A close up of a plant

Description automatically generated

|  |
| --- |
| Erin Lonergan  4-3-2019 |

|  |
| --- |
| Trent University |
| Carbon Calculator |
| Final Project for COIS 2240 |

# Description of Software:

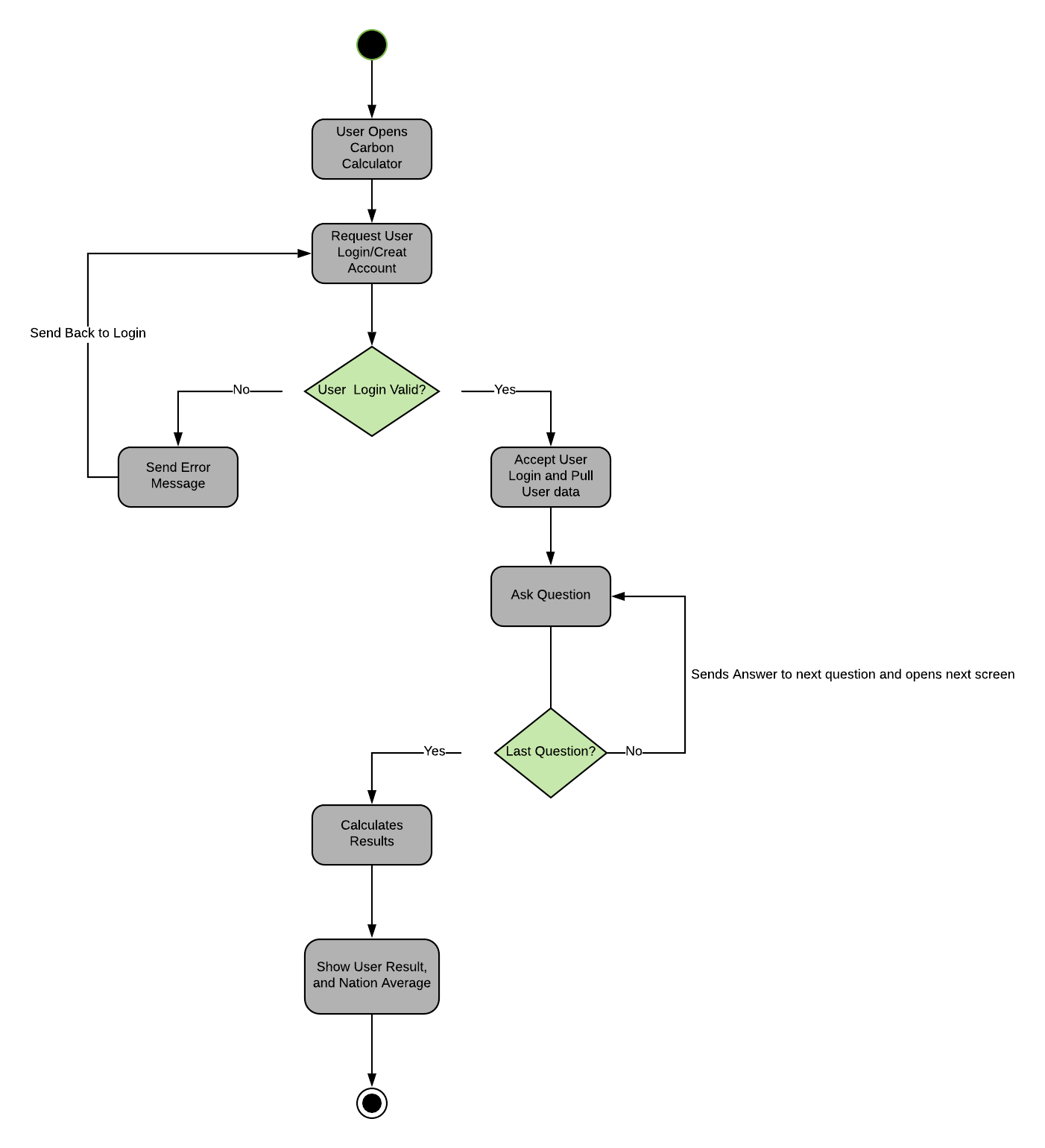
Our group 23, consist of the team members Erin lonergan and Maxime Villeneuve. we chose to create a software that would not only be beneficial to this course but to the world. Our topic is a carbon footprint calculator that is used to give users an understanding of just how much their life style and everyday routines contributes to CO2 emissions and the harmful environment impacts endured by planet Earth. Our Software monitors the average individuals carbon footprint based on there day to day life routine and compares their average to the national carbon footprint Average generated by our database. This software will have multiple questions that it asks the user upon start-up of the software, from which the users input replies to the given questions. The application will calculate the user’s results by turning the answers given by user into a numerical value-based evaluation scheme comparing it to the questions numeric value of importance/ impact on the environment. From there, a calculation is made and then is outputted to the user along with the Nation average, so user can compare if their carbon footprint is above or below or equal to nations average. There will also be an evaluation legend at the end of test that shows user an example of a good or bad score as far as how much or little their lifestyle contributes to CO2 emissions and negative environmental impacts.

# Target Market & Industry:

The target market for this innovative idea is millennial generations and younger. Having an application that can monitor, your carbon footprint, and environmental impact is an application that can be very appealing to the new and environmentally aware generations. This Software targets the Environmental industry that are concerned with the economic and human impact that is causing detrimental effects on our planet. To environmental industries this software can be used as a way to not only gather more data about societies lifestyle impacts that are harmful to the planet but also becomes appealing to consumers to take test such as this one and ultimately getting society more interested in protecting our planet.

Functionality Details:

This program will implement a GUI to let people input their data. It will feature a series of pages that will each ask their own question and have a progress bar on the top. All the answers will be stored in a database and at the end calculate the carbon footprint of the user and compare it to the average of the most up to date data. The program will keep a log of the name (or maybe ID for confidentiality) and score of each of its users and compile diverse statistics attainable by the designers (and maybe users



This State Chart Diagram analyses the prosses in which the software takes in order to get from start to finish. The main stages of this Diagram are to prompt user for login, verify login, ask user questions, store the answers given by user each time which prompts the next question to be asked, calculates user results and then displays results to user along with Nations average.

![A screenshot of a cell phone

Description automatically generated](data:image/png;base64,iVBORw0KGgoAAAANSUhEUgAABxwAAAGkCAYAAAAL2FC7AACAAElEQVR42uzdT6it2V3/+T3ILBOxKHBmgTXQQTnzThJnakEG4kRSOvhBSEhN0gkELjTSbRut0PCjQ99ECApXEBJj2bQBC+KgLhg6VzuF/YMQ24HQaKAR0mTszMHp+h7P5/qtVet59rP32ef/6wNvztnPfp71rLX23jcn+13ftXY7ERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERERGZ5AwAAGxGRERERERERERERIb48hgAAMJRRERERERERERE5Oicf4H63/7bfwMAAAvsCEcRERERERERERGRxRCOAAAQjiIiIiIiIiIiIiJHh3AEAIBwFBERERERERERETk6hCMAAISjiIiIiIiIiIiIyNEhHAEAIBxFREREREREREREjg7hCAAA4SgiIiIiIiIiIiJydAhHAAAIRxEREREREREREZGjQzgCAEA4ioiIiIiIiIiIiBwdwhEPnufPn589efLk7OnTp+e/n0JKXJXweP31171mAOEoIiIiIiIiIiIicqtCOOLB8vjx47NXX321i4RzXnrppfPn7otwfOedd87eeustrzlAOIqIiIiIiIiIiIhcSQhHPEjefPPNFwLh0aNH59WNb7/99rloLOFYx+vYfRCOGavXHSAcRURERERERERERK4iRAQeHLV8ar3vq7rx2bNnH3q+juWz0Z9/7733zqVkVQsWs2uXPlNVZZhrx2Vb69hMbo7HdxPhWG2l3RrX2Kc6nirO2X3q+oyn2lmqkKy262fhPQTCUURERERERERERER6CEc8OEra7S4E3NoypF0M1u+pfMzP3YW0XBOOJSlzv11bsrXLvd1C5eJ4fHzcxWhnvGb2XF37xhtvfOj5qvasPuf6fk4f95KcBAhHERERERERERERkYcXwhEPjoizWYXiEhFvVekXARmR2Kv+xs9UCbx6XMua1jV9Kdfcf3ekcMz9I/96n7osnX3OM57qT8ToeCxCs8Ywiteii0mAcBQRERERERERERF5uCEc8aCIRBsrE/eRJVH7sVqedNcE3Sj3SsjtJjKx9oms6sqIyt2RwnHWp2p3N1Rvzj7na/csmTgKxy4XxyVhAcJRRERERERERERE5GGHcMSDFI6RaodKx+x3WNIw1YuzJUzr95KBu0FILomMY4Rj7pE+1X3SpzXhmH5VW7k2ZL/HsYqyjteYLaUKwlFERERERERERERExhCOeLDi4JglVXcXoq7YJxxn1YanFI6RgSVP06cIwzXhmH6tkerLqmYs0TjuW0k8gnAUERERERERERERkYRwxIMjoq5E2tI5tVxqiblaSjRVkUUdzzm1n+NuRTjmumMqHEv07VaEYwnBWZ9qTLs9wjH93tevWXVoxOuhS9IChKOIiIiIiIiIiIjI/Q3hiAdH9l4saZZKvlGspaKvfu/nz6oeq9JxSe7VNf35CL8Sh6kSnH0Ol2RmHqdKcZSGqbrsMnVsP7JyHE/J1XouezTW2Ksf4/zkHrO5AwhHERERERERERERkYcXwhEPuspxdyHeSiqWACyBF9mYysFUG+4uBF+JtpKNfZnRiL/xM1XHdxeisARe3aPuV9eW4OvisiRi3at+pu0l4ThWXVaf6rnep/Q/grAeZxnZLL1a/ev96vfolZCRkHWfuocKRxCOIiIiIiIiIiIiIpIQjniQlOzL8qMjJdPGyr6+h+Ou7QEZoZjP0fiZmu2BWL/39kv29edL+O1bUrWLxN5u9anL1HH51Vxf7Xe5GqrNiNClce+GZVwBwlFERERERERERETkYYdwxIOmxFsJuaoqLImWSr6lPQzrvBKEkXJZhjTLi/bfR8FZkjHLqC4t9dqfr3ZSkTh7PPZpHFPvRx6P11e/6r7Vt/G53l72tOxjBwhHEREREREREREREakQjgAAEI4iIiIiIiIiIiIiR4dwBACAcBQRERERERERERE5OoQjAACEo4iIiIiIiIiIiMjRIRwBACAcr+cPDgDArUVExL+FAAB/T4oI4QgAAOHoCywAgC+IRMTfawAAf0+KCOEIAADheI//4Ph/z/4vAMAtwv/Aicj499r3/7//HQCAzfh7UkQIRwAACEfCEQAIR/8DJyKEIwCAcBQRwhEAAMKRcAQAEI4iQjgCAAhHESEcAQAgHAlHAADhKCKEIwCAcBQRwhEAAMJRCEcAIBxFhHAEABCOIkI4AgAAwpFwBADCUUQIRwAACEcRIRwBACAcCUcAAOEoIoQjAIBwFBHCEQAAwpFwBAAQjiJCOAIACEcRudV/TwIAgE0I4QgAhKOIEI4AABCOIkI4AgBAOBKOeJD8+m/92vl78e9+9FfT5+t4PV/nmS8QjiJCOAJ3g9/8zCfO37+/9MuvmQ+AcBSRG/570nJ5AABYUpVwBOFIOIJwFBHCEbhT/M0/f/MD/5XoX//jn5gXgHAUEcIRAADCkXAE7rZw/Kd/+9455huEo4gQjsDV83tf/8L5e/czjz/54udN9eXbf/91rwkIRxEhHH2ZDAAA4Ug4gnD8sHCsY7nu5Z956fz34gc/efcD1777D39+9qnPf/ID/4X91/7sDz4kd+raOp62vC4gHEWEcASO5+d+4WfPfvrln/rA78//9S8+cE49LjFZz+0ull791d/4+NkXv/zp8+cjK7/x3a9MKyfr9y4Vu9is56rtunfOr/Z7pWWk6B+989b5c/V7tVP9yr17v+p8ry0IRxEhHAEAIByFcMQ9Eo4lBiMP6/nf/8PH548//iuPXpxTz0VI1u9/+bdPP3Bdlzs//4uvvrh+FJIA4SgihCOwnRJ4Xf6VQIzYm51XQq9+L0rs1bGvfPN3zkVj/R4B2a8Z24s8jJzMObWPZJ2X/SS7+Mw1EaJ17xKVde86Xo+rvS4ku/wECEcRIRwBACAchXDEHRaOS0usVjVjycIsnVrysARjr3r8l3///gsJOcqdkpZeDxCOIkI4Apcj0jBLmaYqsaRdPy8SsEu8VD2W5KvfI/7yfEnMEoRFX6Y196xrIirHZVwjPksoduGY65b6P/bLawzCUUQIRwAACEchHHFPKhxTkfjFL332Q8uodrFY19T1nRKR9Vyuy2fBHo8gHEWEcAQuR+RiCcGZhOxLmqZasaoLSxKOS6726/pSrSUSIx67XCmBOVZUljQMqVzMeX2fyVnl5Vq/AMJRRAhHAAAIRyEccQ+EY1UzZnnU3UXFYlUoRhrW8qntH4kpuZ/PAghHESEcgdMQ2Zc9D0PE4Sj3UuW4a/sl9irCSMIShiUrIxIjBUtwpqIxlYt938YZqZiMcJztzZj+9mtUN4JwFBHCEQAAwlEIR9xiqkqx3ot/+p0n0+ezP+OnPv/JDz1X4rGe73sw5vhuocIxVBUk4QjCUUQIR+B0VFXgmuzreyj2qsiShV0+Ru5FMpYUjHys81NJWedFctaxuib7LY4VjiFVlmvCsfery8e+zCpAOIoI4QgAAOEohCNuEUt7Mo7Lp9b+jEttlDzMeRGK9Xsd2yp3vBYgHEWEcASOJ1WHJehmoi9Cca1SMG305VLr92qzru/HS15WxWQJxn48gnBfReI+4Tg7t+8nCRCOIkI4AgBAOArhiFtG35Mxy6KWNEz1467tsViVkPW4lk1dWpq1C8iqdsw5JS1r+dVql3AE4SgihCNwOiL6aonT2fMlHXcXy6amErFEYa94TEVjF3slFXcX1ZF9SdYIyPO/Ib/86Q8tw1rPp+qx2q026/xUKc6EY/Wl7lN96/1K38clYQHCUUQIRwAACEchWXCLGPdcjCwMXS52mViSsZZUjWxc2uexzu9t9vZ8FkA4igjhCFyOiMJeaTgjgrDOTzVjRGKR5/vSpdmjcTdULUYsziRnXwa1/95F4lKFY9qtvlSfSlxmqdgITIBwFBHCEQAAwlEIR9xSSiSWCKy9GiMP6/cf/OTdD51bx6pasYvGqnxMFeQoM+v5Eo5V2dgrHlMZubScK0A4igjhCGxbTrXEXsm6LedFHNb5EY0RfONSqCUI65qiC79ULS4tc1rnVuVjycI6p8Rir1oc+zJKx1RQpl/2bwThKCKEIwAAhKMQjgBAOIoI4QgAIBxFhHAEAACEI+EIAISjiBCOAAAQjiJyH4XjO++8c/bs2bNb096p+wMAIBwJRwAA4SgihCMAgHAUEcKx8fTp07O33nprL3Xe1i98X3/99ZN+gTxr7+233z578803z58rHj9+fH7sqvuzdT6fP39OAAAA4Ug4AgAIRxEhHAEAhKOI3H/hWDKu/ZuzyFZpd9XC8b333jt76aWXXvTr0aNH5+TxG2+8cX5Ozj9Elp5yPquy8hhZeZ1yFAAIRyEcAYBwFBHCEQBAOIoI4XhyStDV/ernKSsSTyUcS8rN7lGSMeKxKh9v6gvvywjHXEscAADhSDgCAAhHESEcAQCEo4jcS+FYsq9k3quvvnou9+qccX/EyMBa3rSqDasasa6ZLTFakrDaTJVinbfU3ijlZsun1j3GisYst9orCJcY+/bkyZMXY531rdqt6/rxmXDsfah+V5vV3nhOKjf7+QAAwpFwBADC0f/AiQjhCAAgHEXkXgjHEmV1PLKsftbjkmTjF779ub7caReB9XsXbDmvjnWZOArH9K/u0ZdO3VIhOROOs3GUaMyxsW9b5OJ4bHex9Gvu1+ck7fWlbQlHACAcCUcAAOEoIoQjAIBwFJF7Jxwj5nqlYkmx3VBtmP7WcxGCs2VQI9i6hIzU7OftJns4pi/1s+5T180qKPct8dqXYe1jqHZHuZgx9OVa6/kSi118LgnHcU7TXheL1/1aAwDhKIQjABCOIkI4AgAIRxEhHG90D8dIs1o6dfzCd1x+NBIvom+8bhSba8Kw2i7xlwrJUO11gblPOEYOVkVjX5Z1FIEh9zt0D8f0r4vJGsNMrhKOAEA4Eo4AAMJRRAhHAADhKCI3LhxLZo1Lh44C8FDhWLKsJF/a66JvizTLNdWPvjzr2M9IvQi7NWFY1HnV196nUfbNrk91Zq9Y7MuprvXtGOFYlZT7qi8JRwAgHAlHAADhKCKEIwCAcBSRWyEcS3Z1ITgKsGOEY2Rbibh6roi0G6VZnbMm4vo+jKPUGwXpPuE4k4hrS7L2ysySgOM+kFv6trR865pwnI2BcAQAwpFwBAAQjiJCOAIACEcRuZXC8dRLqqYicdzXcEnw7YblQ4vslZh9D7eKxH5eib6ShX2/xbEKM/ePFBzvU/evcRQzcZjxj5WPWyEcAYBwJBwBAISjiBCOAADCUUQIx0E49mVGIxLrZ/Zb7MfT3y4FIwKzh2P2SdxN9jUs0df3YexSLvse7iZ7RPZ+9uVL+/V1r1RqLi0xm3uMVZolEMe+EY4AQDgSjgAAwlFECEcAAOEoIoTjBuHYKwdL5lVlY4m7+j0CL5Kv/ft1LuhKAuacXjVYv0dC9uVZi/p9ScpFKtZ1b7zxxvnjon7PfZaEZZ2TvmZZ2E4qHiMN07dcN7Y9k4uXEY65dovYBAAQjlfyBwcA4NYiIuLfQgCAvydF5E4Lx4i+VDQWJeFKROb89DESrQvEum4m0FI12M/rsnFJ1lVfskRrp84b96rs10foLdGvrQrNLhpnfTu1cOyVn1v3rQQAEI6+wAIAXxCJiL/XAADw96SI3CrhuI+lpUiXGAXg0t6Ls/0U91HXVPvjfpGnpO5xTN8AAITjnfyDw/KFAGBJVRG53X+vWR4QAGBJVRG5D8IRAADCkXAEABCOIkI4AgAIRxEhHAEAIByFcAQAwlFECEcAAOEoIoQjAAAgHAlHACAcRYRwBACAcBQRwhEAAMKRcAQAEI4iQjgCAAhHESEcAQAgHAlHAADhKCKEIwCAcBQRwhEAAMKRcAQAEI4iQjgCAAhHESEcAQAgHIVwBADCUUQIRwAA4SgicqeE4+uvv372+PHjW9seAIBwFMIRAAhHESEcAQCEo4gQjicWhO3fnEXqvK1f+G4997LtPX369EX/nj17diu/+D7m2hrL8+fPCQQAIBwJRwAgHP0PnIgQjgAAwlFEbr9wrOrBEnrh1VdfPb9f/ezHt1YZXqdwfPTo0Yt/L9988817Ixxfeumls7feeotAAADCkXAEAMLR/8CJCOEIACAcReT2C8eREl11vzXh9c477yxWFHZB+N57752fWz/3VfTVeYcIx7omorHkaEm6fffZQlUWju3UvQ5te9/rlrmZ3X/f/AMACEfCEQAIRxEhHAEAIBxF5M4JxxJkvaJwd1EFOZ4XQVgiMOelYq9Lu/q9lkQd2xwrKZeEY9p/++23z6+p36u9PP/kyZNpe/3aOifjrd+rn/V7RGD9zJKzNda6VzHOz+w1Go/lPtVmtdErSeve/ZzOkogFABCOhCMAEI4iQjgCAEA4isidEo6Rem+88ca5BCtJFmnW9xvssqzEXknAiLy+7GnaK+E4SrhR5o3CsWRltVn0qsBqq58ToTdbsrSeq3O65Ktzq4/VXvWpS9CMI9ceKxzrHkW1V8fSXsYRUVr92FIdCgAgHAlHACAcRYRwBACAcBSROyEc63GJvy7AZuemvyUQR/nXhWDE21j1OErCmXAsWbcbqhdTidiXei05Oh5LhWI9N1YVzsY2G8duw5Kna8Kxn5c+5j4RnZZUBQDCkXAEAPgfOBEhHAEAhKOI3CvhOO63WKRKsQvBmbwrsnRq338x1ZKdnJfrZ8JxVlkZCdmrKGdisi/F2sfbr+sicFzSNGLzWOE43mecb8IRAAhHwhEAQDiKCOEIACAcReTGhWNfDnR34F6AS8Kx73E4MgrHLHU6E3VZjnXWzqy/Y/sZW/aFDJGfdbzLznrcqwr7Uqxr443UHMeR+xwrHGeVo4QjABCOhCMAgHAUEcIRAEA4isitEo5V+ddlXNGrAQ8VjtkjcTdU6EUczioctwjHOjZWOIalCsdUKK5RlY3j+VVVmeVUe8XjkghMf8d5S+Uj4QgAhCPhCAAgHEWEcAQAEI4icm+F46mXVI0g7Hswdvk2E45938ReMVgiMVJt3M9w6QvktJ89FMcqxrH6sfczx0oydvm4TwSmknGsDM04CEcAIBwJRzxY/u5Hf3X2tT/7g7N/+rfvmQ+AcBQRwvHW8u2///rZ7339C+c/jeH+zAkAwlFE7q5wTGVgib6SdSX7qoowS6zmeP/Ct4RdpGCEZQRjHY+4SzViHVvaEzKP0864D+JMCHapWMeK6ucoTZdEYPZ/rHtXlWP1L+eOIjJVpKcUjuO+lQAAwvHeCceSVnXPX/+tX1s8p56rc+pc4uFw/uXfv3/2l3/79Ozjv/LoA8tB1ON3/+HPp6/JFolYstHrAhCOIvKwhGNJql/9jY9/4G+KelzHb8uX6n/9j39y9jf//M0P9Ln6eZ19LJGXuTnVvJ9yDDcxJwAIRxEhHGciL3sgRhb24/nCN3Iv+yfm+RKXvfIwz+X83aQ6ssu3mUwcmUnJiMyint8y3hKMffnW6l89nlU+zl6jY4VjUVI04+7LwwIACEfCEQfxxS999nz+fv4XXz3/vUThpz7/ybOXf+Y//vCqY6PYqHP2tVtSsl6TEprmGSAcReR+C8eSeD/3Cz/74t+jn375p85lWv3MsXq+zrvpL9WrH12klXwsAdglJOFIOAKEo4gQjtfzhW0Jrpnoyr6Q9VyJt8jDEm+9wq+eLylXUrB+1uN6brYEaq6v9nLeKBPTXt0/917rf92nzqvlXnvf61gx9qPGsSb26tq6fwRjBGEXjml77Hc/tjSvs+M1B5nTcUlXAADheGuFY6rebptwPIWs/MFP3t1bSbjvnC7rZqJuS2XhIWOpe9TclVwc266+RjqmzbweW4TjlnvvG4/lWAHCUUSuXzhGNh1yTaoaf+mXXzv7o3feOnv+r39xfrx+1uM6firBVtIy7R9KXXeoSDtEkm4991jhuLTE6SgIa5xbBOrW9gAQjiJCOOJqKdFYErBXZUYkbtl7EgBAOBKOVyAcS2TVfSLLamnQOuf3//Dxh2RWnVeVfbu2jGiXgulvX3I0exPm9yJtzJYhHZcrrX5V1WCXaWnvT7/z5APnVr8j5jLOutd4j4wlY+7XjlKiz2Xmt9qcCc6ai8xH+tjpc9Hncpyj/jplCdecW8dHSVqPc35VW2Z8O5WsAOEoIrdOOJZQzH2XRGBEX1Hnr0mt2fG6/ivf/J0PVFGOFZN1Tl2TqsqSnCX0vvjlT39A8nWyV+F4v5J19Tj3q591/z6+XFdtFJGqka6zL/KPEY7f+O5XXrS9u6ge/czjT06Xha3jfY7G82ZjS5/7XBKOAOEoIv6e9GXy9VJVhlkWtqRjKjF3k2VZAQCEI+F4TcKxpF2uKbHVhV8XdRlPCa06p35GCEa+pb8lx+p4tdnlV7Vbz9U9SyLWOUWv4suxOqfuk/52AZr26ry0lz7X+XW8zp/do/qTsdQ5/R7V1ppwLHKfGv++1yLt1s/qc5+L9Guco1E4Vp8yxsx59SH3yeuX8WTMXfgSTADhKCK3Rzjm/JJWa+dFmkViHSIcIxF/8zOfOJd5JdIi3yIBIz4j/IpUXpYsLNGW67KvZORbv18d27X9J3s7fV5yXT2XZVqr/epTcQrhWGPL2Kv9ko/pS91r7EvmpCRr73OXjjmWuayf41wSjgDhKCL+nvRl8s1Jx/4fyFV149LysAAAwvFBCccSbqkCLLJfYD+2tszoMcJxtsRqqh5LxtXjEo+7yf6EJbh2F5WGY1VfrwDsInLWl4wp8i/tdTnQpWEXmL26MPfuojSSrt+j93kcS8a8b453rTKy+jN7XXo140yWzs4dX5fxtUylY+a3v0dyTl4vwhEgHEXk9MKxJFOq9IpIuX5sbanQCKuSemv3qecjug4RjpFzXbDNzks/SsqNVY+pOExb/Z5jOxl/KiNDPc689OtGuTjrx7FLqkYwjnMUqTkKwpKtvQozfc74q73ZXOa8vIaEI0A4ioi/J32ZfHNLq1Z1YzHuLwkAIBwftHAcZdaMNZl4jHCMgCsBVqJqtlRol3Fdfqa6LtV+kWajmMzxcZnWmZAbx1OM1XpL183mfDw3ArLG2seyry/j0ql1Xl/OdTdZvnVNOC7NxSgcRzGa/ue8CMgloUI4AoSjiJxWOM6WGh1ZE2OppFvaD3BJsm0Vjl2GdQkagZn2UuFYIq7E2mx51y3CcWk8kXVjheY+EXrqPRz78q2j/IzMHe8TedoF5Gwu98lgAISjiBCOAACAcLwR4ZilNUOkUz+2VoF3jHDsx7rU7Pfp+zauSdAlaZfj416K4/klOyPUZozCcZRps7GP9+77Ns4YZemWqtRqO/3uVZxrwnHs+5Jw3Hfebqj0XHudARCOInJ54ZhlRUOEWz827knYWaoIHInsiqDbKhz70qD7ZGiqC3dtb8Le9y3CMUuYjsKyqjyPEaaXEY7Vh8zbjFE4jvcc+9z3bVybS8IRIBxFxN+TvkwGAIBwvFXC8bJ7OGZ/wnG5zi7H0q9xCdC6tu8T2CVdKvnGCsdxmdd9wnFJnuX8LA+6axWIXRJeRjh2QbcblqndumTtPvo8XadwnL3e9nAECEcRuRrheKo9HEtmXcUejn0fxl6Vt7TcawnUOrfLx0OWVE0/+76Hl6nQvIxw7LIxVYldHO4TjuN9MraxwnGcS8IRIBxFxN+TvkwGAIBwvFfCcV9lW5ZP3ddmlkqNvEub+/Y3vKxwTCVlv0/fm/EUwvEyIq6WQa32l6Rklp5NleR1CMeMZ0ksE44A4Sgit0s4popuJum6BBzPWZJavcJyFI6HjiXLrEaGbhGOeTzuwXjsHpSXEY4RhH3sfS5H4Ti2l2VgczxzuVaxSjgChKOI+HuScAQAgHC8l8IxUrHkXcRdCaiSiBF6EWJ1vI6VtOp7N45Ls/a9GqsSMiKwnq/r9+2tuFU4Rp6lf3WvXvU4irxjhGMe11gy5uwTWfQ2x4rHzEONOfMwVpfuWvVozu/LtJ5aOGZ+SnbWeIqIT8IRIBxF5PYJx76s6u5iydRedVi/pyKv73c4Lvc57icZ2RVpWPItsrJ+1nXVbuRZPV+P+1Ko4z1mom+Ua/2a8X5d1h0iHFNBeKxwzLyNS6yOy9PW+HOfOneUtV2aZmw13szlvopJAISjiBCOp+Dp06dnb7311tl77703ff758+fnz9d51/nlcfrVefLkydk777xz9uzZs1v1Jffrr79+pXNQrwGhAACE460WjiWxjhFGfc/FWm6z71s4ysUu0UpelYjL9Uv7PPbfe3uXFY7pS9pN/7tAq3MuIxyrr73tvoTseO3sWB97zVOka45Ve73SMHOfyshTC8f6mfvnta7X0ZKqAOEoItcjHEtEdTm2hZJbXTpGEGY/xFE2hojI+hlhmKVQu+zq+zj2pVLrmgjGiMm6Z92rGJce7RKv2qxrZnIt96u2+v3WROXa8fF1iXCs9qvNGX1MGWuu6dKxJGLumXP63I8Sts9l/73PJeEIEI4i4u/Jq/yStmTZ2j1K8F2lVNvXryUePXp07RJ0i3CsPj1+/Pikc1CvwTGy8lT9AADCkXC8UkpulagrGRUxNorALh1LUuXc+j37N44CtNosqZX2urysiso6Pi69muOj/BrPr7bq91Qb1r36/pA5N9eNS5vWsbpmdo/x3HqcMZckrDnoY1lqr86pualr6/lQbSwtY5tz6p5L/RmPLy3funZ970OE5ViJCYBwFJHTCsfLUCKtZFjEV1GPx30Wu9wsqVVSrFcYRgaO51ZbkXR1fhdpqeCLaCzq97Gd6mOkXj1XLN0vbdV9x+Vil66bHe8SsY9xjYjctJd+9H0WS4b2MdRzmf9e/Tmb97W5XBobAMJRRAjHhyAcU9UY3n777bM333zzxb+VS5WZNyUc6/dTzdVlhOMp+wEAhCPhCJxELJdkHGVppLA5AghHEbm9wnG2F+Mxey8CAAhHESEcR3mV5T67EJxdX8ufliAsZku3ZrnWcenWfbIt0nFW5VjX5J7Vv5mUTP/r59j/tWVkx+N9buq5l1566ezVV189/723Od5vXBZ2tnzqOAfpV3/8xhtvfGiMa/0AAMJRCEfcCNmzM/tPlnjMMrGWUwUIRxG5O8IxeyH2KrqxShAAQDiKCOG4RTjmmpJafenTEl/9ulr2NM+V/MrPLtt2F8uj5vncZ59wrHvV8yUV+z3TTr9ntd+FXPpV/e99rOrJfVWd4/H+eDcs+1qyr46nH0v3WxrveKz3q5ZLTZtpL7JyqR8AQDgK4YhbIR07JSDNDUA4isjdEY7FN777lRdLhNYSn4fuDQkAIBxFhHAsqRWJl3NK5kWkRXpV5d1uqEAs8TVKwoyx2i8Bl+vXhGO/X5eXOZZ71nmphMw96x71uPrX2ytxV9TvxwrH2ePZ/WqMud8hFY7pV9qrc/sYu/Dd3cAyuABAOBKOwOalVWuvS5WNAOEoIndTOAIACEcRIRxPJRxLlo3Lgq6JuZCKvPFL4l7t1/uVpVhDPU4bXXqmX11m9ntE7mU8Y9Xj1n0rDxWOJRL33W/rHo5dOPa2crxLTcIRAOEohCMAEI4iQjgCAAhHf0+KyFHCMfv8dXrV3CmWVE1FXUm82R6CqeqrpUTruk5kYWTl0hj7Uq0j1ca4v2LE3to9Z0vC1ljq2pnAO4Vw7Euq1s/Z/Q4Vjl20pkJzSz8AgHAUwhEACEcRIRwBAISjiBCOe+lVcGFpH8QutcYKw3GvxHEJ0jre9yPctSU9s3TqTP6FrcKx9z1Ln+6GpVS33jOSrwRs9bXv99gl5qmFYyTweL+lOd+yh+Oh/QIAwlEIRwAgHEWEcAQAEI4iQjhuInsQdtaq6SIUHz9+PH0+ezGWMFuqqEwb2QNxtm/h2pfEJeK2CMdxidKZcJwtqbqvIrTG3vuxJPYyrkOF43i/VIjOxk04AgDhSDgCAAhHESEcAQCEo4jcqHA8lOx9WPJrXHo1z+1aBWRJr5J7o8TslZJVfbhr+yaOlZG9OnFJjC0Jx/5cl6CRcaPEG++5r/91XpYoHduKKNwnHLsMzf3GMaQ6dG0fzMsKx1HKAgDhKLdKOP7dj/5qyj/92/eIhsbX/uwPzl+fmpst59f81TXFu//w55uvO9X9ARCOInI3heNf/+OfnH3777++l5v+8vxv/vmb5/2on2t978+f4n7P//UvyIsDqPn6xne/cvZ7X//CrXjfAISjiMjVC8dexbi7qBAsQdf3UOwiK1V+JbNSPVnHSi52QZfr62dVJRZZDrVXPh4jHLsI7cIuS5bWtRF9uWcqH/sSsb3/Yz+61Kzz6vq0tSYc04cab/UtlZd1v8jMVGn266rKsi81e1nhOPaDkABAOMqtE467hc2aiy9+6bNnP/jJu4TDAcKv5uvjv/JoOp+//lu/9iGR+6ffebJJIv7l3z49v97rARCOInK/heOv/sbHV/8+O7YPJexKOp2qn9VW9aO3udT3n375p85+8zOfOBeSl73fMdKsrjnl2O8Kf/TOW9PX4jKvAwDCUUTuhnDMsqJ9j8EuIMdqwCxB2hn3JExl4dhmicre3jHCsS+h2qv4Znsl7iZLu6ZScex/v1eNpbdTY07l45pw7Hto5niXt0v3m433MsJx1g8AIBzlyoRjyaxDK+DqniXIenVjSbCSW/Xcyz/zEuFwgHDMvJWszbn181Of/+SL+fyXf//++fH6WceqbXMMEI4iQjh2afeVb/7OSSscI+yuQzj2vtfzv/TLr734t7Qk2HULx888/uSDWwq35ilzXrK3qhx/7hd+9oV0JIAAwlFE7rdw7FQ1XInCElbjEquzvSJTAbjWZj1fAm+2l2T2mZz1Y9/+k2t7VNb9lu6Z/tfz1f+1CsAsEdvvufa496sfz/3GJWXXxjsey5zPrt/aDwAgHOVKhGOk2KFfpJckmz0XSVbVdWMVX0nJul89F4E2q8rLcqJLlXlL59Txan+sCMwypbPlS8d+Vrt1fCYJ61jaj2Tt90qbuXYmHMe+1DV1zs//4quL81lznfGWlMz8977M+tWPj/3vY11aCjfjWboeAOEoIrdLOG4VayXiIvFq+cySffW4Lz1a50Q29fPze1U/lpD66v/2u+fHqo2le0UwrgnHWd97tV2XjpGS+5ZenQnHy4x9rPwsag7WBF6/dtbWlvb6nNfPYwXsVsna2695KflYx9fGCoBwFJH7JRwBACAcCccbF44lu3YX1XrjPXYX1Xr5vcu+klgl3XbD0gK9um/fOblPb7eEZM4b5WQdq/7W49//w8cfarse5/k+jjo355SEq3tHBIYShTnWheP4mkU47jZUQvZ57NfkeO9DPz4K0Cy12tupMeU+s/HUtRm3PSEBwlFE7rZwrHPrml7BFtLG+DdHnd+vTQVi/Z42RgFYy3DuLqrljhGORQnB3sYhlYuz89LnkmpVtbebLBu6NPZ6PvKtU3PRhWXdry8VW/OT6sG0dUh74zz3NkZBW8+tsSYrMx9bKlMBEI4iQjgCAEA4Eo5XKhwjqiLqegVfxGFV1u0ulmXNdZFZvfpvlJf7zolcXJKdXR6mn3VN5GP1MbKyfkZApt+9repLjaOeSx+yzGyNeZR/ffnUce7SbonTamttz8Vqa5yDpX4tCce6T/1e5+S16Mvg5rzs/1h0QUk4AoSjiNx94RixVdeU3IpUqiq3sd2la0sGljTLtWOVYyrmUhl3jHCsvkXajWJt376CS8JxHHv62fs1e90iBzNHvfqvz1vEXbWXKsoc67Jwa3tdfGbOr0I47haWTo0s7X0CQDiKCOEIAADh+MCFY5bJDBFJ/di4zOiacMzSnX25zyLLbub5UaKVnNu1qsNc22VhKhRHSbh2Tomzvjxp9bPuVVTVYY7XOTkvczCOOyIxxyPixuVPc/0o4iIs9wm6En+Zj12r2qxxlhDcKhy7wJ0t6dorIdf6n2Vx+7xm70jCESAcReT2Csc1ZjKtL5E5E3trwrGLq6psHK+NeOsC6xjhWCxVUB6zh2P636VdKjG7DJy9bruF6sIu6jIX43npy3iPfe0tvV5XJTdm/ZlVZwIgHEWEcAQAgHB84MIxwmqNperFyRfpH6Ik2yikUgUYoVlCK0ur5ty+tGiJszpvlJRbzomUjPDcXVT9FaniSzsRbxFuY1uZq5zXl1Tt52Us476USyJyTQaX3Kz56cu7dkG4JhzHfSrXllRdOy/3Hvu3VaACIBxF5HLCse/pF9ZkW6RdVe1tqWxb6tN4fE049iU/e7VeRF7JsfO/Y7786UsLx1QHjvc8VjiOYnQm28a5yHjqnPG1iRDt+06Oy4/26w9pb63PhCNAOIoI4QgAAAjHGxOOp1pSteTTWBWZ/QzH6sMIubomS4qOwjEyLdV1XSxGHm45J8ujpj/1e1UJZunQvoRqqgfTl3GcWaI1AnZJ7C29Dpfd87DvP5nxnUI4jv0Zj+8mVZzHCFSAcPQ/cCJynHCM4NlN9lY85ZKqlxGO47WjYMwypV2UHiMcUzE4W+rzWOG4VFW4JhzT1hp1n6X9Dscqyq3trfV5Nld1zRpr4nrrawuAcBQRwhEAAMKRcLzyPRyX9nTsezh2yTeTV9lbMMuMjhWFa+dk6c9UNe4uKg9zvCot06f0JwJz7Evk3j7hGBF3bIXj2p6N4zKoa8JxX+XiVuGowhEgHEXkZoVjVfKNomituu82CMcsfRoxWD+XlhU9RDjWnoX1fFVQ3qRwTD/27WMYObevwnFre4cIxy0Sc+zXrJJ0qd21awEQjiJCOAIAQDgSjlcqHGf7I/bKvVQZlsQa9yvMeam223JO9ofs9ONZrrT3v1dFzuYmMnNJOC5VMq5J1XEvy7HNEBma59eE4z6RuPW82R6OfTlbwhEgHEXkaoXjsXs43rRwrAq4SLTdsM/jMcIxy5MeMrarEo6pOh2XNo0cTuXg0h6OmZsc39redVY4zl636k9eo77vJQDCUUQIRwAACEfC8QOUZNsqD48RjpFxJd9KVFWFYQm/yLj6WWIr4q36k0rBUfBtOacf2w3VkdnHcXdR6TjKtHqurq3H9TPnZjnTJeEYYVnnZynXiNZR0GVJ2dmSs9W/nFs/M3e9D12w1jnp6ymFYx7XPWo8Rf2uwhEgHEXkdgvHqppbk02pktwqHLMvY4m7vrzn0ngi23YXS6COVZlrwrH3vX6v/SjT1riUZwmxum6fALuMcMz96165T/ZWLDFXx6pqMcf6takUrPmre9f5OdbP29re7pr2T+xL+Vbfe39qPggggHAUEcIRAADCkXA8+RfpW4VjF2q7tudir3KstkqcjedF4kUubjlnqYKyyD6Ou6F6r4vX3m497tcvCce6dxeU6dNsqdbZa1b3no0r0m+s6uz9zB6apxSO43jq9eoClHAECEcRuZ3CcXfAnoBbhGMXiDm+bzzpy2yp0DXhOKMkXUmvLSLx1MKxy7ccr/no8jCUjOtyNed1YVrPj/fY2t51CcexqrS/DmuVkQAIRxEhHAEAIBwJx6Mo4bS27+BSJWVVFfbr6vexrVRBlvBaEltbzym6iKzfc3xNkKbKcXyujqWqcHZttV/9qrHWObPz1+6fe4el8/o4lu7T+9uF7Tgna8ezT+YoOpfGD4BwFJGbEY5VHbdvKc1e4ZjHswq38Xhve+3asSpyVn2YJT+7vFrq+9qelWln7Zyl8+rxrG+z4+nLeLzaKzFXlZhrVZb1XJ6PwJyJ2H3tLfX5qqh5q/70ylYAhKOIEI4AABCOhCNwECUZSy72PS1LPp7/F/pf+qw5AghHEbllwvG2EKn20JffLKlY4rWLzlRbqhQEQDiKCOEIAADhSDjiQVByMftl1jKqs/0sARCOIkI4dtGYPQ9r+c3rrMa7jWRZ0pqTEo2p+ryuZVEBEI4iQjgCAEA4CuGIWycddxd7SdZyseYGIBxFhHCc7ZVYcq2EWsk2ouDDeyGWdHzoIhYA4SgihCMAAIQj4QgAIBxF7nNee59vvc/nTtDW54Z2HsySqgAAwlFECEcAAAhHwhEAQDiKPLR85H2+2j6z3zpBm18d2iEcAQCEo4gQjgAAEI6EIwCAcBS5p4ls/NwlheNH3+fHF+387vs8u/j9x4QjAIBwFBHCEQAAwpFwBAAQjiL3NyUHX2l/V11GOFZbP2yf/x9eHCMcAQCEo4gQjgAAEI6E46n5ux/91dkPfvLu4mNcjn/59++fz+k//dv3zAdAOIrIYX9XXXZJ1U+0z/8n+t9rvjy/X3z7779+9tf/+CfmAgDhKCKEIwAAhCPhuIXf/8PHZ7/+W7+2yqGysPpc1y09XuvHn37nyfT56kM9/5d/+/ROSYmSgjWmj//Ko3Myp+/+w59fSujWnH7tz/6A+AEIRxG5PuH48u4/l2fNcqovX7dw/Jt//ubZr/7Gx8+p3x/6F/bP//Uvzv7onbfOfumXXzv7uV/42Rdz85Vv/s6lRUC1Q4oAIBxFhHAEAIBwJBw3UPKrvVBTSnBdtXDs/ZhV7t1FyVbjyJh+/hdffSEbc+xTn//kebVizv/ilz67d57Sbs3Doa8LAMJRxN9VlxaOtSfkRy741k0Ixy9++dMv/g2q3x+6bPzpl3/qfC7q529+5hPnkjDzUxKyVyn+3te/sPm1qnNLZJIiAAhHESEcAQAgHAnHA4TjKeXVscLx5Z95afHcuygcSyDO+lySsQTk+FwqIMkcgHAUkVspHFf/XrtOwVaVfEX9/pC/rI9ALNE4Phfx+JnHn3xxrM7bWf4WAOEoIoQjAACEI+F4s8Kxzq2lT/cdP1Y49grAcenUmXAscVePc01JvOpHr5DsS7HWuSX1Smz2pWKr7VQgzpZsrfNKHtZ1dV5VJo7LzGZJ2H48r99sSdo6Vkut1s/0sc5N36ofY9/r9/o5Li/bH2dOzqse3u/zbOnWOi/jqLm6q8vVAoSjiDw04VgVd3WvWi40lY6zKrySbal+/MZ3v3IuJ6var84tadmXZy0hl2VI65qSeHVOlm4dqyjr+To+3rfOq+Npv66vcyNG67naF3HWz2qrfo84zON9eyhGKtYYZ3K27p971rmphuzjyu81p70P/ZzqRx9ztZuKytn81z0zpxnDbC4BEI7+nhQRwhEAAMLxQQrHJXG4TzAeIhxLgJV0K/pyozPhGLFWEjEyMY/H61I9WZIt1YV1Xj2u51KNOM5Fjtc1dY86P+11sTmbx5KQuU8fy9ISqf0+1U763pdhLSk4zkU/b7Z0a793xt7HnDHZExIgHEUIx9stHEsa1r1K5hW7hX0GdxfLidZzJfxKKka29b0N67ndRYVgSbRUAEa61TVjFWWuGe+be3YxWteWZKv7Z566HKzHaW/XqhFTuTgKypEaS+6zbz/LtFn05VKX+tDHWP3IedknMnNVdDEaCVp9yrgjh+0JCYBwFBHCEQAAwpFwvCbh2EViCbEl4VgSbSYmI8969WLmsVf7Rbz1fRRL5o3ibSYMqzJx7F/dr+7Vz0sfIxLr/Lp2tkflbJ563+u6pbno582EZyoXc14fc/U7fSQcAcJR5AELx1cu2HfsxoRjSa1RWnUBOfsSu1fURZpFJs7a65WKqX7sQi2SM4JubDv3q36VcOsiLveLlOz97Mue5j7VZq/GXCJ9ScVhScilysjZa7Vb2A9zJhx3Q0VphGeu7fOT16R+LklaAISjvydFhHAEAIBwvHfCMfsHzoi8uy7hmP0Mu0DbuodjZOUo40qqzcbdlxHtlYL1uATlKPsiEmdtzqg2SzRGcIYa37iE6ZJwHO+zJBx7ZedMoGZuxvuqcAQIR5F7mpcvBGOoz+yP2+PPjX9zzf4Ouy3CMfKvC69UEs5k2W6ovBuFW/aD3A1Vj0tLuPbH+ZkKxF6RWO3OJGIXpPv6eQgl9Gr8vUoxYnMc15pwnEnbUTiO1Z6jtK3qzd1FBeWsupJwBEA4igjhCAAA4XhnhGP245sJwzXhuEak33UKx0i0EnVLwrGOlSyLnOzMlhudicmxsrOfmwrBNQ59bUpeRvAVvdpxSTiOfV8SjuP+muN5ue845lHSAiAcRe5JXtnzv+PfuinhmD0BO2vSrcvBkl8hgmsUYUt9Go/3ZUZ3F9WPXWiO8rCeL7GXtiLWUtHYpeQaEZWnlrU1h3X/voRrX5Z1STj2qss14bi0fG2OZz7HfR3zOhGOAAhHESEcAQAgHO+9cLxNS6qOS4JmT8MuxWpMmZ+6LnsbZl/CUwjHvsdhnT/jWFkR+deXZb2scBz7Mx5feq2zRCzhCBCOInL832tXKRy3SLwuubYKx1QIViVgqg93k2VbIxmzL2H2KixGKdmr+er3Gakm3F1hdeisqnBJOO4TiYQjAMJRRAhHAAAIxwcnHK96D8dx2c4sO3oVwrHvgTguDxpJNu6vmPGcQjjmnLFycKv4rev7vpGdqmwcX9+rFo6WVAUIRxG5HcLxULJcaImsXuFYREbuE2tbBF9Jz1RSRoBGokWaRaYtHV+Tc2uy7pilVKsPdf99X+avCc5TCse8FpZUBUA4igjhCAAA4Ug4rpB9CPuxVAFehXDsQjPicZRnJctmEi/HLyMc+96IXWqW7ExV5drejen3rMI08zZWOGYJ2asQjpnLmpuMp+YsryvhCBCOInL7hGNk12zZz1FI7qsc7MerqrEEWF9ytO8VmePZpzAVkLlH71f9rErHiMDdZF/EOj9Vj6cSjn2Z2aUKxz5v6Vf6emrh2Pd07POR14dwBEA4igjhCAAA4Ug4tiVOS1CVnKqfuf6qhOO4z2Sk2CgXc07fH7Fk3mWEY793icMaf98vsl87m8fcI23W4y1tVL+zROwphWOXi/Wz7lPjGpehBUA4isjtEY4RgCUIl86p587/hvjypzcLxwi7oq6rNurnTIxF7GVp1bG9UYamnd3FUqu192Me93EsSbjIwplIXFpqtvpQ9y2qzd1kqdnMZd+r8pTCscvfLD9bPzN+whEA4SgihCMAAIQj4XixxGkJs5JURZYLPZVwHJdr7ZWLY4VjKg27QOvVj9VeHbuscIy4i5TL8+NSqWv7I3YJ2mVojWtchrXf49TCMZTMjHCs1zSVj4QjQDiKyO0TjrtJVd6s2i+S65AlVVN1GKEYOTbuJxlRl30aQ8TeuIRo+lTyL22XEBzP2y1Ubm4VjpGOXWh20dkrLIuaw/Qn8u/UwjF9KvFY/ao+5Ppx/gAQjv6eFLkTeeXis/rKJdt57X1+vNAW4QgAAOF494XjsfQlRh9KX27TmC/DKDojX2dLvwIgHEXuaX77fZ69zyfe5+XbLByvi1EynoqSfGuy9D4yzmUqMXu1JQD4e1Lk1uej7/ORi5+RhHl8SOqazw3/cRThCAAA4Ug44m6LxlSnRi5WFWQ93leBCoBwFLmHwrF/ln948UXQy8f+vebLc8z2lSz5WFWc43K0AODvSZFbn69efEZ/9+Lnty5+fvXAdl65uO5zTTwSjgAAEI6EI+42JRqzPG1ny5K6AAhHkXssHC8jHwlHfKC6MdKxo7oRAOEocudSfwt+4uJvw/yNeMzqGHX+a8PfoIQjAACEI+GI+yEdaxnVovbktJQqQDiKEI6L/Pjiv2p/jXDEIdKx9qEsah/LLXtRAiAcReTWSscfX8jGH+8uvxQ/4QgAAOFIOAIACEeRBygct8hHwhEAQDiK3M88u5CNH7n4+YxwBACAcCQcAQBXIRwBPExKPtb+PR8jHAEAhKPIvc0rrarxlYkoJBwBACAcCUcAAOEIgHAEABCOInJtIRwBACAcCUcAgCVVRe7hlz2WVAUAEI4iQjgCAEA4Eo4AAMJRRK5MOC5JRsIRAEA4igjhCAAA4Ug4AgAIRxFf9kz54ft8bvef+/Vs+nvNl+cAAMJR5EHllYu/KV/Zc2yzcAQAAJsQwhEACEcRubXC8VDJSDgCAAhHEX9Pnl38XDv2rT1fmr7ii2MAAAhHwhEACEcRubtfED17n08cKRkJRwAA4SjysPOxC5n4sT3HPndxbImXd5ZUBQDAkqqEIwAQjhf5aPsvV791gn//v3WidkTkmv5e8+U5AIBwFJHL/D3py2QAAAhHwhEAHrZwfO19ftyOXUYU5r+E/d3Wzsf8z6EI4QgAIBxFhHAEAIBwFMIRAO6vcCwxWEszvnxJ4Zjrf3zR3o+byHzF/ySKEI4AAMJRRAhHAAAIRyEcAeB+CsePDf9uX6bCsaTjb7f2f3t3+f3lRIRwBAAQjiJCOAIAQDgSjr7cB4BbvofjqYRj5avv88MLvup/CkUIRwAA4Sgity6vEY4AABCOhCMA4LYKx49dtPFa+90ejiKEIwCAcBSR2/c3YG2B8bsnkI+EIwAAhCPhCACE40mF4/hfypKNIoQjAIBwFJFb+jdg4zLykXAEAIBwJBwBgHA8uXAUEcIRAEA4isjdEo6XkY+EIwAAhCPhCACEI+Eo4u81whEAQDiKEI6L8vGru/9YveYjhCMAAIQj4QgAIBxFhHAEABCOInKIcByZyUfCEQAAwpFwBADCcbNw/O0L9h0TEcIRAPBwhCOAh8tXL8Qj4QgAAOFIOALAAxeOr+z5P5DfmvwXsLs9x0SEcAQAEI4A7i/P3ucTrcqRcAQAgHC8tcszAACuh4+2KsUZH1PhKOLvNQAAVhCRh/E3YCTjR5fa8mUyAACEoy+wAMAXRCLi7zUAAPw9KeJvwK2SkXAEAIBwvP4/XixfCAB3Zg9HEXmgf69ZHhAAcOSSqiJyv4TjVslIOAIAQDgSjgBAOPofOBEhHAEAhKMI4Xi0ZCQcAQAgHAlHACAc/Q+ciBCOAADCUeQB57KSkXAEAIBwJBwBgHD0P3AiQjgCAE4mHF+5+P2VS/5vUsmPH5+oLRG55r8n7+KXv++88845/fGzZ8/uxRfbNz2W995777wPz58/P8l5t4Ut/a3n7tKYrnsc9b6sdmsub2N7N8FtGcN9mEvCkXAEABCOIkI4AgDupnD86AWRhB89QhZ+5H2+uvvgEo+Eowjh+ILHjx+fvf766x/gzTffPHvrrbc+IAyP/fK3P662D+1LePLkya2RTFvGMrI0rpGnT59uEp7Vh3qNTnHeoWOo12LtnjnvUCm7pb/13No5dbzufaoxX5VYfemll8754z/+483vja2vUc3PZT67a+3V+3Pr+/S2cNk5qderxvvGG2+8+PdxNv7Zef0zUJ+b6kf9O0cQEo6EIwCAcBQRwhEAcJ3CsfjWxc8ftseH5JWL6377AsJRhHCcfhm/xKNHj44SfccIx319KerL/NsmHCNKN34ZvsoWUXZTwjF9fPXVVxfPKcmS8w4VPLP+1vuvP65zlmR4CZ8+l7e1kqzew9W/t99++4VA3cJtEI77hO9tqBwdx3+ZOan3UL3f6/oSxPV+zOtRr1+/bz2f8/o1XTqe+vU5psryJu9POBKOAADCUUQIRwDAzQjH13b/sRfc2cXPevyRA/+36OULdoSjCOF4iKCoL9AjRkoiXadwnH0ZXl/u5wv9m650HMdySAXaKcTDTQvHYla9OAq/UwjHQ/ofGZa5XavEvCnqfbwmzjMHh76fCMcPzu+phGPG26sSI+3q36OxerHPS1U75j/aGIVoP3adpE+EoxCOAEA4igjhCAB4WMLx5d0HqxxfvuT/LhGOIoTjQYIiX473L9br/NmSgOPxUwvHVBLOZEf1s57LMpWz5TzrnBKnkYPVRpEquDr/kLFlLOlz7rt1qcmlsVZ/UjEZMVGPu2TtYq6eq2qqun8fz5pwrLGmErGuLfm1pRow/VmS0F2w7DYsw5k5z/He33ou7VQf85quLemZeYj4nFVi5vq6V42h7lG/9+M1HzmeftW5qVqr50swZc6yjGuveBuXeE1baWNpvteEY7U/9mOchy5b6/dU2y29LzPu/l47lXDMEqN5HWdL3fbq4Lwfqr913vgfFlR7dTzP9/7XtfksZCzjZzR7r+Ye/TXct8zzeF613/9dzBhn542CPv+O9ddk/Czs60+dX69/f4/P5rtL96X5WarQHo/3e2cOx/NqjqvtzO91/schvo8lHAGAcBQRwhEAgGXhWMuoPrv435QfXkA4ihCO17q/2W5YnnJJhozHr1I4jl+iR/jV7xFp9Tjt9Mq77E+ZL+UjWNZEz2xseRwBEwmytXJoaazpf+RMl0ujlErFZ52b8fQlHGfCMVWr6W8XpvvkQO5VbXTZMkqYzMk+STX2rz+OIO5zUceW2kplW0Rorh3nd6yCzHz117Ef70tqVpsR210YrVUtRoJXOxH4a5+Dpfdh3/ex+lGkH1109nGlT/l9rLTr59T4++PLCseau7SXz1wed6mZ9jOvo1CdVTjn/V7n5dwujfs9+z0iYPs9jqnezus6/pswE9z596m/D1MhOftM75vXPpZ+z3G++/s0871vfpbuNT7O3OXevc3M7+y1JhwJRwAA4SgihCMA4OaE40d3/1nV2JdGJRxFCMdrEY6zJQFvSjguLamaqrZeQTQKoIxjlAv1ONV9xwrHrWPbMtZIoFFc5NyMO33dDVVSowwaJUZfzrFXYm2VSBln5rPfO21HZFxWOC5JmKW2IlJzz1FAjtfvhqqzfry/v2btRGD3z8WscnG8drbs5lbhOBv3TFz1asWMo35GSOdY+jKOazzvWOGY8/p7pMvbsf2xinA3VFbn9Z2932f9my2pOt4jAvfYZUnHvUZ3k+Wec3ycr8xDn5vq8z7p36VfH8usarLPd6/GXZqfrcJx/Pcjx3ul9FqVMeFIOAIACEcRIRwBANcvHE8dwlGEcFz8UjmiKOT4bqigug7hmOX+Qr403y3spTaTH5GTXYaNX8hvXcryuoTj2jKKu1bZmb6OX+aPFXSjsIsoGZf+3FJ5N46z5reLri4yrls4pv/jfMwkYK4fqxGXji8xCqNc36tvU2UZsTmTPZfdw3H8nOV9Nc517p3XPgJvSRSO1W+HCsdxydGl9/LSfpvjfcf5HiuXtwjHfffYQr2W1ZdxD8YI3JrXej9medP0b5yvJcm39d+NcSyp+NxXYXkK4bg0j+O/K7PXjHAkHAEAhKOIEI4AAMJRRO6IcMz+Wp1xP8PZl8UjEUrjtdctHPtSoWP1T77kX2P84r2PrX9BfluEYz3u4+6MIm6prxE9o7CLZFpilChr8xCZFpmX5S1nUuOqhWOOVZ/qmpDxdkGy1Jc1kRYBH4k9e3/16tEuvbsEWlrmdeuSqlv6sSR/Ir8i7Pd9bi4jHLsIPLT92edjVlE6Sq0tQm3tHls+s6myHiv8xirS8TM1ez2OkZ1rldFb5/sUwnFpHsc5OVaqEo6EIwCAcBQRwhEAQDiKyB0Wjlu/+N7dwJKq+dJ+rKzp+/H16sxO/xK85qGESxcDWVJyTfRcl3DsS6WWLCtJFAE5E3Gzarw+76OwW6pm7Wx97VNdWq/JWGm6VThmydHLCsdeATujS79DhWMkYWRd9bm/TrNlXUsAZWz9PTsu+3qIcOyyOHuFzvqx9BlKf0bhuPQ+yPXHCMcIsOzneUj7s3GsVeBel3DMf9wwk43j65fPV/4t3g3L955aOPaK533zfZXCcd/1hCPhCAAgHEWEcAQA3E7h+MqFQHxlzzHCUeSBCcdT7uG49KXuuHRfhNNVCce0P1Y59mUMDx13vqSvNtf2cExl2HUIx1RhjpVckSqjiBtfh8jRpQrHyLN9YnGrbM7Skul3XputwnHszzHCsb8+vboxbBVmS8udjnPf34/jZ7NLvbEC9LJLqqaqsS8JvCYc9wnV3WS/yi3v00P2+9xNqt62fubH432J5GOXVD1WOOa1HPcD3cLSPpFLVYHH/nu99X8r1uan96XP7bFikXAkHAEAhKOIEI4AgLshHCMPf3vPsW/t1pfZIh9FCMeDhGOqA/uX0/lC/qqEY5dxXS72SqrenxI/1Vaqy7IU5ShXMpYcn8mB9GmfcJztn3boWGdiY6x6HI/1MUW+jeeNcm6s0qrnU1F5iHCM8K2x9+Oj1Iig669d3T8SaZ9w7POxtMfguGTlOCdp41DhOBN9fXnecc6ytOxMUM32edwqHHO/XinXqy9zfPZ+rblOhWT6O9uPr95L1WaR99WxwjHX9fmpNqsfa+0vfT5m56Uv/d+jHOv33XqP/IcHfY7zeuxbbng2L3nvzeYq//ac6t/rvOdm813v1/E/Buifl9lSv33/ScKRcAQAEI4iQjgCAFQ4Vj52cWyJj/qfaxHC8RDhGNlSX3DX75FNVy0cSwbkS/X+ZXn6U2Kovjjve1Lmy/cIr/S5jue6LoXyxXvJgPpivs6PqFkTjn2p0n3Sbm2sqZCLnOvt7tqynr06M8/3JTczP7MKwb4nZl6/PF5benc27r53XB/3TN7lPhEg2UdzTTiOUrKe72KnC+e1/QTTRvZBPEQ4drmY+cp7bZzvUYKNEnQmULcKx9wvr1vkeN4jef36+z9LbGbuuxTv0rquSZujXFsSjvncj2TJ1ln7/fGhMrALsOxxWj8ztqXlRes9svUes7nv/ybMxpv3/TjePuez/R7HeZ59Vg/5N7L/2zHOdxf9XaBmfnJt3lvp/zi3hCPhCAAgHEWEcAQA2MNRRAjHkwnH+vK8C4984T5+gX5q4ThbBrUvcVliIMKk2hllT6oe069Io14hmAqveq6+bE8/9gnHLt62Lq26NNYuASMFIj7qmvrZ5UQf9zieJYlRcxHZF2m1VCG4b//Oamd8PWbyrn7v8rb6uWUJ1S6ash9dfo9UieTatyRmVfMdKhz7e2LXlm6t8UY6jVWCu5WK16UlNvcJx7zHu0SqYxFq2ce0v6+6XB73M81nufre5Vjdo5+3JByXGCsrD21/7Xh/LcZKzaX9LmfL6h4iHPO6LzG+V+vapc/jWBncr72scNw6372N3k6/bqwe3rcMLOFIOAIACEcRIRwBAISjiBCOl+LQ/cduS3/2VfJVOzc9tkPvf0x/b2KM+/YMvM3v9S3ztW/J0a1Lkp7yfbHlmqt+L5yi/dl7J8L8VP0sSXvMXo2HzEOqZK/ys3Bs27ft33TCkXDczD/92/fO/u5Hf3X+k6D44Jz8nz965/znv/z7980LQDiKCOF44/zNP3/z7Nt///Xzn/fly/zrHFPu9Z3/++n5z+f/+heECgDCUUTuhXAE8J+ipqpEU8G4JnxKal21cLpvzJZAnu3XeFlJt1vZD/SU41jbxxOE44MQjj/4ybtnv/5bv7aJOndfe1/7sz8473/9vAkhcOrxXJaSiz//i6+evfwzL5197//59vncfOrznyRvAMJRRAjHS/F7X//C2a/+xsfPvvjlT1+qjRpH/bwvX+Zf15hKLv7cL/zs2U+//FNn3/o//tfze9brQagAIBxFhHAE7gd9/77dhuWJs6foKSvzHgJ9Sdld26fylNJ469LSl3mfeN0JR8LxfaribreyXnGnzr3twvHU49lKCcXZmH//D//jv2549x/+/PzxF7/02Q88BkA4igjheIzsKtGVfhxbzXcfhOMv/fJrH+h/VRrW4/p5lfct0Vtz95Vv/s70MQAQjiJCOAJ3m6qMq2q7qrTbt1xv38cv+0Gaw+1kH86qFKzf79ISoNXn7F/qtSQc76Vw/Mu/fXpewXfZL9WPufamheOpx7N1ydTZmCM/+2tRFY8lJwtLqwKEo4g8XOH4R++8dXRFXEmt3UVF3WWE4X0QjjfR/5KZu6GisVc83qclagEQjiJCOAIAQDg+YOEY6XdqQVdLkFaF3sd/5dELkfan33nyAXE2E44l5GbLmFaVXy0vWudXm9X2KOEiT4s6t9o9tDpwbU7HPlRF4iF9qOcyH7V0ah9jjo/7WdY1dbzuReIAhKOIPEzhGNl3zLUltnYXlY0luOrxmtQsfvMznzi/Zx1bE44lzurcuuav//FPPnBu3auey96F/drcq7e/dryu/8zj//gbrPpf7Y57IK71v/pW1Y25Pv1dut83vvuV8zbq/LrvWAGZ66qN6kedU+Otn30eiojeUSzWPdL+eP5llr4FQDiKCOEIAADhKPdKOEaglXQrWVZVeqNcHIVjybtcV6It55Wci7Ssc3NO/RzFXJ1b9yty3SH7Ly6NZ+xDHi/1oc4pKZpxVx+qijHLpKadEoypeuxt9SrHtEniAISjiBCOx1TXlTyrx5F2Jbtm8qtkXMmuIqIysm0UjiXaIvEi7Eqq5br6mfuN1ZVL1ZKz47lHlkPt4jDScV//q1+9L9VOHZuNKcvPRiDmcRe1ua6LxvSrHnchO147yoR+fo7Z3xEA4SgihCMAAIQj4diWBy25Np7bxVkXjkuycamtVBrm3Dzuey2W5IvYu8x4qkJxrQ+pYKx7jYIzfUg/M57ep6r83K0sLTtrFwDhKCKE4z5GwVjVd11Ajuf1Sr4ScpFzMxk4ysZU/qX9yMAuIQ8Vjulv3atXNKa/ufeW/o9VlrP75XHvf6o463iqF3PeuCRqxGrOiwhdqlgcz08/xypJAISjiPh7knAEAIBwvHXCMcJrjUP2dDykDxFnkYJdOEbelXzr11Sl4ky2RQLWdb2tkpbjsqSXFajpw9hu+hBRuKUPM+GY67ponYnNLlMBEI4icn+FY+TYGvuq4Jaq6/oSq6MoLLG3tKdgl3MRfONyoCXWRvHXxdqhwjH7T47tjfsibun/FuGYfs6WUK3j1Z9RTK71f9++l3l+vB8AEI4iQjiejmfPnp298847Z++9996t7+vjx4/PXn/99fM+38Z+eT9djprDq5rHardep+v+bNV9nz59euX3qnvUvf7rf/2v13ZPEI6E4wZKhJXgCpGA/diS+DpEOJY4rLaz9GhnFI5ZdnS2bGiqHvfJ0aqQTDu7trTqofJxNp7ZGI7tw5pwXBKK+54HQDiKyP0SjlnuM3RhF8Z9B0ci60qKldAKkYWjBEvF4q4thzruy7i7qOrbLSwTurRf4VYRtyQAt0jXff3fIhxnMna2NO3W/ufxuITteP6+1xIA4Sgi/p68SuFYX97v+4/dirsknEowvvrqh7/Pe+mll87eeuutWyMfRxGa16KO3zZRdsx7sMZ2Stlbr11ex+fPny8Kh9v6Xr3Kz/K+cdec1TlL81a8/fbb5+c8evRo8/u3zq/X5Srnrfpc/a9+1XupPttr7wEQjv5suEbheB1LqmaJ0KKEW1UCliyLuBuFY5eOY4Vjrql2uhRdkqN1r7534qGibjaeHJvdf9aHelxVib0PkY6XEY5ZuhUA4Sgi91s4nmJJ1cizJWbCsMRYibp+7biHY5eOo3C7KuFYfeqydUm6rvV/i3CMtOzLt/alXSM4DxWOSxWMeT6VkwBAOIrITQjHqhQqYRAil+pnP35XKoqqyqv/3fvmm2+eH+sCsn6/aekYWXPb5OKp31unHGOEY/HGG2/cOeF41aJlbdz5XKzJwZrTOmfrZ/26hGP+TUrlb+6r6haE4wMRjqlK7HseVvXfbqHCMVWAEXR9+dRUYB4j2+r+u7bs6rHjGZeCPaYPmYs14bg0xizpqsIRIBxFhHDcQvYOLEHWqxtDRN5S5V3fF3GUbHW8hFykY5dpl11SNXsljsLxmArAsf9bhONS/7Ok6rHCcUkoWlIVAOEoIrdBOC5JnZlEWFqedDyex73KbTyex1VVtSY0DqliqvYyX0+ePPlQP+teVSVVz/flJ8d+7Tue50rMrMm0pf7XtRFA1c9xfmYyNPdbWza23/fU8zq+buP9xnmoc0r2jmMc+7HWz7UKx/o5u3YUUbO+7RtTzU21PS5tm+NrlXj1fDF7DZf60p9bEuHVdr3+S/ffJ+Dq+sj2pWrUzG3vQ953s2V+R+FY95i9t5aO5755f8zGXs+Nn9cuUC2tCsLxAQjHVCX2yr9ezZgqxr6HY98TscRjCcp+zigvS8KVSCwJV49LCvZzsnzs7gR7Uo7SsPehjvU+1LF+bcnT3ocIx37eOA/79r4EQDiKCOG4RsTdkqiLkMwSofVz3I9w3ANylGkReCUeUxEYMVfiri8PO1ZE5v59D8guMUdh1/tW59XxLBW7tf/pb7/nOKZZv7q8HPdw3CccMx9LezjmdSIcARCOInJXhOPSkp/j8TyOLEj/c7zEQq9ELAnSRcpsSdQsh7rW91RoLVW/9WUj04+1JUNnx0twRFqGetyFzL7+z5axnc1jZExvq9qpuevyps9rJN8h81r3OGRJ1TyuPmTOc7/Mw9IYq481D2PFaR3bJ0Hz3sz7alapOoq3pc/P0pj6/PW2enVl3bd/BqoP43ti9j6c9aW3O3svZQnRse3q56GVnWtL9mZO027/nKy9n/q/FUv/dsyO17XjXNd7cRSImdfxdY5A3br8KwhHuSbhWFLuMiJrt2FJ1QjIEoQ5XnJxJtpSzTfbF7HaqXPzuIvJfl3dv85LpeVll1Tt1ZdjH+px+hAxudaHjKeo5+t4pORSJWbOJ3EAwlFEHqZwLGm3VUrVuaMInBG5l/0idxcVfCXVirG6cCbZcqyWIu1Lj+ZYRF2WOO3X5v4l3bIMapY0zXldQtbzdTxt1fEs3bql/6PQrPmcjWntfpnPrcIxr0Xfa3L2GoyCYel8AISjiBCOd0047trSrP14iYWSDXV+7tfFQReWqY6KeFirKMw5a1VPqeSa9XeflIqEqf7X73V9xGmvHNvX/6Xqv3Eee0Vf/V737Evejvfr85p+9fP6/KTyNMdmFWz75FxEYZdHEVbVXtruY8x5dW0qRLvs2/Le7O+bsfLtssIxc93Fch2r5/u89r72vqRqdzavY1/6e6df06/LOZHMvV9d0G4RjlnidjbPkZrVZr03ehVp9SVjHKtHjxWOu1aJXO3Uz3GfyX1SMX2+LXuygnAkHE/4pXo/VlKt76NYAi7LhZZU60JuN6nsi6Trx6taMpV+1W6105dejfDLtUX9vlQ1eMh4tvYh445gXepDr/bMc7lmvGeqPsfqTQCEo4g8HOF4CCXbdpMqvZEsH5qqvXoc4Rdh2CsVlyRbrsm5Jdn6cqYlIWfXVjVhKvzqvEjV2T1KGkYglqSr66rdcTxr/e8Vh7nH0pjqvLRV9x0rRbcKx76X5tK+kGNlJuEIgHAUkfskHEcBsiSWuuyoxxEPXdasLcs4ftm8r1IuVXmp7NsqHCPLRjmX9nJ8S/+7PFuax1HA7JNlo3zL9REykWe9X1lKdG3Olu43Vkam/bX3y9L7ud4DS8t9zoRjr/wbpd5lhGOX1TMZPhtn9jnt4ityur/Xx76MojqVv9WX9GPW9myZ0d3GPQ2r37NlU/v19V6Y7dvaK1svIxwzN+P7J0I049q3R2Rk7H3eBxWE44MTjvtI9d91tlfnVFXiVY1pS9vVh0PGnqrQUU5aThUgHEWEcLxOSoylcvCyVZn7BF3ud0jfrqv/h/ZtnwAe5WcEquVUARCOInIVwjHVa52tVUCnFI5LwmLch26tsq+kxFr13ezL5n1jjTgcKy/3SamSQ9WncW7H9rb0f59w7Hvq7RMtW1+XXl14yLwuybnx+lTeLd0/AmlWsTbKrH3Ccam9ywrHfv+IsVHkjuPsQjnVepnrpb6k72vL/87arjlYanuLcJztfZj2xs9r7lnz0JfBHef/UOE4VveGCMdxGdsl4Zjn7eMIwvEBCUdsJ9WZqZqMhBz3hQRAOIoI4XiXWBOOD4FRLs72ugQAwlFETikcIwI6W6uATikc9523dDx7EaZCb9eW4NxXvTUTmktLMR6ypGqqwNbInG3p/z7hmNdwJpHG12hf/3OPElfjvnlb5nVJzm09bxRUM8nW92fcKhxn1aqXFY6zz9H4WRjP7cuB9nld60uqFPftSzru8bjW9hbhOFumNFWP/T9YmO3BmTFeVjjO2t6t7Ju59HneJyRBOArh+KDJXo4lHrNvZN8jEgDhKCKEI+F496iKy1oKtpZXzV6S+Z1UAUA4ishVCMcsidjZt8zobRKOXXyUbOiSbMvSn2t7AXZxmAq9JYHWK9nGvR9njH1b6//WCsfZMqPHCsfLzutlhWNk10yMRRyuyeLZnGW/wWLW/tLnJ/LsssKxvy/6+26s1hv7kvfhWoVjxjO2HVl5jHDsc509IXdDFWeXnL2KddxH9bLCcaxwDLnnPglNOIJwJByxYWnVWkb1v/+fP3f+01KqAOEoIoTjXSd7MI57IT7EOfgfv/a585+WUgVAOIrIVQrHq9rDMaJiFD67oYryssKxRMi4LGqWglyTiZEnJemWBFrG1+XMrF9d9oxfZo9LiY732tL/LXs4bhWJW8+rfo/9inRcm9dTCcel5UhnMmurcOwCLu/P/tqmGrCPu1cAX1Y45py6T7/HviVVIz3H5WWrvRpHX2J0lM6zcR4iHPtSsbOlZGd7dM4+5+P8LFVt5rXN8fR/PK/u0ecw49+3pKo9HEE4Eo4AQDiKCOEIAADhKCJ3SDhGAJRMKTEwLtF5CuHY9+Xr8mG299yMyI0IqC7b0kb2YRyFVT2fcUWK9LnPWOu5SMVeDZa99rb0fzbP4/x0kdbvl4q+tL9FOEYyjVIqY1qTNscKx8xhf826eI1gylzMqjm3Cqa+TGcfY98vMO+Dfu5lhWMX0zXO/hr14zPhmL7lfdeXMk2l3yFtbxWOEbGRsWOVZfqV93AkaO7Zj/f56cu15v2a93A/r39GUtFaP9OfjCnnLcnw9GnrXqQgHIVwBADCUUQIRwAA4SgihOMtEI5drkR61HmnXlK1S7x6LvfaJ6T6/om7hf3hqq1ZheLauJbajiAZpdqW/mcp0C5r9+252NvpS49urXCM7Bv7tU9UHSscx30vR+EXcRr5tK9SbU049nv18fRqxtyvJNgp93DskjvjqXv01673r/e5z8VusnzqrO16r43S9FDh2N+j4zK2va+5ZyT9KPPH+emfibqmzsv7rp/XxWkf+yg/x/0lR7m09BwIRyEcAYBwFBHCEQAAwlFEblA4lkQoGbAkf0qUlfAoMRBxl2uyLGM9P9s38pDjabMkSgmYVHhtHUf1rYulEiFrQivVWKkm7P0a79vPzT50S/O41v8SPX2PzaX5yZ6c1c6smmupn1vmtfqwb17TztLjteM5Nh6vPpWIWhrT2ntzabnczOdYBdvnL2PdMqZcN76+47n9M1Fj6sK4v76zech7tfpW145z0duua/N8/eztzca9dZ/XpeerP3Xfanf8TOTYbH7qdajrIjKXzkt7mbfZe3G2jHNfFnZtKWAQjkI4AgDhKCKEIwCAcPT3pIjckHC8b/RKQnu9AXeLkpX1+R2rg+txHV+SzyAc5Q4Ix3/6t++d/d2P/uqcf/n370/P+fXf+rVz7ps8qLHXuP6H/+UL5z+/+KXPkioACEcRuXXC8W/++Ztn3/77r5/z/F//wpf2d4B6zX71Nz5+9t/9T//l/OdnHn/y2u+f90xRj70u94O8pnehr/XeL7xuhKOIEI5XQaqhdhdLdx6y9CSAmyX7QKYaM0u0Zl9OgHC8Y8Lx3X/487OP/8qjD615/vO/+Oq5fJx9yX6dX+yXAFy7Z/Wxnr+MCM09fvCTd89+/w//4x+1P/3OE2IFAOEoIrdCOH7ju185+6Vffu1Df6/93C/87J0RDp0/euc/9xSpsd1nqVCSpcb51//4J2df/PKnz3//yjd/59ru/3tf/8LiHkfVt7v4/inZfirpnvn56Zd/arG9zNVVjmXr+fXeqb6Or2Udu8731aFj2qkGJxxFhHC8BmlRwqJkBeEI3C2yNPI3vvGNg/erBOEot0g4VmVf7lOireRjUb+//DMv3QrxdtXCscaX8dfjqu4s2Vrjr/khVwAQjiJyk8KxKtJynxJWJeiK+j3i4baIhkMlXPGbn/nEvRUK9brkdYuIKUlcr9uhlYbHViZGqNWc1++hKi37++ouCutTyNIuZJfm4SqFY+6/5dz6rHTBWK9h0QXkbfg85X1PKhKOIkI4AsDWpZFrSeR33333/Och+7mCcJRbJBy/9md/cH6P+jk+95d/+/RFpWOXe2PVY8RlVQcunVe/9+er7f741MJxvF9J1NkysdXvEos1xv78KaomARCOIkI4nlJI1M8l8VISayao6vlZBWGJmqq4O2SZxojOpeu2Vp1FoJYYiXicybSxj8fcO8fH67LM6HjfOm/WTsa+r5/1fP+9RFC9Nr29On+rwKrr6nWvNmav/2XfP9XXyKtxDtaq7+rYUmVqv77mYPa65b257703m/NqK7K0xFY//5jKx8xPzfGSxFx7vZY+F0vvpbz38nw+A2ufyf5Zr9eqfu/t1u91LOKxz+3S53ltOdY6Xm0c81mvayJG+5jW7lfzt9aXrf8OEI4iQjgCAEA4yg0Kx9qr8Py/5t24Z+HYpxJ2aaP41Oc/+aJqssu6PC4JGIFY1FKu+6oIjxGOeVzPlUysxyUWS6x2sZjqxlkVZ5aZVeUIgHAUkZsUjpErW/f+SxXdblhysV8fMTEKgwioCMwuvHpbJRT6tbNlHuuamZTKsqIlNCJRZjIskid7IKbdWlq2S6i1e0du1jWzSrFxTjPOiKHZ2OuaPvb0M32MmEqV16z6NMvjLlUtdqmW/h9bzbcmHHtf0n7G0Sv/8l6osfT5qN/r9ezjyPV5nXdt+db0J6/XuCRwzq3x99e85iL36Md7/7pw27UqwJnYnM1PRPD4XpkJxy2fi7Q7Vhym//X+3E2WuF3qZ8a2Jp4z510gL/0bNR6fvb7p077Pej3OZ318fTKm8X71elZ/x/dTtT/7fO37d4BwFBHCEQAAwlFuWDiOS6ruk2tjnyLlIvdKPmYp1lEA1vFIv6o4LDm5W6iuPIVw7JKxKiojHrtcXZOKqf60lyMAwlFEblI4jkuq7vuSPdIh55ZwGQVXZNYoY8Y9BvM4wqtXZEXWlRwo4RDpkKq2HBulZj+ea2cVmhEZRUmWundEYV+idN+9M/bZF/39vr3yss9Rxt730exLb/Z+1jWZ0zWpGBk1ysi6dhRtl102dJ9wjDwahV4dr7nIdZmPmrPqZ38vdKnWr69r+7zVsXq+js2E3Ch2+7URgSUjc6xXOEZc5X1Qx/O6rH1m+pKmeX+NczXKwC2fi1EudgmdMdd1XfiuVe51Gbt0Tv6Dgf5+3yocMw/7xrTv89Zfnz6m8X5pO++nIq/h0udr6d8BwlFECEcAAAhHuQXCsYu1UGKupFxJwX3CcTdZdjTtzQRgb7OqHXcXVY5XJRz7sq5V2TjebzcsGTtrd2v1JwDCUUQIx6teVrWLsgiZ2bnFWJXUv6CPmBirr/KFfwRNPR6XBO3SYayK7OfNlpRMRWMXGBFZ41gy1i5FIwUjCrfcO3IoYiqVbJEWGWv6lvstjX23UEE2ytvdwlK3vQ+Zh0ibtL1FLF9WOPa56f2cSaY+znE+Si71+cj1Xab2ZUu3zOUoYkdp3JchzVjW3gdbhWMX2P2aUThu+VyMy+pWX2ZL7GYsa69h3i9L76fZZzhzs1U41hzPxpT2IhNn8xxBmWOzMfX7zZby7ef1KtMt/w4QjiJCOAJ4iNReh8+ePbtzbS/x/Pnz8/vWz+u6V7BnJOFIOC5QUi37J4bZ3oWzSseq5EvVYZePvfqv92lJyJVUXBKA+wTmqYXjeG6qHNeE6ShE7eMIgHAUkVMKx+x/1tmy51x9yV4iJqKsy8dRqKTCqyihEqk3SpMukEYJmS/165qxv0vLcNbxEgNLgifn9SqtLgC3CK7dQqXU0r3TfoRbBFPGG5GROco+jOnT0thzn7V+Li2Rmfb7MqO7tnTkPvnUyflLx0dZPTIuazpW5c2W2p0tT5vXdO01HiXmKKbSp7Gqs+8JOBOOY0VqfU627vPXhWOX8/21648P+VyMey/OxnaIcJwt97pvidwtwrEvPTyOaZzrLZ/1fcJxbR/TXJvP09Z/BwhHESEcl3n69OnZW2+9tZc67y4IlurrmgjJeG5b39Ov65Y4t+H1qp+3pS9r7/O78jno8uX111+/9rZL1tVcPXnyZK/U23Jen/+673V8fh89evTiXvXz8ePHhB7hSDiuybdOr/LbSt9rsQvF3qdUMo5LoqaScLan4mWE49Jyr7Vc6ux+s8rJtBUZu08oEo4ACEcRObVwzJftnWOWzez73HWRMxNMkYv9C/6cF+HW91bs4mWN9Lv6MorQCJnZco/Z87Dvfbgblh/dbazM2nLvLOUZoRFxk0rR/J7jh4x91s81oTKTWIdUOI79iEhdOt6rC/uc///t3b3LbVe73/f5J5iI1CmiJkXKqErKIEiTNCEqUhyODYKE4ENAjSHgQimNxTGYcKw0sQsZQwoV4YAgByMwagPuTLr8HwrXzv4p13OdMeaaa90ve997f77w477XXPNljDHnuh8967uvMWp73espclYy76w/c3rYlWya0veWcLx6jd7GGq/5HNT9XFUBnwnHlXQ9FmtzXnk2ptw/E2y3/pHC6jNyNv3yFOJnn6PV36R7PutznG8Jx7Npfqdcvvp3gHAEQDjuU9Lg1t/5lxQXzy3tqq1nAuv4CCtGS2KlXd9+++1nIweeIpBKzD7nM5m2nD0/H/Pn4KeffvpbbXtJQXprLL788v8r6jmrRiyJd4/Mey3hOK+Tv5EfgxgXwvGjE44l5UoA9txal/HsXFmPMefobUolY639eKXi8FHhWMLzOFlLcbUW5PF+/cadcCwpmvUrd0JxJU5FRAhHAE8VjiUCMu1p8uj0mZmyMYKhC4cuIVdVW3PNwpIifYrDEgjHpuppV5mZNSP7+myzAu0sXUDcKxrOrh2JkeMztWxtT4Vo356qtFUV2+z7sZgaslfBnQmk+f5cwzEVlqspc5O8f7b9OFnD8UoVatq7qrDLfX1O4Tg/D7nGWYVjb2uNY+75ah3RW8KxT/k579W9n4vsv5ORV4Tj2dS98/k5NtPUXhGOj3zWV+N8dUrVWdW8ureEIwDC8ekpcdOnDizhFfHVt7+Fyru3KhwjNCJpPpfpG58ikHLsSwjHqm57a8Ix8u5jqZ68Uhn4xRdf3JSSry0c6+/cfAaqfdXW+nyaWpVwJByfkKpirClGK6tpV2vbmXDcCbvdGo6PCscIzBKLOyl4jPUhs23K1mOs2XgmFK9UQIoI4QjAf6+95Jfe9cX8br24vuZcJE2Ew5z6MlJgCq4+/eKUlNm2WmdtCqHV9JU5d6ro0s5VP1Zrsh13VDieXbuLmFRxphorIjbSaa7zuJpCdPZ9JxbPhOOtCsjqU92LjNmc9vQ51nC8JRx3Y3pLED2HcJxViXOazZVwrDGbz1ae+7km5C3h2Lfnmcm9uudzkX8QUHnKGo69Arn23wnUnKuPc56hvl+XoLP6+JHPeq6bz9st4Zh2rQR2/3tGOAIgHF9fAmX61SkI5va8ri/n6+c333zzJ9vr93qvZES9V9VZqyku6/1MNXpl7bZHhWO/Vk3vuFuzrWREidgSLbX/vE76V/v1ft+aVrLaU/vWtev31RSTc+yqHZXV2NW+9d6qP6spLHfTida55/2OlM4YTBE9x+CKlOrPWm9HXTf97GNd7/cpL1ftrvHcPVtnbaljds//lGy7CsK5Pa9rTGrM5tjlszD7Oe9DHVftq3P1e1LvRVb3a6/al89kpa63+ocEdb20M9ebn4dbwjHPdYm6XUVmP0edP8/t7vM1n5c8t/Pvwm57pnCt89d1Vvcu93+OS659dfpXIRwJx01SHVg/S0B2Gdnf2wnCEpKVkowl/2p606yT+FzCsa+9WOeoa9S16prZPqVpzlttL+lY71Ul5jGmiI1QPZuqdU4ZKyLif+AAvJZw7NKkfvYv+/vUhqkU6uIgoq/kQ77EP0aFVBeUx6hq61NB1jnqXH3aysi4iJm5Pl9f6zDXmfus+tmnsbwlGq5cuwvNKT372oRTIJ31fbe+30qcnFWi3ZKAdd2SZdWWq8LwpYRjH+saizxbU8w+h3BMpV2k8JRTuQ9TKO/WiDyTtTvhWP3LM3Bs1j89+1yspmaN4O6VfVfaOP9xQf2svubz2tdanBWdswK173ss1kJNxXWdI8emT7fGOZ+3eX9Wn+ecu49hX8v00UpnwhEA4fg04bibWnBuz+tIobQ/2+uL/hIR/f0+lWjaUPvUMZEpu8qzpwjHVIbNa3WZUqIiba2ffRraLi2yvb9/tTItEul4X+m4G/vq4xy7fq9SoVrnWPUnx3WBFMkyr9v3LQHT70O/fpd6s1rzbAxWz1ruRd7r18lY15ilOi5yKhIr101FWtpySzzmetXXOrYyhdV8LnbSbbVf9SPnTdurXfks9PHqz1Q9y0eb1rgf28d8NR6zHf0eZv85/hGB+Tysrne12jPP1Wrs53v9uemfny745vOy+7yvtvdnvPer/92pe7/7/OWzeetvkBCOhOON9CrG4/00pP11ibwuImebqqow0i9C8LmnVI3869fpmW3sazhmOtb0qdrQ9837vTryynsiQjj6HzgAryUcu2iIUOivSwZ0URjZ1gXbnKpztTbcqpqvrxPZr5uKrSkcslbiMaZ1TZvO1tNL1VVkzFXRcOvac1xmVVX6NKd3nBJn1/edcIxQWfX57L2z5+BDCse5RmLGo8vB5xKOkeS9wrOPVRfrOb63rc6bY8/W0TwTjnNtw36eK5+LlVxcfRbm+om3plDun++Zem8+J5GEva21bQrx3qd+f+c/RNiN86o6uvdp9m9+vvo55+eLcARAOH68wrG+1C+hELnVpUL2XUm2+r2O7VIsou1MHD0iHCOA+rUitHKeVB52OVHv5diVbNtVSa6mlezXjxjZjXEJj4iw1fSPq6kfq93pTwRnP38XXjl35EuqNHNcH4PIqSm/ro7BTjhGZvWK2d6Wfp3VuoGpru337la1aZ+iNcdMofYU4Zixq3ZVIlL7ZyH97GOcPvX7Fam8Er1n7ciz1isgpzRerb24eiavCMc8H3Ps52d+Vjvu/i48Khz75yTPRf9HBKlmzPjvpoHN/lengBXCkXA8SUm1qgAsIVc/q6pvJdqyLuRKCFb6VKu9MrKOWa3BuDvf2TSwvZ27dR274Ey15qo/WYeyVz12EbtaB1JExP/AAXhN4diFXE2rWF/I188SJSth1dewq33y5X39zPp+U0j0Nf92oqOuWVKh9p+VkHXN2b7ettV1d/In++2OmdtvXbuP32rMbvV/9n1OMVnHrqbsjECd4jMCeTUl50uk+nXr/q7GYyc4+3isptfM8at1S2cb5r7981THZMzP2pnj8xzU6/4c3BK1GZ/d+3Vv6/1VO84+FzluXj+fw/7MZN+rUjhtTqVlicbVvZjjX+1Me1b3qfep/n5Uu+79rO/uz65/mT64zrNay/bq3wHCEQDh+GGEYxcns0pv9UV+vviP9FhNefjcFY5XrpXqtLk94mf2++oacyvBFPmyG7vZzrT/an9SMZc2RsZEsuW4tCMVZnXeVXXX7t5fuXdnwnGK5XnfpmBLv1bVabv7d7YmZM7f2/FU4din6cz15n0+FtOQrqbuvSJgeztyn2d7q3+VLtHmdKJ5NuZ9urKe5Wpd0tX56vpT5M2/C48Kx8jy1fS/q/Ptpk3d/WMAIRwJx1dMCb9Mpzol3oesDDzuWHux9qv9qzIz2zL96k5oigjh6H/gALy2cJS3l9V0mVmL72xdwc81Pk/3r/F6vK8QXMk6IRwBfLrCMWuV9VytynlO4Xhrv932iIAIpN3ads8hHOe15tpxqfTLFJM9kSkRFLv+nYnMlQjJdI9d0uTc8z5O0dT7U+dfrbOYvnT5U9fKWHdJExF0awzmvb9S3XkmHHfP3i3huKpk3K3LdyYcI+h69elThOOUiLneFLOz/3XtukfVh4x5nz71qnCccm2Xs+s9IhxX65Kuqiiz7mKu2afSzbP1qHDMueazm+15Zm79/bjy90UIR8LxhZN1Dmv60hJ2JeiqKrCmOf3QMuCqcKyKzN7m1ZSwIiKEIwDCUe5NSaCSQZmuNlNN3prmk3A0FvdOmZvnqoS2cSEcAXz6wrGv+za/tH8LwjHCJ1OBdoF2pe27KRG7RJrjtbtWxnIl25JIo3uEY9pyli5pVkJpt70q1mZ/uoiLgMvv6WsdkwrB2pbfr4zBvPePPmtPFY6re9/XybwqHFfP01OE49xvJ6+OTQVu1rWs5P7dIxzPPtddNvZ1L3O9VeXuVeE410XMc9+fxy7Ja3uuO2X2o8LxaNP0rpL7u5pueHXeW+uBCuFIOL6SdDzaOpAfet3De4VhidI65h//b//wnXisPpSIJFZEhHAEQDjKU5K1/P6nf/I/vBOPqtEIx+de4zVTsmZqUuNCOAL49IXja0+puqtye4pwnEIw8uxMGkVmrKbV7ELhTJT0a2UNwqv34J7qvkzH2gVLknau1ka8IhzP+tMFz5R0qUab28+mK723PS8lHHOfVvf2igheCccu4DIGUyTOMVlNXbqS5VeEY6a1PUZ15uo5vjql6pzCdbXmYj0v/Xp5Vh8Rjv34/COC2e+VQO1jcUs4TgE4pz5NJeOtfwhwq4LxlpAUwpFwfOVUZWCflvRDt6XWbrz3mH/97/73h44VEcIRAOEocrbm3r/6N//k3c+ztfaM0z+9vNakCOEIgHB8fuG4qhTrlXrPIRwzteJu3bozYdLlwpQQNX1j5FH6lmvt1qyLcJvCrk89We2KYLwq22r/1bSpq37cqhzs23f9yX1LxWSmSJ3rFHZZNscw7e3TYD5lDJ5LOPbxy5jNMc05z6YVXgnHLlv7tJxX1idcreF4VTjO6W6niEtbusRcjceqvXVM3ycCsO5h2jSvl372qsR7hGOf7raeoylp5z9YmLI1z+F8XlZrQfZ/IJDzRUDOv2nV5zpHnotbVaD3TpkshCPhKCIihCMAwlFERAhHAITj4kv3SIASBBEUJRCmkHuKcExVWZ2zZEBtq+tGstxai3KuydinhMy2CJeIv3mtucZczplpLet19ukC56psuyJP5z5XhGO1N/2p43t/+lqEXVpNSdWnYV09FxmDGq+rawm+hHCMRO1rbvY2Vvv6tJy3RPVOOHZhNfvaKw3nNLbPIRwjhtP+9Kffu/Qr4rCPx2xH9snnd1bSrq5X/Vld7x7h2KXiMaYK7uOY5zbtzD1PxeV8XvraohHfdZ0pMGe/6l7Nc3cxuntWVoJZCEfCUURECEcAhKOIiBCOAAjHO4VjpEWXKvVl/pxq8KlTqpYA6IKii64r1YMlHrokOtr6cFNY1jWvXCvrPPb9SsT0812dUvXKFI+zCvLqlKpdmPb+7CTPnOoz49ar2fq557jW9Xt/X0s49vHp2+ved8Hc19h8VDj2a3XJVs9pv1aNaSrs+rieCcdZiTuPjfTrz1xdoz+LU6pl20oKdlme8/XnsPrQr5f7O693r3BMNeLq81Ft71Kzrp+xTFsy3fB8Xvr4pC8rmZu/U71vNQ5z/CPsd9M1rz4XQjgSjiIiQjgCIBxFRIRwBEA4jtQX8/VF/VklYYmA+WV+qhNXr/uX9vdsr/OUEJhThF5N2rk696rfV66Vc67Ot+vHaorJK9My9vPl990+9/Yn/ZjvX7n/2eeszY8+a/f282zsblXDXu1Tf381nvXeWR9W93s3zqt9c6/u6U/Otbv/Z+Nz9oxfOfc9z9sj92DV7rO/R6t9d32f0w9PET8FpRCOhKOIiBCOAAjH9/k//+9/8W5NvPr5kuf/9f/5l2/+y//05ef/659ZR1BECEcAn6xwFBH5XNOndI6wzFTSqhsJR8JRREQIRwCfpXD8h//0799M9qv25fVLtKPO/9YFXQnT//A/+g9+//f+/b/z+z/4x//di46ZiAjhCIBwFBH5MMlajiUYVwJSCEfCUURECEcAn5VwPMZ6NavUfiUCS5y9lBD8VITj//g//913/fhH/+IfvHv9n/xn//G71//Hv/1fP1i15X/+X/2nH+z6IkI4AiAcRUQ+1WTNyj/7sz979/PKOqBCOBKOIiJCOAL46IVjpOC9X1SXFKtjd3mtSsu3Lhyr7dWHEnzZVqJvbnvN/PO/+UefhMgVEcIRAOEoIiJCOBKOIiJCOAJ4BeEYaXfvF9VXZNiscMzrrOlYv9d5/pefv/9b6zDWPlXx9/e++2/e7VNVgFOArYRj/V7HZGrX3RqSJdWyT517V+lX7+3amP6UIKyfdd1eFdiPr/fqmvMaNZVq9WG2sfav7XXdfr66Tt+2Sr1f+1V76+d//ff+iz95v9q4G9c6trbXtTOO/Zy7a83XGZNcu+9X7apz78ZERAhHAISjiIgI4Ug4iogI4QiAcFyu4dhfl2iLbDveV0z2YyO9ap9MMToF3BSO9V69rrUQ6/gcV6+7LMwUpnkv148srH1z/byX37tcy/X7vtWWfny1v7/f5WYJxN1Ypsqxy8JVNeQquV4d25+Rul76Uj97uzKu1b7cl+zTz7m71nzdz92315jVmO/GVEQIRwCEo4iICOFIOIqICOEIgHC8KRxLOKWyreRc5FOq/CIO+zUi57qYnMIxgq1XGeZcWR+xfkbG1Tlr3y7h+nmzT2Rf9ou8zH6V6k/2zZSktX/2revMasa0JW2biQy9t8Ixcq+OjwDt16vKwi4xa7/KWeXovcKx+tqvne01Jul/pOqUzSJCOAIgHEVERAhHwlFERAhHAB+xcCzJU/IniQTr23ZTjPYvquu4TEk6EyG2E45zis9MH9rFW0mpOc1o2hqhOMVYztOF2kykZJdpJcXq2tkWObabwjWy9FZ/5hSsu/HYrZWYdqymhL0iHOd9LLHXxeJsb9rxHMJxVi1m+5SluacEkAjhCIBwfCTff//97z/++OObO7fczm+//fb7zz///PsPP/xgPFp++eWXd8/mX/3VX737WWNkXEQIR8JRREQIRwBvVjieJZWJO8E2pdPcL5V3Wf+wT496JsZSBRkhuloj8Irg2o1rKhczPlNAzmv0Me19SD93YnNKut37t4TjlKpHm2529QxE+D6HcJxt3snT3XlFhHAE8OkJx19//fWdIPn666/fXfOLL75493ttq/ce/QK4zvFSXy4/cu7qy4eQQHXNb7/99t245r7W79999907efeWvtj/6aef/uT/X7ykQPjqq69OpXPtUz8/Fgn75Zdfvruvf/M3f/PH72/t/ooQjoSjiIgQjgA+AeH4XFOqljwrqbTKrEC8VdE398s0qMf76sFUTmaK0bNKvLp2X4cw8jHVhlfGbLfPXENx158uXleJ2LslFLPW5HMIx7R9JRyTWZn6EsLx1vEiQjgC+DSFY1VldRFWIu+bb775Y1v9fEQ6fozCsQTf8cpVozV2fWxLkFU7SqZlfOsevKXK1Wp3VTe+pEy7dY8/NuHYxyWSuV7XZ4kQEiEcCUcRESEcAbxJ4fiUNRxvCcdUAvapSlOhd0s49lQ13awqzJSqZ9OU7vbJGoizwnEnHG9NhTqnMn2NCscr9/pMOM5pYuc6k7v9CEcRwhHA5yscIxsrVYE3xWJtO95Xmq3kUh2/k04fSjietSkVnGdy8NGKzl0yhisxVjLqqVKq2vsU8XdvnzOGu2s+lzx9DeF49qzce55Ve3N/qyqUFBIhHAlHEREhHAEQjm2/WcnYpzM9Fmso1n4l9+r1nN40x0VepnqyT+uaqVirErKLxXmuudbkrj8RlnPq2Hpdx0ZEXl3D8d57uhOVq3HN+pXVtkjC1VSxq7Uv+z15VCwSjiKEI4BPXzhGiFTF3dk+vZqtfvYKyAjJuabiSsDUPu3v3J9MKZqKsJVkmtvn6zpHvZ6Vml30HGOpgX58tSsi7XhfdTj7U+eqaTLr/fpZ+1duCascs1pzMmshznOsxmke19scYTxlX/oZ6Xlvn+e0sMdiyYbenl61WW3uIjPHlyDMc3cmCx8RjvV7noHcoylzZ1vT3j7Vbm9rxuisrenPHP9Ut55NDSsihCPhKCIihCOAFxeOJZD62okfg3CM2CtBViIssivVirW9pk6d5+vVjJnedcq3vs5jXafOn+MiCOc+JdZynrr2FHOzP5m+tB+fKV778ZGfuzUzs/9uStd7hWOuV+esttfrtKvGYLarzlPnqO3ZVvvV73V8HburcCQcRQhHAIRjEjlzTwVWRE9JljquxFLO08XZFEaZzrT27WIo1ZNPEY4RavWz2pT1Eiuz3ZFHkWu9irO2l1yd4xJxVNvr/fT7uFCdGHl4derUtGc3Tr3KMPvkmHkvs0/vXxdkta3606+zW+My63xGoNbvOV8XsdXf3p6cL/c3+04h/FThmCrDtKHOvRLqEY0R6f25yP1JWzMmt9o6n7WeXO+5K2dFhHAkHEVECEcAhOOLf1H9FOE4Kwfnfn0q1AiyVAZmW9Z1nDKxH9el35xqNVIz55/7lNDs+5Rcq+v1aVLPKhRzfIRczpH1Lfs0p6msXFVm9nY9VTjmHL1fkYhz+te+BmakYz+uJHAds1vD0ZSqIoQjAMJxSrR7jltV9s3166Ywqn2nNCu506v/niIcV5VsEYK9am81ptX/akfvT+RVKtMiDWelYYTVLZnUq+nqWiXk6pyzsrFXxPVxiviqY3rb+vEZv97GXHNVfbo7/tY0uHNa2ozNrOIrQdeFYK+QvCK47xWOuylWc4/6+M5nJW2t+zLbeksS31qrMe0yraoI4Ug4iogI4QjgTQnHElBdnO1SQirTna5e7/br0u5s/cIcN+VWvS5hd2vtw9rvKfvsrr86frfPbh3H3TqMV8Y+4/aUdp0d168/79Hu2rt7eeseiwjhCOBtC8ergumWtKzzlNQ5k4K5VoTOve25JRxXbVqtnTjHtLerfu+J5IswzesrgnE1dWqJuTkV7RyTiK+zKW4jsFZjGaE5Kxy7WOxybfb5yjM3heNO9EUyz2egt+85hWNkYsT36h51cdz7nTGJNL2nrX361Zdaa1JECEfCUUSEcATgv9d8ef6GU2KuqiCrojCSLmtI7qZaFREhHAF8SOG4WmdvN0VmhNAxpkK9lZIzU5odi3UR++sr0uUpwrFPgzpzJhz7dJq77K5RMuoR+ZiqxX6+VCCuKkV3Amu1T2Rg2rQaz3v6fEU4ZtrSVQVfl7b3Cu5bwi8VrHMNx96POr6vP5q23ur7PW2NbN8927eEpIgQjoSjiIgQjgAIx88gfS3HqpqcAlJEhHAE8DEJxxJZmfI0OZsScgqvXcVgBFavIit5UzKltt2qcExl2SPCMdfcnTtTjIVNgr0AACBMSURBVB6taq8E00py7oTjqtovmTI2axRmOtizqs2rsipi7Za8urVP2nRFOJ71+R7huJq6djXe9wrH9GX3/Gaa2ik6V9Wkc+3Ken3W93vaeuvZJhxFCEfCUURECEcAhKP8yRSq/+1//19u118UESEcAXwMwvHeZNrRnTQreROxU+Kkr9fXRVxEzk4Kzuk1uyCN/JnrJk6hc6t6ch4XMXYmHFfnvkfuRmjtqhyrXzU2uylSu8CtMdqtMVjnyTjt9ln170w47tYcvLKG57GYlnb2Mfcza4TeKxwjMleVnH3czoR6rplpZdP3sylr75WEplQVIRwJRxERIRwBEI4iIkI4AvishWNfm7CEXQm4iMQSORGJEZJZ666OiejpU6z27VMu1fnr/V6RFnmVyrJUtaUNJZYiPG9VT3YJmm1z+zGmkO3iKm2ImKq2pt+RX7P6L33aTUnbx3clzub49nP2a83KxXpd6ftEbN1a6zJ97teodlYfa9stGTeFYyple3tyvt63e4Vjb2f1rd/btKFL5trWn78+/qkg7WszZixrn2pj7Zd7dI9wjFjd9SvjsJpyVkQIR8JRREQIRwCEo4iIEI4A3rxwXK3JWL/317OascvFPq1ofk9F25Qw/Tp1ztWUpJEzOTbS57hQPTnP29dIjJjq1ZARa5GLOedKnpac6vvUsRGht6RUJG3vV/o2xV+EWm93fu/jNPuW36eE3Imwvtbhrs/3CMd+vj6VaRd79wrH1ZqL8zntbe0VlXVcfyb7dK/9GetjVz9nW69WJeYzczb16yNrfYoI4Ug4iogQjv4HDgDhKCIihCOANyEce1VfyaCSNCVJMoXnqqIrMqfETq8Kq+0RShFz8zq1f47tFZV9/b1IuUiaea75Otfu543s622q8+fc/fhct/odGTn7Xv3uojF931U3rqaOnetr7o7P/diN02osVxV0q3uwOj59viUbI+xW0rC3OetDrtYXvVVBuap0rHZGJtc5esXjlLt17YjE/izs+p7zTXmZ+3PP1MTzHqRKc073KyKEI+EoIiKEIwDCUURECEcAn5xwFJHHsxOLc8pgESEcCUcRESEcARCOIiJCOAIgHEVkmUwrm2lYM5VuVVkaHxHCkXAUERHCEQDhKCIihCMAwlFEbibT7f71X//1H+s6XplyV0QIR8JRREQIRwCEo4iIEI4ACEcR+WOtzr/8y7/croEqIoQj4SgiIoQjAMJRREQIRwCEo4iICOFIOIqICOEIgHAUERHCEQDhKCIiQjiCcBQRIRwBEI4iIkI4AiAcRURECEf//Uw4iogQjgAIRxEREcIRAOEoIiJCOBKOIiJCOAIgHEVEhHAE8MaF4y+//PL7Dz/88PuPP/74+6+//vrkL4C//vrrF/ty+aXO/ZL57bfffv/555/f5a1+sV9t//7779+Nfz0nj/aznrXnGodqTz0TH2pcayzq+n/+53/+7udPP/30qvfjSuqeXB3H+nnrmlf2u5X6G1PnqmeBNBPCkXAUERHCEQDhKCIihCOANy4cv/vuu9+/+OKL/jfoXWpbCchPRThGln2oL8VrnDO2b1U6fvPNN+/a/9VXX22FY4TUmZSKpHtUMPbxq3bU+T6EuKrPR/pZUq8+M5Urgu+ZRctprjxvry0cv/zyyz/+zpBmQjgSjiIiQjgCIBxFRIRwBPCGheO33377x9+eVK1VhVaXkDux9NaEY/r6ob4Uj4yqNlRb3uIX+yWJKleEVLKqln1UONa5nkN2PUeqLXU/+3jUZ6faV2L2nnM98hlbVTiWCI5g/JgrHOcz8mj/RQhHwlFEhHAEQDiKiIgQjgA+sHCMYChhsqoO61KgS6P6vcRKHV9ZHbuTgnXOkgupCOvnrG0r8TC3r85dx+e8VXU221TbU1G1uk6uX9lNiVltr3M/Mi1qXa+uXcenHb3/qb7c3YdU9eX3TEdZ5+v3ps7Z+9/3v9LO3NfZv5wnz8tqn/ncpJ+r52AnHNOn3Ic5RpHGdXwfh10f80ycjWuOS9+vjlX6MMchVaC3platvvXn8jmndz2bMjnP/+xnF461bz4Pc78z4Zgx3Y35lP8RtPMZyTl2n6W0q/8tWVUw1z7V5zxH2Z+kIxxBOIqIEI4ACEcRESEcARCOz7z23Nm0qfUl/pSNx2LKxikM5rb6wj/VV0ebsjVSJhJjJafm9vl6Vkslvcps1946NuPQU23tsqvv06efvSoe0/cIkDnuEZKryscusCKF5vSskVe9bbVP9rvVztW0uiXCImZz3Z6duOlCKuM2Be9KjKWfx2Y60FUbugjNfjUWNY6zP3UPugTMcZmSte9b43Gl0rLOuZK2x0kVa4m4Xll8Nj3tcwnH1djNZzD7zM9p+pLPw0o4dpF+axwzdqkMTZv735mdtK02HG0a1hzbxzPX6NsyPfRTpvIVwpFwFBERwhEA4SgiIoQjAMLx5EvaqxVdK0lZx2Zbr2iaUjAyogREHdPlUh33FOHYp5GM0Mn1et9WY5pjI3xKaKRtESp1vnnN2nZ1vb4cHzkVadKn4pwiZW7Pvl0c1VimCjDCsq4RSdzH+Ew45tguGOtnhF3v33FhOtsupCKX5jhN8dPvf69Gm+JuNe3nFI69ErPO0WVsH9/sV9tSJRdZeGtdwbRtJybntXJMl3nVr+dey3Ml1DL1a78H6Wd/BvuzVW1L9Wg+S/MfB+Qe9Ge3V9bOz+W8Tv6GrMZyJ23nM5H+5h7mWnn26+fsB+FIOIJwFBEhHAEQjiIiQjgCIByfKX3ay3uPm9VYqdjrcqCLqUin3bSJmSr0eEKF46yEmlJjJRwjSqbUmPKvy7w5Dew9a0f2cYsQ6TKmTzM5xzYypsu0WaG4kjtXhGOkzW4M+/Z7hWM/Tx/nKcYiheY0nPOeXRGOO9GVMco1Vu06myp1NTa7fXKOPC+RtxFj90j+pwrHTDc62zr/ocDu2Zr3c77O52M+PztpOP8xQLVvJWhX2/K5SZvThyl+V9PU9kpoko5wBOEoIkI4AiAcRUSEcARAOJ5M8xiJt1t/7anCca7TVl/0R/DspGCExNnaaU8Rjn39vUoJjr5e405epV1ZD7BnCou8rp+pLLwyVl2mdFm5kjGrbX0q1i6FpmDJfrPa8oo8W1WD9vb0az0iHPs10o5dJV7WGMx0rBF19wjH3WdnTmXbp1S9RybuhPHZuKdNt6ZO7Z+tvo5h1h6c269OqZoq2Bxb7c/YzsrQPhXx6h8MzPsbUV4/e/siePvzkmdqXmMl5aeAX1UGr57v3T9wyPGEI+EIwlFEhHAEQDiKiAjhCIBwvCB6jsX6d2df0s6qsisVVPlCv3JLOK4k0XMJx5IIfVrFtOmKcNyta9cTgZc14fq6gHWNW+IxUrO3LZnXmFVdq3UCd2O5e16urOG4O3Z1Tx4VjlNwTzFW45ixrf7OMbpXOK6mRE0bIrt2YvGKcLwlcue49zUyz6ocV8/k/Nyd/W1YCcc+xXD9zNjuhOPqc9qvOe/vqm3HZn3XiNrejt3fkExFHAGfz1KvWl7dh7O/JVNgC+GI9h8cIiLy0QYA/C0UERH/PQngVYVjnzoxOVtfMF/y9y/wV8Is69tFAByjEimiYiemIgB2692dSYLV+on9dSqmjs30pFeE41m7dmsydnFytm8XKTORQH38I6qqX6nIW431lEIRL1NiXalwTF92FY7PIRznPZliLK/7tLWrirR7plTdVTjOqV4fEY73VjheXccxU8v25Jlbbb8iHPNMzSrbWXX6aIXjlWesn2cl37sA7c9htTHyePWcrp77PDcqHAlH+AJLRMQXRAD895qIiAgAvMIX46kYqi/1V7Igsq++8K/fd0IiX/qfialIhimAaluJrblu4lWZuVuHLzJlTgd6jKq6Y1QQdnEbOVN9X02FOYXNTrzN88/x7dKyV3WtpkndCcenrOEYEbdbw3FK20eFY6aXTZ/7vUg7uzjqMjljcEU47sYiwnNOqfqIcLx3DcfVvU97rojrp6zhmG39GY786/f91hqOO+EYETjvd+TpVcE/1yud096e/e3ZfTZXAp1wJBwBAAAAAAAA4HPiVb4Y79VW9Xt9sV9fzPfpQyMquqSobSUTemVS3/cYYipypbbVeTKFZq+6irgo8ZD1KCMOrlQ4pu27NuVc9TrTyGZbta+uWe/1bVNqRohV3+saZ6JoCq6z8e9iJlVdx0Kk7oRjn7q1rlfj0M9zJs965VmqWevnquLseIJw7O2cz3fufY1H7n2ej6NVPvaqy0jhKf/69K11vUyHe4wqv6cIx1ktuZq6czWt66oquc71ksKxVzhWn/KM9yle+z8o2H0e8jma93c+P7l/xxCaq+dp9xzObbMNt4Rjf56yvmt/nkg6whEAAAAAAAAAPhde5YvxEh4REjMRkKsv8pPIil6ttRJTqzUQI8e6jOrvR04eN6onuzTtbZprAHY5meNX7TrG1J5n69Tt1nDs0zeeTWsbAdfFYmTWcbHqsJ+rr9VXYuiKPFtN9Xm8ryab1z+eKBznWK6qz44x3Wher9YM3PWxj0Xvz6ri7hHhuFpfc7dW5GtmJeCqravnu2+v43oF8/w8rdbj7Nsi+uc9TLVinvNbz06u3f/u5LlcCdydcJzSPH9LdvsL4QgAAAAAAAAAnyqv+sV4pj+sL+lTFXa2hmHt12VUXz8yUiJVhKuKrp2oi5zo789zrc6dNu3Ww+vHro6vdtV1q22rdvepVdP3M5GY8didazduu22zT2f3p4/dbn3GM1mYCtPd+1f7tDvHrn/9HvRjs2+29ftax+T16n6c9Wd33Nn5VrJrjkfk+2oa3pdO1nrcPRfz+c7+9bM/W6lurP3nOJzd31Q3zs/Hled2t1+2rZ67tH93r1IV28XUc1WTCuEIAAAAAAAAAG8BlThyOZnetledlWwpuXKrqkwel3vHqHKc6x3Kh0nWh53/UOH4QCJYCEcAAAAAAAAA+FAQjnLX1LiZerKmsezTSd6aTlUeT5/iNoK3xv1qRam8nAzOmo11b/o6lrcqV4VwBAAAAAAAAIBPCcJRHpaOx2LtPXmZ1JjXWP/FX/zFu3Hv65LKh5eOR1u38mwqZyEcAQAAAAAAAOBThHAUEREhHAEAAAAAAADgYQhHERERwhEAAAAAAAAAHoZwFBERIRwBAAAAAAAA4GEIRxEREcIRAAAAAAAAAB6GcPzE8/PPP//+yy+/GAsREcIRAAAAAAAAAF6EFxeO33333e9ff/31MvXer7/++ll9aZ3x+P7775fvlxys93/88cdn+5K8zveh+vvTTz+9u/4333xDWogI4QgAAAAAAAAAnyAvLhxLNh3//xe1yzwqxH744Yc3V6HZx2NVeVgVifXeTkiepY6Z41HbnktePpKvvvrqj/6WfPyUhcRvv/32rp91DwkaEcIRAAAAAAAAAD4XXk04riRMCagvv/xyK99u5dtvv33TwrFk3HMKx5z7Y5rO9XgvlOvnp17lmP4SjiKEIwAAAAAAAAB8TnxQ4dirFEse9u011WpJtxKSX3zxxbvz9HPU69p+vBdaNVVptuf32Y6+Pa+r+q9P+dn3q/dy7fq9Kth6+6rNmR622lrp+5yNR12vflb/rwjHep1ja0yqjV3S3jMedVy1vfYv6Tn7Nqd1rWvXvtXme6olI4TrfKl07FPopk+rZ6O/l3tUgrraUOfKMdXutC/jn/0zPunP6rnomdepce5ty/vHe1ncz1fvRZ7Xe6nazRS6U6jP7f11rt23937Ue9XXz206YhHCEQAAAAAAAAA+Tj4a4TjlTW0riVTbI66ONi1nZOTxXs5FhB2bKVrn9uO9uMt5IzyzPWJnde1K5F69X9ePULsltTIeJcbqHJUujlbCMVOl1jX6tSKl+j63xiOiM23PGFQ7Ir/ShnovY9GPu1KNmulF08bc096vbJuyuY9vhGK/X2lrtbNL1tyz+cz1SssrU9LO69T9yXVqHCI4j1a1WdfIdfNMnD3/c3uXyX3csr2eq7pmv2fWxRQhHAEAAAAAAADgY+CDCsfatppStYRaF2Cp7jrGNKSrKUSPO4TjsZBdR5N2ferXvm8E1hQ+9X5tO6ty7G2ObO3nWQnHjEc/b0RoH9fV/ez97iJxVhr2a2a/Sq9oXMnhW+tr5pxTQHaxWJlT7fbxTvumnK12zLHKdfvY1LXr91uidHedVRVunXNWbeb4WYl73Ckc+7WzvX72+592EkEihCMAAAAAAAAAfGheTThmmsleiXYspF/E1KrqLYLnOYXjlFDZPqdP7cfn9bGYEvXedRbzOtWTV9dwnELvinCMEJvCMGM+xeQUWpG+tyoFK7m/XZ5FkvZK0Svb0u75TPRq0dU9vHctxd34pLpzt3/uwXMIx3ntbJ/P2a3KYREhHAEAAAAAAADgtbhbOGYduZ6zyrGdcMy15zp0mWbzLFPSPEU4rvbrVZS741Ndd7wXcyWlujS7Khwj8UrQpRLvGCIx6/pFuPY8IhxXkjSC8NYUpMcF4Zjjs9ZikuuvKjq7TKzxXE0XO8f32FT5PSrjVsJwiIZlnlM43tqPcBQhHAEAAAAAAADgY+PVhONOmMxKvkiber9+XyWS8qWE41XRVu0o8dhF4Koy80w4zsq6KRx7NWVdp4Rs7ZMqwEeEY58mdQrHLj0fFY593ctdumiua0ccZjrVXul3JgJfUzjunsfsTziKEI4AAAAAAAAA8DnywdZwLOFUsugY05qeya4r8u5YVChGYk3heI9Qu9WmVCoei6rNW20uyRfhN6dKzetUQM5pPu8Rjhnb3ZSqxzNUOEaQ1r3t1Y3Jat3FbKv7lH6t1picz1BE73NPqboTjmf39V7hmGefcBQhHAEAAAAAAADgrfPBhGMXNF0Q9oq+Lnjq+FQ9nq3h16cGnRV3zyUcqw2rys6050rF524a0oioKRxrjNLPWfWY7cdi/cnZnzp/P6ZPYzvF5CPCcbcO4ry/fcrUbItsnMJ4JwJzX/sUsX1K3ucSjqt1FKvNdf1KntNVBWlkat+W8T0IRxHCEQAAAAAAAAA+AT6ocOxVal3m9PURS+hERM39+pqAEXQ5toRWbaufacNzCce+7mJdr2RSrnurMnMnHHvV4nEypWr26ftG0EXA1c8IrtmmHFfisdrc19PMPXqKcIzwPZOuaUNfk7FPSzunfN2JwDo+gjbT+/YxutKfK9fpgrDOUeOW63Y5mv3y7NW9y7NS++dZrvczToSjCOEIAAAAAAAAAG+dDy4cu5DpFY1ZH7GLnbneY1Xp5f30o7bluEqk1rEQjrOS7h4RWeftsi5C6Uy03RKOvT+9ryVZI+Qis3qlZfrRp6lNW1f96WtA1vnq/L3i8VHhmONW49qTKsSSb72Px6JC80wEZswiliOj07fnEo65Tp0/orB+1nVmW/v6lTlPv3/1bKbNB+EoQjgCAAAAAAAAwCfAiwvHp6bkzJQ69xz7Gm28tbbfc47Fx3y+D5Ea+9mPknt9ytaP5T58CuMtQjgCAAAAAAAAACYfvXAUuVUp2dekTKXknJZVRIRwBAAAAAAAAICXgXCUT0I69tS0sqoJRYRwBAAAAAAAAIDXgXCUN59aT7PWRKz1Eevna01xKyKEIwAAAAAAAACAcBQRESEcAQAAAAAAAOAJEI4iIiKEIwAAAAAAAAA8DOEoIiJCOAIAAAAAAADAwxCOIiIihCMAAAAAAAAAPMyLC8dffvnl959//vmP1GtfXr+99PtoPESEcAQAAAAAAAAAhBcXjl9//XX/ovZP8sUXX/z+3Xff/f7rr78+dO467q0JsIzH7v3qT73//ffffxTtrXZ8+eWXf+veVT8evW+fmogl0UUIRwAAAAAAAAD4nHk14fjtt9++k1dJicaIrBKPv/3220My7HhjU8K+JeH4448//nF/qj3VttpW9zLbP/eKx7qfFUJGhHAEAAAAAAAAgM+VVxOOOzH1zTffvHu/RNbq/Z9++uldZjVdne+rr77649ypMttN2zq399d17t3x1a5dJV9J0tr/Hln6qHC8p5qz2rwas9m/W9V5Z/cu0rF+7sblrL21z25sc3zeqzbO/XL8bvwzBezZvXnKdXJsjUE9hznPPOfuWrtrr/ar6z8i5EWEcAQAAAAAAACA1+CDC8cSY/V+iccu11ZTeZbcing5FlN8Zvuq4mxuz+u0bx5f7e3TwZZU6hKp2lcVfr0N1d5b02s+IhyrGnT2d16r2lb7zTZNIZj+ZWzPqvOyz04GrwReBHJSr7ssq/5Vm3o7qw39GhmD3p+MR/V5Hl/54Ycf7nrunnqdHNuTKtBjIYzn9t21+341Jv0z0D8jIkI4AgAAAAAAAMDHwgcXjqmU68Io21I5VlIy1YwlaM4qHI87hGOJnkpdL8Ir20v0VJvq2pFoaWPJveO99EvlW8RpbTurRrtXOM5r1etMdVr9n5Wi1Zc5Zn1sjyYse7/PplQ93kvHW1V2uV71sa4fkVY/IySzLft0cVuv+xjkPtQ9z/MTAZd+Vrvm8ZG0dY0zAfyU6+wqHO8VjvPafXtEbCVja71IEcIRAAAAAAAAAD42Xk04lvSKUIkQi1is9OrBEjArcXc0ebWTd8cdwvFYVO9lexekkUA5Pq9nxVn69pzCcVUBurrWqt/13vFeLs7+dTl35f4drdKz5NgUX2l3r6ise1rtjvirZ2DXl2PI5FxvVnGeHX9vBeBzXGeO+73CcT77fftqvdKPYW1PEcIRAAAAAAAAANC5Wzj29fnuEWy7ZPrSvvbe8V7qzOukyiuC5jmE4y2puTs+FXDVzrN1Hp9jStVb14qUTDVeT4691b+z1D2p9mT8jzGNbRdic2rTq9LsaBWbvXKw7xNhmalHe44hVu8Rjk+5zvFE4TivfSazD8JRhHAEAAAAAAAAgI+Qu4Xjau26s3XyIthKhpUsSTKd6ZRnkT1nyfWeQzje2u9MLE2ZWpLo6hqOO0nbZVe/1pR9/VoReWc5q4S8N9WeTC+aCtFM6XrlWVjtk/OtKkrntLFneeRZfsp1jicKx3ntq8eLCOEIAAAAAAAAAB8Ld0uaEoRdHFbOqvt2kimSbAqXrBuYysdVIs+uCsdMkblaw/FR4djPXZIwQnBWrM1EZu3WTsz7K7E0r5X2ZCxXFY5Xpl59JH3Nyi5Kzyocz/bpz+JOxmUK3r7e4cxzCMd7rnNcFI55rqdwvFrJSDiKEI4AAAAAAAAA8LHyams4rmRQxFkXUGfTY06xuROOUyR2ifmoWDwWYmlONZv+nFU57tZk7GsuHos1JOd+mSq1rrXq327MjovCsc5Z47hbF3Hep0yFm3UYu2QsgVfv7/bJ9pxrJwK7WL3Vz6cIx3uuc2yE4xy3SMwpHK+KRcJRhHAEAAAAAAAAgI+VDyocI5rm1KqRaSVXSq7Ve6n863Jnde65rU9H+lzCsYTZMURpJGD15WxNy96/Ol8JyFSNZnuvkoyo6hWRdf5MSVu/53XaVK9rbDMWXX4dF4Vjl5qzirWvDdnHIP3Ptjqmt7Pvk/5UO2dV504EplK1H9/vb5dx9f6t6tvnuE726/f8eC9Pc+3I24NwFCEcAQAAAAAAAOAT5IMKxy7vdusjRljl9149mGrB3o++BmTtX+In+z2XcOzVjHWNvpbjFSFUAirCbqa29z528Xd2repjb1MfgynDrk6pOtfrnG2u8/RzVxt6W7Nfl6W9732fEqs5104EzuN7e6rvvS23nrvnuk6e336evgZk7tlcm5NwFCEcAQAAAAAAAOBT4cWF461Ks5I3u7Ug63UJnZJRdZ7VOUrk5Ph5XCVyqN7v4qter9YSnPvtttc16nVdo4RS1vu7Z2xKLOb43XVX16p9d9eqc9Z47cbs7Dq7+1P71/ly7cqtaWNLutX47u5732dWhKbi86yd1f9qU41JnWue40qF43Ncpz+//Tw5rld79vuW13XOVZvm/d1tFxHCEQAAAAAAAAA+NC8uHEVERAhHAAAAAAAAAPh0IRxFREQIRwAAAAAAAAB4GMJRRESEcAQAAAAAAACAhyEcRURECEcAAAAAAAAAeBjCUUREhHAEAAAAAAAAgIchHEVERAhHAAAAAAAAAHgYwlFERIRwBAAAAAAAAICHIRxFREQIRwAAAAAAAAB4GMJRRESEcAQAAAAAAACAhyEcRURECEcAAAAAAAAAeBjCUUREhHAEAAAAAAAAgIchHEVERAhHAAAAAAAAAHgYwlFERIRwBAAAAAAAAICHIRxFREQIRwAAAAAAAAB4GMJRRESEcAQAAAAAAACAhyEcRURECEcAAAAAAAAAeBjCUUREhHAEAAAAAAAAgIchHEVERAhHAAAAAAAAAHgYwlFERIRwBAAAAAAAAICHIRxFREQIRwAAAAAAAAB4GMJRRESEcAQAAAAAAACAhyEcRURECEcAAAAAAAAAeBjCUUREhHAEAAAAAAAAgIchHEVERAhHAAAAAAAAAHiY30VERORyAAAAAAAAAAADXx6LiIgQjgAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAAADw0vy/o36Wms8ftWYAAAAASUVORK5CYII=)

A screenshot of a cell phone

Description automatically generatedThis Sequence Diagram analyses the prosses in which the software takes to communicate from user, to interface, to database. The main stages of this Diagram are to prompt user for login, from here a condition need to be met to validate user login, if login verified, ask user questions, if not, send an error message and take user back to login screen. After asking user question, the user submits a response which prompts a loop to be made that stores each answer to the given questions and store the answers given by user each time which prompts the next question to be asked the loop stops when all 29 questions are asked and then the interface submits results to the database which then calculates the user results and then submits them back to the interface which displays results to user along with Nations average.

A screenshot of a cell phone

Description automatically generated

This User Case Diagram analyses the prosses in which the external user interacts with the software from start to finish. The main stages of this Diagram are that User logs in with there username and password, then the system asks user questions, user answers the question up to question 29, user submits test for calculation, and final the system calculates user results and then displays results to user along with Nations average.

# Project Retrospective:

Inregards to the Building of the program, the easiest part of the project was adding the series of questions to the software and the designing of the interface visual appeal. All questions had the same template, therefore we just had to copy paste each question one at a time and replace the variables that needed replacing. The most difficult part of the project was getting JavaFX to switch scenes at the beginning of the coding process. There are many ways to do it and trying to find one that actually worked with this project was near impossible at first. If our group could do anything different, it would be the following: Have a 3rd table that holds user answers, so we don’t have to calculate from the entire database every time the user reached the final page. Another thing our group would do different is make the calculation class a lot more efficient at extracting, converting and calculating data. As of now it works via many, many if / if else statements and its very easy to get lost. Major thing we learned was how to work with a database, how to create a graphical user interface program, and to not put images on your interface in Sceen Builder without putting them into the directory of the project.