7s9OmRU1MH+vb6UAG9v+ebfmKY7tvT92evqKmpj/6xPrQAb2/55t+YpkrsYmzGRx6ipqZN/qW+lABvb/nm35ikLtj/AFbfmKkoPQ0AQxOwjH7sn8RT97f882/MURf6sfj/ADp9AFO3Yi6uSFJJIyPSrO9v+ebfmKr2v/H5df7w/rVugCEu3nD92enqKfvb/nm35ig/69fpT6AIZHYgfuyPmHcU/e3/ADzb8xRL91f94U+gCJ3bY37s9PUUI7eWv7s9B3FSP/q2+hpI/wDVr9BQAm9v+ebfmKZG7Yb92T8x7ipqZF0b/eNAHMePZPP0CHTSGRtRu4LYc9Q0i7v/AB3NUBJ9n+I+qcEH+y41Ht8wFaWt/wCmeONAsmTfHD5t2/ttQqv6sKy763l/4WLfTr/q2tI4j9cg1ivik/l/X3nqOP7ujS73l97t+UTqtIVorEHYSXOc1bd23J+7PX1FPhj8qBIx0VQKH++n1rVHnVJc03IN7f8APNvzFMldjGf3ZH4ipqZL/qjTIEDtj/Vt+Ypd7f8APNvzFPHQUUAQxOwjGIyfxFP3t/zzb8xRD/qhT6AIVdvMf92e3cU/e3/PNvzFCf6x/qKfQBTkY/2lCdpBCHj1qzvb/nm35iq8v/IUh/3Gq3QBDI7FR+7I59RVbVdz6e+UI24Oc1cl+6PrUd8m+xlX/ZpPY0pu00yCxkJ0xMIT8pGc1ZR22D92enqKp6S2dLPsSP0q+n3B9KFsOqrVGvMTe3/PNvzFMjdvm/dk/Me4qamRfxf7xpmQb2/55t+YpgdvOP7s/d6ZFTUwf68/7ooAN7f882/MVWumJuLbKkYfgevFXKqXf/Hza/8AXT+lAFje3/PNvzFMkdvLP7sj8RU1Ml/1ZoAQO2B+7b8xS72/55t+Yp46CigCGJ2EY/dk/iKfvb/nm35iiH/VCn0AQq7eY/7s9R3HpT97f882/MUJ/rZPqP5U+gCEu3nL+7PQ9xT97f8APNvzFDf65Pof6U+gCnfMWhTKlf3i9frVne3/ADzb8xVfUf8AUJ/11X+dW6AI2dtp/dnp6ikR28sfuz09RUj/AHD9KSP/AFa/SgBN7f8APNvzFMjdhu/dk/Me4qamRfxf7xoAN7f882/MUwO3nH92fujjIqamD/j4P+6P60AG9v8Anm35imO7bo/3Z+96j0NTUyT78f8Avf0NABvb/nm35iq2oMWsJgylRtPJ7VcqrqX/ACDZ/wDdNAFewv7VLJFaZQefX1NWf7RtP+e6/kaTTlH2GPgd+3uas7R6D8qAKiajaB3/AHy9fQ0/+0bT/nuv5GpUUeY/A6+lP2j0H5UAVDqFp5ynzlxtPrT/AO0bT/nuv5GpSo89eB909qftHoPyoAqSajaELiZfvD19af8A2jaf891/I1LKo2rwPvDt70/aPQflQBVbUbTaf3y9PQ0JqNoI1/fL0HY1ZdRsPA6elJGo8teB0HagCH+0bT/nuv5Gqtjf2yRy7plGZSRWltHoPyqrp6jy5eB/rW7fSgB39o2n/PdfyNMGoWvnE+cvT3q3tHoPypgUee3A6elAEX9o2n/PdfyNMfULQun75evoat7R6D8qY6jzE4HX0oAi/tG0/wCe6/kaZLqNoYmAmXp71b2j0H5UyZR5LcDp6UARf2jaf891/I0h1G0x/r1/I1Z2j0H5UFRg8D8qAKkWo2gjGZl/I0/+0bT/AJ7r+RqWJR5Y4Hft70/aPQflQBm21/bLdXJMygFhirX9o2n/AD3X8jTbVR9suuB94dqtbR6D8qAKh1G084Hzl6e9P/tG0/57r+RqUqPOXgdPSn7R6D8qAKkmoWpC4mX7w9af/aNp/wA91/I1LKo2rwPvDtT9o9B+VAFV9RtCjfvl6ehoTUbQRr++XoOxqy6jy24HQ9qSNR5a8DoO1AEP9o2n/PdfyNQNrGnWsTSXN5FCm770jbR+Zq/tHoPyqpc6bY6nbPb6lZW93CXyY54lkXP0IxQB5l4ocax4i1HUtH1meK7s44ItNNtcMqvMSG2soOHQ7fmDZGKwdO+Omj6n8VYtH/s+VYri4jthd7hhnHyglcdM103h7wPDrMl1r1jrOpaKJLiVIbexW3EUcecAqrxNtOMjI7EjvUfh34Z+D7b4jtq0Vg39oRr9qjDSEorbsbseuaxp6xv3PTxalGs1H7CUfws/xuemf2jaf891/I0x9QtC6fvl6+hq3tHoPypjqN6cDr6VseYRf2jaf891/I0yXUbQxnEy/rVvaPQflTJVHlHgflQBCNRtMf69fyNL/aNp/wA91/I1YCjA4H5UbR6D8qAKkWo2giGZl/I0/wDtG0/57r+RqWFR5Q4H5U/aPQflQBUTUbTzH/fL29af/aNp/wA91/I1KijzH4HUdqftHoPyoAzZL+2OpQsJlwEOTzVr+0bT/nuv5GmyKP7Uh4H3G7Va2j0H5UAVJNQtCoxMvX0NEuoWrQuomXJUjoasSqNo4HX0p+1fQflQNaMxdLu4obaZJZAvPGe9aCajabB++Xp6GqOlkCe7jIHc/wCfzrWRRsHA6elJbG+I/ish/tG0/wCe6/kaZHqNoN2Zl+8exq3tHoPypkSj5uB949qZzkX9o2n/AD3X8jTBqNp5xPnL933q3tHoPypgUeeeB90dqAIv7RtP+e6/kaq3V/bNcWxEykK+T+VaW0eg/Kqt2o+02vA/1np7UAO/tG0/57r+Rpkmo2hjOJl/I1b2j0H5UyVR5Z4H5UAQjUbTA/fr+Rpf7RtP+e6/kasBRgcD8qNo9B+VAFSLUbQRjMy/kaf/AGjaf891/I1LCo8ocD8qftHoPyoAqJqNp5j/AL5eo9fSn/2jaf8APdfyNSoo82TgdR29qftHoPyoAqHUbTzlPnL0PY0/+0bT/nuv5GpWUecnA6Ht9KftHoPyoAzb+/tnhQLMpPmKe/rVr+0bT/nuv5Gm6go8hOB/rV7e9Wto9B+VAFVtRtNh/fL09DQmo2gjX98vT0NWXUbDwOnpSRqPLXgdPSgCH+0bT/nuv5GmR6jaDdmZfvH1q3tHoPypkSj5uB949qAIv7RtP+e6/kaYNQtfPJ85cbR6+9W9o9B+VMCj7QeB90dvrQBF/aNp/wA91/I0x9RtC0f75fve/oat7R6D8qZIo3x8D73p7GgCL+0bT/nuv5Gq2oX9q+nzKsyklTgc1o7R6D8qq6ko/s2bgfdPagBdO/48I/x/matVTsEV7JGYc8/zNWfJT0/WgAT/AFkn1p9QpEpd+O/rT/JT0/WgAP8Ar1/3TT6hMS+cBj+E96f5Ken60AEv3V/3h/On1DJEgC8fxDv70/yU9P1oAc/3D9KSP/Vr9BTWiTaeO3rSJEhjXjsO9AEtVNP/ANXL/wBdW/pVjyU9P1qtYorxy7u0hFAFymD/AF7fSjyU9P1pgiXziMdvWgCamP8A6xPrR5Ken60x4lDpx39aAJqZN/qW+lHkp6frTJYlETEDt60ATUHoaZ5Ken60hhTHT9aAFi/1Y/H+dPqGKJTGMj9af5Ken60AV7X/AI/Lr/eH9at1TtkVrq5B6KwxVnyU9P1oAD/r1+lPqExL5wGO3rT/ACU9P1oAJfur/vCn1DJEoAwP4h3p/kp6frQA5/8AVt9DSR/6tfoKa8SBG47etIkSGNeOw70AS1m6xeHTvDupXisFaCCWRSfUKSP1q/5Ken61y3jny28PJYHcG1C9hthj0Milv/HQ1RUfLBs6sHTVXEQg9m1f06/gXdGt30rwPaQSgCRbcBsep/8A11jeHWf/AIWLeI/RdOUr+Lg1v6siwWsNvHnPA+oFYumwKnxSv4+y6ZH/AOhCiKtp2LrVHKDm95Ns7OmP99PrR5Ken60x4lDpx39as4iamS/6o0eSnp+tMliQRnA/WgCYdBRUYhTHT9aXyU9P1oAIf9UKfUMUSGMZH60/yU9P1oAE/wBY/wBRT6hWJfMfj070/wAlPT9aAK8v/IUh/wBxqt1TkRRqUK9ihzVnyU9P1oAJfuj60+oZIlCjA7+tP8lPT9aAMq2Aj1m6T1Q4/StZPuD6VjOgj13bjhlJ/Q1rJEmwcdvWkjoxG8X5IlpkX8X+8aPJT0/WmRxId3H8R70znJqYP9ef90UeSnp+tMESecRj+H1oAmqpd/8AHza/9dP6VY8lPT9arXSKtxbAdGfB/KgC5TJf9WaPJT0/WmSRIIzx+tAEw6CioxEmBx+tL5Ken60AEP8AqhT6hiiQxjI/Wn+Snp+tAAn+tk+o/lT6hWJfMfjoR39qf5Ken60ADf65Pof6U+oTEnnKMdj3p/kp6frQBX1H/UJ/11X+dW6p3yKkKFf+eij9as+Snp+tADn+4fpSR/6tfpTWiTYeO3rSJEhjHHb1oAlpkX8X+8aPJT0/WmRxKd3H8R70ATUwf8fB/wB0f1o8lPT9aYIl88jH8I70ATUyT78f+9/Q0eSnp+tMeJQ0fHVvX2NAE1VdS/5Bs/8Aump/JT0/Wq2oIqWEzL1CnFADtO/48I/x/matVTsAxskKttHPGPerO1/+en6CgAT/AFkn1p9Qor73w/f0p+1/+en6CgAP+vX/AHTT6hKv5w+fnae1P2v/AM9P0FABL91f94fzp9QyK+Fy+fmHb3p+1/8Anp+goAc/3D9KSP8A1a/QU1lfaf3nb0pEV/LX952HagCWqmn/AOrl/wCurf0qxtf/AJ6foKrWQYxy7W2/vDnigC5TB/r2+lG1/wDnp+gpgV/OPz849KAJqY/+sT60bX/56foKY6vvT5+/pQBNTJv9S30o2v8A89P0FMlV/KbL549KAJqD0NM2v/z0/QUhV8f6z9BQAsX+rH4/zp9Qxq/ljD4/Cn7X/wCen6CgCva/8fl1/vD+tW6p24Y3VzhsEMMnHWrO1/8Anp+goAD/AK9fpT6hKv5w+fnHpT9r/wDPT9BQAS/dX/eFPqGRXwuXz8w7U/a//PT9BQA5/wDVt9DSR/6tfoKY6vsb9529KEV/LX952HagCWuV1gPeeNtBstgeKF5ryTI6bUKD9ZBXT7X/AOen6CuW0pDefELV7pZsrZ20dsBjoWO5v/QRWVTWy7v/AIJ3YP3XOp/LF/j7v6mrc/6TrkUYORHz/U1k2X/JWtS/7Bsf/oQrU01Wn1CefOMd8VkWSt/wtjURu5/s2PnH+0K0RjX0ah2R2FMf76fWja//AD0/QUx1fcnz9/Smc5NTJf8AVGja/wDz0/QUyVX8s5fP4UATDoKKjCvj/WfoKXa//PT9BQAQ/wCqFPqGJX8sYfH4U/a//PT9BQAJ/rH+op9Qqr+Y/wA/p2p+1/8Anp+goAry/wDIUh/3Gq3VOQN/aUILc7Dg46VZ2v8A89P0FABL90fWn1DIr7Rl+/pT9r/89P0FAGTqJ8vWIn9Vx/OtdPuD6Vj6wpS5t2Zs8+nuK1UVzGpEnb0pLc6KusIPyJaZF/F/vGja/wDz0/QUyNX+bD/xHtTOcmpg/wBef90UbX/56foKYFfzj8/O30oAmqpd/wDHza/9dP6VY2v/AM9P0FVroMLi2y2SX4OOnFAFymS/6s0bX/56foKZIr+Wcv8ApQBMOgoqMK+B+8/QUu1/+en6CgAh/wBUKfUMSv5Yw+Pwp+1/+en6CgAT/WyfUfyp9Qqr+Y/z9x29qftf/np+goAG/wBcn0P9KfUJV/OX5+cHtT9r/wDPT9BQBX1H/UJ/11X+dW6p3wYQpubd+8Xt71Z2v/z0/QUAOf7h+lJH/q1+lNZX2n9529KRFfyxh+3pQBLTIv4v940bX/56foKZGr/Nh8fMe1AE1MH/AB8H/dH9aNr/APPT9BTAr+cfn52jnFAE1Mk+/H/vf0NG1/8Anp+gpjq+6P5/4vT2NAE1VdS/5Bs/+6an2v8A89P0FVtQDCwmLNuG05GOtADtO/48I/x/matVTsCwskCruHPOcd6s7pP+eY/76oAE/wBZJ9afUKM+9/kHX+9T90n/ADzH/fVAAf8AXr/umn1CWfzl+QZ2n+Kn7pP+eY/76oAJfur/ALw/nT6hkZ8LlB94fxe9P3Sf88x/31QA5/uH6Ukf+rX6Cmsz7T8g6f3qRGfy1+QdB/FQBLVTT/8AVy/9dW/pVjdJ/wA8x/31VaxLCOXauf3hzzigC5TB/r2+lG6T/nmP++qYGfzj8gzj+9QBNTH/ANYn1o3Sf88x/wB9Ux2fenyDr/eoAmpk3+pb6UbpP+eY/wC+qZKz+U2UA4/vUATUHoaZuk/55j/vqgtJj7g/76oAIv8AVj8f50+oYmfyxhB/31T90n/PMf8AfVAFe1/4/Lr/AHh/WrdU7YsLq5wuSWGRnpVndJ/zzH/fVAAf9ev0p9Qln84fIM4/vU/dJ/zzH/fVABL91f8AeFPqGRnwMoPvD+Kn7pP+eY/76oAc/wDq2+hpI/8AVr9BTXZ9jfIOn96kRn8tfkHQfxUAS1yPhSVZNI1jVSmxry8kYH1Awq/1rc1y9ew8P391gIYbd2Vt3Q7Tj9cViaZDJp/gvT7STG8qCxB65+b+tZS1mvI9LDR/cS/vSS+Su3+huaLHssi56u2aw7L/AJK3qX/YNj/9CFdLbK8NrGmwHav96uYsi3/C2NRO3n+zY+M/7QrRbHDVlzTbOvpj/fT60bpP+eY/76pjs+9PkHX+9TMyamS/6o0bpP8AnmP++qZKz+WcoB/wKgCYdBRUYaTH3B/31S7pP+eY/wC+qACH/VCn1DEz+WMID/wKn7pP+eY/76oAE/1j/UU+oVZ/Mf5B2/ip+6T/AJ5j/vqgCvL/AMhSH/cardU5C39pQkr82w4GetWd0n/PMf8AfVABL90fWn1DIz7RlB1/vU/dJ/zzH/fVAGZrq/uon9Gx/n8q04f9Sn+6Kz9a3tYjcuAHB6+xq1aSO1pEQgPy/wB6l1OietGPzLNMi/i/3jRuk/55j/vqmRs/zYQfeP8AFTOcmpg/15/3RRuk/wCeY/76pgZ/OPyDO3+9QBNVS7/4+bX/AK6f0qxuk/55j/vqq10WNxbblwQ/Az14oAuUyX/VmjdJ/wA8x/31TJGfyzlB/wB9UATDoKKjDSYHyD/vql3Sf88x/wB9UAEP+qFPqGJn8sYQf99U/dJ/zzH/AH1QAJ/rZPqP5U+oVZ/Mf5B1H8XtT90n/PMf99UADf65Pof6U+oSz+cvyDof4qfuk/55j/vqgCvqP+oT/rqv86t1TvixhTcuB5i9896s7pP+eY/76oAc/wBw/Skj/wBWv0prM+w/IOn96kRn8sYQdP71AEtMi/i/3jRuk/55j/vqmRs/zYQfeP8AFQBNTB/x8H/dH9aN0n/PMf8AfVMDP55+QZ2j+KgCamSffj/3v6GjdJ/zzH/fVMdn3R/IPvf3vY0ATVV1L/kGz/7pqfdJ/wA8x/31VbUCxsJgy7RtOTnOKAHad/x4R/j/ADNWqp2DhLJFOc89BnvVnzV/2v8Avk0ACf6yT60+oUlUO/3uv900/wA1f9r/AL5NAAf9ev8Aumn1CZV84H5uh/hNP81f9r/vk0AEv3V/3h/On1DJKpC/e+8P4T60/wA1f9r/AL5NADn+4fpSR/6tfoKa0q7T97p/dNIkqiNfvdB/CaAJaqaf/q5f+urf0qx5q/7X/fJqtYuEjlznmQngZoAuUwf69vpR5q/7X/fJpglXzieen900ATUx/wDWJ9aPNX/a/wC+TTHlXenXr/dNAE1Mm/1LfSjzV/2v++TTJZVMTAZ6f3TQBNQehpnmr/tf98mkMq4/i/75NACxf6sfj/On1DFKojH3v++TT/NX/a/75NAFe1/4/Lr/AHh/WrdU7dwt1ck5wxGOKs+av+1/3yaAA/69fpT6hMq+cDz0/umn+av+1/3yaACX7q/7wp9QySqQOv3h/Caf5q/7X/fJoAc/+rb6Gkj/ANWv0FNeVdjfe6f3TSJKojX73QfwmgDn/Hkq/wDCOpZMCTf3cNsMehcM3/jqmrE0e7ULe0QZSLAH0/yKpa9K15408PWSgtFC015KNvTauwfrLWhZMsusSzHOFzjj8KxWs2/l/X3nr/w8PD0lL5t8v/tptdK5Ky/5K3qX/YNj/wDQhXVeav8Atf8AfJrk7KQf8LY1FucHTY+3+0K2PIOvpj/fT60eav8Atf8AfJpjyrvT73X+6aAJqZL/AKo0eav+1/3yaZLKpjP3v++TQBMOgoqMSrj+L/vk0vmr/tf98mgAh/1Qp9QxSqIxnd/3yaf5q/7X/fJoAE/1j/UU+oUlXzH69R/Caf5q/wC1/wB8mgCvL/yFIf8AcardU5HB1KFucBD2qz5q/wC1/wB8mgAl+6PrT6hklUqPvdf7pp/mr/tf98mgCtqy7tNk9sH9adprZ06HHZcUl+6vYSqM9P7pqHSJQLBQc8MegNLqdG9D5mjTIv4v940eav8Atf8AfJpkcqjd977x/hNM5yamD/Xn/dFHmr/tf98mmCVfOJ+b7v8AdNAE1VLv/j5tf+un9Kseav8Atf8AfJqtdOGuLYjPyvk8e1AFymS/6s0eav8Atf8AfJpkkqmM/e/75NAEw6CioxKuB97/AL5NL5q/7X/fJoAIf9UKfUMUqiMfe/75NP8ANX/a/wC+TQAJ/rZPqP5U+oVlXzH68kfwn0p/mr/tf98mgAb/AFyfQ/0p9QmVfOU/N0P8Jp/mr/tf98mgCvqP+oT/AK6r/OrdU75w8KAZ/wBYp5GO9WfNX/a/75NADn+4fpSR/wCrX6U1pV2H73T+6aRJVEY+90/umgCWmRfxf7xo81f9r/vk0yOVRu+994/wmgCamD/j4P8Auj+tHmr/ALX/AHyaYJV88nn7o/hNAE1Mk+/H/vf0NHmr/tf98mmPKpaP73Df3T6GgCaqupf8g2f/AHTU/mr/ALX/AHyarag4ewmVc5KnqMUAO07/AI8I/wAf5mrVVNOkQWMeWXv39zVnzE/vr+dACJ/rH+tPqJJE8x/nXr60/wAxP76/nQAh/wBev+6afURkTz1+dfunvT/MT++v50AJL91f94fzp9RSyJtX51+8O/vT/MT++v50AK/3D9KSP/Vr9BSPImw/OvT1pI5E8tfnXoO9AElVNP8A9XL/ANdW/pVnzE/vr+dVbCRBHLll/wBa3f6UAXKYP9e30pfMT++v50wSJ57fOvT1oAlpj/6xPrS+Yn99fzpjyJ5ifOvX1oAlpk3+pb6UvmJ/fX86ZNInkt869PWgCWg9Kb5if31/OgyJj76/nQAkX+rH4/zp9RRSJ5Y+de/en+Yn99fzoArWv/H5df7wq3VO1kT7ZdfMv3h3q15if31/OgBD/rl+lPqIyJ5y/OvT1p/mJ/fX86AEl+6v+8KfUUsiYX51+8O9P8xP76/nQAP/AKtvoaI/9Wv0FNeRPLb516etCSJ5a/OvQd6AOXtWS58f6zfK/FhZR2wHozks3/oK1s6In+jySn+Nq5zQJxNo+q6gyhZL/UHOR3VQAP8A0E11OmbIrFFLKD35rGlqrnrY73Lw7Wj9yV/xuXa5Ky/5K1qX/YNj/wDQhTfHXii70W0t00do/Pa7t1ndgCEieZEP4ndj9e1JYSKfixqJLLzpkfOf9oVseSdhTH++n1pfMT++v50x5E3p869fWgCWmS/6o0vmJ/fX86ZLInlH51/OgCUdBRTRImPvr+dHmJ/fX86AEh/1Qp9RQyJ5Q+dfzp/mJ/fX86AET/WP9RT6iSRPMf516jvT/MT++v50AVpP+QpD/uNVuqckif2pD8y/cbvVrzE/vr+dACS/dH1p9RSyJtHzr19af5if31/OgBtwM2sv+4f5VR0Rs2bL/darsroYXG9eVPes7RHVVnDMB8wxk/Wl1OiGtGXyNamRfxf7xpfMT++v50yORPm+dfvHvTOclpg/15/3RS+Yn99fzpgkTzz86/dHegCWql3/AMfNr/10/pVnzE/vr+dVbuRPtFr8y/6z19qALlMl/wBWaXzE/vr+dMlkTyz86/nQBIOgpaYJEwPnX86XzE/vr+dACQ/6oU+oopE8sfOv50/zE/vr+dACJ/rZPqP5U+okkTzZPnXqO/tT/MT++v50AI3+uT6Gn1E0iecvzr0Pen+Yn99fzoArah/qE/66r/OrdU9QkQwJhl/1q9/erXmJ/fX86AFf7h+lJH/q1+lI8ibD869PWkjkTy1+denrQBJTIv4v940vmJ/fX86ZFInzfOv3j3oAlqMf8fB/3R/WneYn99fzpgkT7QfnX7o7/WgCWmSffj/3v6Gl8xP76/nTJJE3x/Ov3vX2NAEtVdS/5Bs3+6aseYn99fzqrqUiHTpsMv3T3oAisLG1eyQtAhPPJHuas/2faf8APvH/AN803Tv+PCP8f5mrVAFRLC1Lv/o8fX+7T/7PtP8An3j/AO+alT/WSfWn0AVDYWvnKPs8f3T/AA0/+z7T/n3j/wC+alP+vX/dNPoAqSWFqAuLeP7w/h96f/Z9p/z7x/8AfNSy/dX/AHh/On0AVWsLTaf9Hj6f3aEsLTy1/wBHj6D+GrL/AHD9KSP/AFa/QUAQ/wBn2n/PvH/3zVWxsbZo5d0CHEpA4rSqpp/+rl/66t/SgB/9n2n/AD7x/wDfNMFha+cR9njxj+7VumD/AF7fSgCL+z7T/n3j/wC+aY9ha70/0ePr/dq3TH/1ifWgCL+z7T/n3j/75pkthaCJsW8fT+7VumTf6lvpQBF/Z9p/z7x/980h0+0x/wAe8f8A3zVmg9DQBUisLQxjNvH/AN80/wDs+0/594/++ali/wBWPx/nT6AM22sbY3VyDAhAYY46Va/s+0/594/++aZa/wDH5df7w/rVugCobC184D7PH0/u0/8As+0/594/++alP+vX6U+gCpJYWoC4t4/vD+Gn/wBn2n/PvH/3zUsv3V/3hT6AKr2Fpsb/AEePp/dqhrMdnY+HLy6MUamO2Zg2O+3j9cVsP/q2+hrmvHEo/wCEXjtNpY31zDbgD3YMf0U1FR2g2dOEpqpiIQeza+7qU9J09LLQdItNq+Y0QeRgOu45/rW1feG9M1ixa1voZPL35zBPJC3H+0jA/rTYIg+tLGg/d26BR9AMD+da8XRv940QVlY0xlRzld9bv73c4XxD8I9A1mzVLb7VaziSAmU39wwZI3BwR5mCSARuPIzntUul6ZaQfFC+tkhBjj0yMKGJY/eHc8mu4rkrL/krepf9g2P/ANCFWcR0v9n2n/PvH/3zTHsLTen+jx9f7tW6Y/30+tAEX9n2n/PvH/3zTJbC0EZxbx/981bpkv8AqjQBCNPtMf8AHvH/AN80v9n2n/PvH/3zVgdBRQBUisLUxDNvH/3zT/7PtP8An3j/AO+alh/1Qp9AFRLC18x/9Hj6j+Gn/wBn2n/PvH/3zUqf6x/qKfQBmyWNsNShUQJgocjFWv7PtP8An3j/AO+aZL/yFIf9xqt0AVJbC0CjFvH1/u0/+z7T/n3j/wC+all+6PrT6AKr2FoI2/0ePp/drM0q3hkuZo5Y1cKMjI6c1tv/AKtvoaydOATV51/2ePzFJ7nRS+Ca8jQ/s+0/594/++aZHYWp3Zt4/vH+GrdMi/i/3jTOci/s+0/594/++aYLC084j7PHjb/dq3TB/rz/ALooAi/s+0/594/++aq3VjbLcWwECAGTB468VpVUu/8Aj5tf+un9KAH/ANn2n/PvH/3zTJLC0EZxbx/981bpkv8AqzQBCNPtMD/R4/8Avml/s+0/594/++asDoKKAKkVhaGMZt4/++af/Z9p/wA+8f8A3zUsP+qFPoAqJYWnmP8A6PH1H8PtT/7PtP8An3j/AO+alT/WyfUfyp9AFQ2Fp5yj7PH0P8NP/s+0/wCfeP8A75qVv9cn0P8ASn0AZt/Y2ywoVgQHzFHT3q1/Z9p/z7x/980zUf8AUJ/11X+dW6AKrWFpsP8Ao8fT+7QlhaGNf9Hj6f3asv8AcP0pI/8AVr9KAIf7PtP+feP/AL5pkdhandm3j+8f4at0yL+L/eNAEX9n2n/PvH/3zTBYWvnkfZ48bR/D9at0wf8AHwf90f1oAi/s+0/594/++aY9haho/wDR4/vf3fY1bpkn34/97+hoAi/s+0/594/++arahY2qafMywICFOCBWjVXUv+QbP/umgBLBS1khDFevA+tWPLP/AD0aoNO/48I/x/matUAQoh3v87daf5Z/56NQn+sk+tPoAhKHzl+dvumn+Wf+ejUH/Xr/ALpp9AEMiEBfnb7w/nT/ACz/AM9Gol+6v+8P50+gCNkO0/O3SkRD5a/O3QVI/wBw/Skj/wBWv0FACeWf+ejVWsVLRy4Yr+8I4q5VTT/9XL/11b+lAFjyz/z0amBD5x+dulTUwf69vpQAeWf+ejUx0O9PnbrU1Mf/AFifWgA8s/8APRqZKhETfOx4qamTf6lvpQAeWf8Ano1BjOPvtT6D0NAEMSExj52FP8s/89Goi/1Y/H+dPoAp2yk3VyNxGGHI71Z8s/8APRqr2v8Ax+XX+8P61boAhKHzh87dKf5Z/wCejUH/AF6/Sn0AQyIQF+dvvCn+Wf8Ano1Ev3V/3hT6AI3Q7G+dulcvrvmXHivw9Zo+6OITXsq5HARQo/8ARhrq3/1bfQ1xayJdeN9Xu1Y5sbGG1X03OzM36Bayq7Jd3/wT0MBH35T7Rf4+6vxZu6PH5sk82SCTgH1rSjQ4b52+8ag0mPy9PX/aJarUXRv941otjlryvUYeWf8Ano1cnZKf+FsaiNx/5BsfP/AhXX1yVl/yVvUv+wbH/wChCmYnVeWf+ejUx0O9PnbrU1Mf76fWgA8s/wDPRqZKhEZ+djU1Ml/1RoAQRnH32pfLP/PRqeOgooAhiQmMfOwp/ln/AJ6NRD/qhT6AIVQ+Y/zt2p/ln/no1Cf6x/qKfQBTkUjUoRuOSh59Ks+Wf+ejVXl/5CkP+41W6AIZEIUfO3Wn+Wf+ejUS/dH1p9AETodjfO3SsmBSuulckbgefwrZf/Vt9DWS2E1+E+q/0NJnRQ+0vJmr5Z/56NTI0PzfO33jU1Mi/i/3jTOcPLP/AD0amBD5x+dvu1NTB/rz/uigA8s/89GqtdKRcWwLE5fv24q5VS7/AOPm1/66f0oAseWf+ejU2RD5Z+dqlpkv+rNACCM4HztS+Wf+ejU8dBRQBDEhMY+dqf5Z/wCejUQ/6oU+gCFUPmP87dR/Kn+Wf+ejUJ/rZPqP5U+gCEofOX526Gn+Wf8Ano1Df65Pof6U+gCnfKVhTLE/vF6/WrPln/no1V9R/wBQn/XVf51boAjZDsPzt0pEQ+WPnbpUj/cP0pI/9Wv0oATyz/z0amRoTu+dvvGpqZF/F/vGgA8s/wDPRqYEPnn52+6Kmpg/4+D/ALo/rQAeWf8Ano1MdDuj+dvvf0NTUyT78f8Avf0NAB5Z/wCejVW1BSthMSxbCng96uVV1L/kGz/7poAbYb/sSbMY56/WrOZfRag07/jwj/H+Zq1QBChk3vgL1p+ZfRaE/wBZJ9afQBCfM84cLnaafmX0Wg/69f8AdNPoAhkMmFyF+8P50/MvotEv3V/3h/On0ARsZNp4XpSIZPLXAXoKkf7h+lJH/q1+goATMvotVrHd5cuzH+sOc1cqpp/+rl/66t/SgCxmX0WmDzPOPC5xU1MH+vb6UAGZfRaY5k3pwvWpqY/+sT60AGZfRaZKZPKbIXGKmpk3+pb6UAGZfRaCZMdFp9B6GgCGIyeWMBafmX0WiL/Vj8f50+gCnbbvtVztxnIzmrOZfRar2v8Ax+XX+8P61boAhJk84cLnFPzL6LQf9ev0p9AEMnmYGQv3hT8y+i0S/dX/AHhT6AInMmxshelcRoTyXGn315JGA9/qMjKQOSqBYx+oNdbrl0tloN9cO20RwOc+hxx+tc74dszDpmj2hbcVgWRj7tlz/OsZazSPWwa5MPOfdpfJJt/jY6uFZI4EQBQABRGZMNgL941NTIujf7xrY8pu7uGZfRa5Oy3/APC2NR4G7+zY8/8AfQrr65Ky/wCSt6l/2DY//QhQI6rMvotMcyb0yF61NTH++n1oAMy+i0yXzPLOQtTUyX/VGgBAZMdFpcy+i08dBRQBDF5nljAWn5l9Foh/1Qp9AEKGTzH4XqKfmX0WhP8AWP8AUU+gCnJu/tKHON2w4qzmX0Wq8v8AyFIf9xqt0AQyGTaMhetPzL6LRL90fWn0AROZNjZC9Kybvcuq27HGTgD862X/ANW30NZOpnbdWbeh/qKT2OjD/HbyZq5l9FpkZk+bAX7xqYHIpkX8X+8aZzhmX0WmAyeceFztqamD/Xn/AHRQAZl9FqtdbvtFtuxnfxj6Vcqpd/8AHza/9dP6UAWMy+i0yQyeWchampkv+rNACAyYHC0uZfRaeOgooAhiMnljAWn5l9Foh/1Qp9AEK+Z5j8L1H8qfmX0WhP8AWyfUfyp9AEJMnnLwucGn5l9Fob/XJ9D/AEp9AFO+3eSm/GPMXp9as5l9FqvqP+oT/rqv86t0ARsZNh4XpSIZPLGAvSpH+4fpSR/6tfpQAmZfRaZGZPmwF+8ampkX8X+8aADMvotMHmeeeFztH9ampg/4+D/uj+tABmX0WmOZN0eQv3uPyNTUyT78f+9/Q0AGZfRarahv+wTb8bdpzirlVdS/5Bs/+6aAEsH22SDaT15A96seb/sN+VQad/x4R/j/ADNWqAIUk+d/lbr6U/zf9hvyoT/WSfWn0AQmT98Dtb7p7U/zf9hvyoP+vX/dNPoAhkkyF+VvvDt70/zf9hvyol+6v+8P50+gCNpPlPyt09KRJP3a/I3Qdqkf7h+lJH/q1+goATzf9hvyqtYttjl4JzITxVyqmn/6uX/rq39KALHm/wCw35UwSfvidrdPSpqYP9e30oAPN/2G/KmPJ86fK3X0qamP/rE+tAB5v+w35UyWTMTfK3T0qamTf6lvpQAeb/sN+VIZOPuN+VSUHoaAIYpMRj5W/Kn+b/sN+VEX+rH4/wA6fQBTtmxdXJwTlhwO1WfN/wBhvyqva/8AH5df7w/rVugCEyfvgdrdPSn+b/sN+VB/16/Sn0AQySZA+VvvDtT/ADf9hvyol+6v+8KfQBy/jy5P/CMm1SNi17PHbjj1OT+imrelKPtzMqHZGgRQO3Yfyqj4ocz+JtDtFcbYjNdyr7KAq/q5rY0OPbavJ3dv5f8A66xjrUb/AK/rU9aX7vBQXe7+92/KJoeb/sN+VMjkwG+VvvHtU1Mi6N/vGtjyQ83/AGG/KuTsn/4uxqJ2t/yDY+Mf7Qrr65Ky/wCSt6l/2DY//QhQB1Xm/wCw35Ux5PnT5W6+lTUx/vp9aADzf9hvypksmYz8rflU1Ml/1RoAQScfcb8qXzf9hvyp46CigCGKTEY+Vvyp/m/7DflRD/qhT6AIVk/eP8rdR2p/m/7DflQn+sf6in0AU5GzqULbTwh471Z83/Yb8qry/wDIUh/3Gq3QBDJJlR8rdfSn+b/sN+VEv3R9afQBE8n7tvkbp6VlawcpA2CNp71sP/q2+hrM1of6BEf9v+hpPY6MO/3qNFZfkX5G6elNjkxu+VvvHtT4W3wI3qooi/i/3jTMHuHm/wCw35UwSfvidrfd9Kmpg/15/wB0UCDzf9hvyqtdPuuLY4Iw+ee/FXKqXf8Ax82v/XT+lAFjzf8AYb8qbJJmM/K35VLTJf8AVmgBBJwPkb8qXzf9hvyp46CigCGKTEY+Vvyp/m/7DflRD/qhT6AIVk/eP8rdR29qf5v+w35UJ/rZPqP5U+gCEyfvl+Vuh7U/zf8AYb8qG/1yfQ/0p9AFO+fdCgwR+8U8/WrPm/7DflVfUf8AUJ/11X+dW6AI2k+Q/I3T0pEkxGPlbp6VI/3D9KSP/Vr9KAE83/Yb8qZHJjd8rfePapqZF/F/vGgA83/Yb8qYJP35O1vujtU1MH/Hwf8AdH9aADzf9hvypjyZaP5W+96exqamSffj/wB7+hoAPN/2G/Kq2oPusJl2kZU8mrlVdS/5Bs/+6aAE09lWxQMQDzwT7mrPmJ/eX86r6eoNihIyef5mrOxfQUARo673+YdfWn+Yn95fzpiKu9+B1qTYvoKAIy6+cvzD7p70/wAxP7y/nTSq+cvA+6afsX0FAEcrrhfmH3h396f5if3l/OmyquF4H3h/On7F9BQA13TYfmXp60I6eWvzL0Heh0XYeB0oRV8teB0FAC+Yn95fzqrYsFjl3ED96Tyat7F9BVWwAMcuRn96f6UAWfMT+8v50wOvnH5h09ak2L6CmBV848DpQA7zE/vL+dMd13p8w6+tSbF9BTHVfMTgdaAHeYn95fzpkzqYWww6etSbF9BTJlXyW4HSgB3mJ/eX86DImPvL+dLsX0FIUXHQUANidRGPmHfvTvMT+8v502JV8scDvT9i+goAqWzAXdySQAWGOetWvMT+8v51WtgDd3QI6MMVa2L6CgCMuvnD5h09af5if3l/OmlV85eB0p+xfQUARyupC4YfeHen+Yn95fzpsqrheB94U7ao6gUAcRczx3vj3VJlPNlaQ2o54JYu7fpsrr7ALFYxKWUHGTzXF6JvuWv7uRBuvNRldWA6omIh/wCizXdRooiQYH3RWNLVX7nr5j7nLS7JL7kk/wAbjvMT+8v50yN1w3zD7x71JsX0FMjVcNwPvGtjyB3mJ/eX865OyZf+Fs6kdwx/ZsfOf9oV1uxfQVyVko/4W1qQxx/Zsf8A6EKAOs8xP7y/nTHdd6fMOvrUmxfQUx1XenA60AO8xP7y/nTZXUxnDD86fsX0FMlVRGeBQA4SJj7y/nR5if3l/OgIuOgpdi+goAjhdREMsPzp/mJ/eX86bCqmIcCn7F9BQBGjr5j/ADDqO9P8xP7y/nTUVfMfgdRT9i+goAqSMDqcJyMBGyc1a8xP7y/nVaQD+04RjjY1Wti+goAjldSo+YdfWn+Yn95fzpsqrtHA60/YvoKAGu6eW3zL0Pes/ViracuCCQwPWtB1Xy24HQ1T1JB/ZTnHOB/MUnsa0XapH1JrKRfsMOWGdo71JG6/N8w+8e9Q6btfT4uBwMVPGq/NwPvGhbE1NJsd5if3l/OmB184/MPu+tSbF9BTAq+eeB92mQO8xP7y/nVW6YG4tSCDiTnnpxVvYvoKq3YAuLXA6yc/lQBZ8xP7y/nTZXUxnDD86fsX0FMlVfLPAoAcJEwPmX86PMT+8v50BFwOBS7F9BQBHE6iMZYfnT/MT+8v502JV8scCn7F9BQBGjr5knzDqO/tT/MT+8v501FXzJOB1H8qfsX0FAEZdfOX5h0Pen+Yn95fzppVfOXgdDT9i+goAqX7BoU2kH94vQ+9WvMT+8v51W1AAQpgY/eL/OrWxfQUANd02H5l6etIjr5a/MvT1pXRdh4HSiNV8teB0oAXzE/vL+dMjdRu+YfePepNi+gqONV+bgfeNAD/ADE/vL+dMDr55O4fdHf61JsX0FRhV888D7o/rQA/zE/vL+dMkdd0fzD73r7GpNi+gqORV3x8D739DQA/zE/vL+dVtRZW0+YKQSVOADVrYvoKq6ioGnzEDB2mgBdO/wCPCP8AH+Zq1WZYWKvZofOnHXgSkd6sf2en/Pe4/wC/rf40AWE/1kn1p9UU09S7/vp+v/PVqf8A2en/AD3uP+/rf40AWD/r1/3TT6onT084Dzp+h/5atT/7PT/nvcf9/W/xoAsS/dX/AHh/On1Rk09QF/fT/eH/AC1b1p/9np/z3uP+/rf40AWn+4fpSR/6tfoKqtp67T+/uOn/AD1b/GkTT1Ma/v5+g/5at/jQBdqpp/8Aq5f+urf0o/s9P+e9x/39b/Gq1lYq0cv76YYkI4kIoA1KYP8AXt9Kr/2en/Pe4/7+t/jTBp6+cR50/T/nq1AF6mP/AKxPrVf+z0/573H/AH9b/GmPp670/fT9f+erUAXqZN/qW+lV/wCz0/573H/f1v8AGmS6eoiY+dP0/wCerUAXqD0NVP7PT/nvcf8Af1v8aDp6Y/19x/39b/GgCxF/qx+P86fVGLT1MY/fT/8Af1qf/Z6f897j/v63+NABa/8AH5df7w/rVusu3sVa6uR50wwR0lPNWf7PT/nvcf8Af1v8aALB/wBev0p9UTp6+cB50/T/AJ6tT/7PT/nvcf8Af1v8aALEv3V/3hVTWrtLHQ725kO1Y4WOfwok09QB++n+8P8Alq1c946t/K8NGCJ5pHu50gCmQnOTn+lRUfLBs6cJTVXEQg+rRH4StDDpmnRFt3l2wkJPq3zn9WNdjH/q1+grB0qyjkSXaXRIxtTaxHHp/KtNNPUxr+/n6D/lq3+NEFyxSNMdUdSu5P8Aq+pdpkXRv941X/s9P+e9x/39b/GqF/ok99ZPFZaxfabLvz58DK7AemHDD9Ks4jG8X+PI9B1W30ezlsor+4AYzX8hWGEZ/ixySewH1p+mFm+Kl+XKljpcZJTofmHSsTXPAesNdaitiU1VdYsBZXN1ezBHhIG3eVUYcYJJUY5Aq9oukpZ/Ee6sxPOwh0qJd/mHJwQKAO9pj/fT61X/ALPT/nvcf9/W/wAaY+nqHT99P1/56tQBepkv+qNV/wCz0/573H/f1v8AGmS6eojP76f/AL+tQBeHQUVUGnrj/X3H/f1v8aP7PT/nvcf9/W/xoAsQ/wCqFPqjFp6mMfvp/wDv61P/ALPT/nvcf9/W/wAaALCf6x/qKfVFdPXzH/fT9v8Alq1P/s9P+e9x/wB/W/xoAJf+QpD/ALjVbrLksVGoxL50/KHnzTmrP9np/wA97j/v63+NAFiX7o+tPqjJp6hR++n6/wDPVqf/AGen/Pe4/wC/rf40AWX/ANW30NVr5d2lyD/ZzTX09Qjfv7jp/wA9W/xqOWwUWbt5sxwhODIcdKC4O0kx+jnOnL9TVuL+L/eNZWl2qz2mTLKpDHhJCBVqPT1O799P94/8tWpLYutpUkXqYP8AXn/dFV/7PT/nvcf9/W/xpg09fOI86f7v/PVqZiXqqXf/AB82v/XT+lH9np/z3uP+/rf41WurFVuLYedOcvjmU8cUAalMl/1Zqv8A2en/AD3uP+/rf402TT1EZ/fT/wDf1qALo6CiqY09MD9/cf8Af1v8aX+z0/573H/f1v8AGgCxD/qhT6oxaepjH76f/v63+NP/ALPT/nvcf9/W/wAaALCf62T6j+VPqiunr5j/AL6fqP8Alq3pT/7PT/nvcf8Af1v8aALDf65Pof6U+qJ09fOUedP0P/LVqf8A2en/AD3uP+/rf40AGo/6hP8Arqv86t1l31iqQoRNMf3ijmQnvVn+z0/573H/AH9b/GgC0/3D9KSP/Vr9Kqtp67D+/uOn/PVv8aRNPUxj9/P0/wCerf40AXaZF/F/vGq/9np/z3uP+/rf40yPT1O799P94/8ALVqAL1MH/Hwf90f1qv8A2en/AD3uP+/rf40wWC+cR50/3R/y1agC9TJPvx/739DVf+z0/wCe9x/39b/GmPp6hk/fT8t/z1b0NAF6qupf8g2f/dNJ/Z6f897j/v63+NVtQsVSwmbzpzhTwZSaALWnf8eEf4/zNWqp2+6CBY8jjPbPepPOb1H5UASp/rJPrT6rLIwZjkcn0pfOb1H5UASn/Xr/ALpp9VvMbeGyOBjpS+c3qPyoAll+6v8AvD+dPqs0jMByOCD0pfOb1H5UATv9w/Skj/1a/QVCZWIIyPyoWVgoGRwPSgCxVTT/APVy/wDXVv6U/wA5vUflUVvuhVxkfM5bpmgC7TB/r2+lRec3qPypBI28tkdPSgCzTH/1ifWovOb1H5UjSMWU5HB9KALNMm/1LfSovOb1H5UjyMyEZHPtQBZoPQ1X85vUflR5reo/KgCWL/Vj8f50+qySMqgZH5UvnN6j8qAGWv8Ax+XX+8P61bqlFujmlfI/eEHpUvnN6j8qAJT/AK9fpT6rGRt4bI6elL5zeo/KgCWX7q/7wrk/F8hm8Q6JaRy7TG0l06+u0AL/ADNdM0jMByODnpWFf6JNe+JjqZePatosEYJIIbexY9OmCv5VnUTasjvwEowrc8uif4q36mtpUfl6Xn+/lv6f0q9H/q1+gqrFuitliBHC46VIsrBQMjgelWtjkqS5ptlimRdG/wB41F5zeo/KkWRlzyOTnpTMyzXJWX/JW9S/7Bsf/oQrpfOb1H5ViW+lXUXja71lpIvImtFgVRncCCDyMYx+NAHR0x/vp9ai85vUflSNIxYHI49qALNMl/1RqLzm9R+VI8jMpGR+VAFkdBRVfzW9R+VHnN6j8qAJYf8AVCn1WSRlUDI/Kl85vUflQBKn+sf6in1WEjBmORz7UvnN6j8qAGS/8hSH/cardUm3NdJLkfKpHSpfOb1H5UASy/dH1p9VmkZgOR19KXzm9R+VAEz/AOrb6GmSDNm49UP8qY0rFSMjkelJ5jbNpI6Y6UDWjKmhn9xKPRq0Yv4v941n2EMlosgZl+ZsjHNWlkZc8jk56UlsbV2nUbRZpg/15/3RUXnN6j8qTzG8wtkdMdKZgWaqXf8Ax82v/XT+lP8AOb1H5VFLukkibI/dtnpQBdpkv+rNRec3qPypGkZlIyPyoAsjoKKriVvUflR5zeo/KgCWH/VCn1WSRlUDI/Kl85vUflQBKn+tk+o/lT6rCRgzHI59qXzm9R+VAErf65Pof6U+qxkYuGyOAe1L5zeo/KgBmo/6hP8Arqv86t1SuN00arkcMG6Y6GpfOb1H5UATv9w/Skj/ANWv0qEysVIyPypFlYKBkce1AFmmRfxf7xqLzm9R+VIsjLnkcnPSgCzTB/x8H/dH9ai85vUflSeY3mFsjpjpQBZpkn34/wDe/oai85vUflSNIxKnI4OelAFmqupf8g2f/dNO85vUflUdzunt3jyPmGOmKAP/2Q==)

Grafica 4. La grafica representa el comportamiento de la función 5 resaltando los cortes con los ejes

Graficas 5 y 6. Representan las raíces reales de la función

Dada la información del gráfico podemos afirmar que las raíces se encuentran en 0.54488 y 2.396

1. Proponer la ecuación equivalente , determine el intervalo de convergencia para calcular una de las dos raíces

Intervalo para el cálculo de la primera raíz

1. Elegir valor inicial y realizar 5 iteraciones con cada iteración verifique que se cumple la condición de convergencia de punto fijo y estime el error de truncamiento del ultimo resultado

Valor inicial: 1

PROCESO DE ITERACIÓN

|  |  |  |
| --- | --- | --- |
| DATOS DE PUNTO FIJO | | |
| ITERACIÓN | APROXIMACIÓN | ERROR |
| 0 | 0,4983649 | 0.1973753 |
| 1 | 0,5292055 | 0.05827717 |
| 2 | 0,5395166 | 0.0191117 |
| 3 | 0,5430355 | 0.006480044 |
| 4 | 0,5442447 | 0.002221853 |

Validación de la condición de convergencia:

Estimación del error de truncamiento:

Valor final: 0,54424

Raíz estimada por la grafica: 0.54488