Kardelen Demiral 2018400027
Alperen Bırçak 2018400006

CMPE230 Project3 Report

We divided the problem into two parts:

1- Data Retrieval:

For this part, we created a class called "coinHandler". It takes a coin list to return their data to the table. In the constructor, a QNetworkAccessManager object is created to make a web request. At first, it requests the list of possible coins with their names, ids and symbols. When the data retrieval is finished, the coin list is sent to the "replyCoins" function. This function handles the reply for the coin list request. The reply is interpreted as a Json Document and then casted into a Json Array. Then iterating over the Json array, the corresponding ids for the given coins are determined. With these id's, a url to retrieve the coins' values is created. Using this url, a new web request is made. After the "finished" signal of this reply is emitted, "replyConversions" is executed. Here, again the reply is interpreted as a Json Document then being casted into a Json Object. Iterating over the object, the name and value pairs of the requested coins are determined. Then this data is copied as a map to be sent to the other class. When this function returns, it emits a signal with the data to the "mainWindow" class to let it know that the job here is finished.

2- Construction of The Table:

For this part, we created a class called "mainWindow". It is a subclass of QWidget and in the main.cpp, a mainWindow is created and displayed. In the constructor, from the environment variable "MYCRYPTOCONVERT" the input file name is read and a QFile is opened. Reading this file, a vector is filled with the names or symbols of the coins to be displayed in the table. Then a "coinHandler" is created and the data is retrieved. When the coinHandler finished its job fully, it sends a signal so that a function in mainWindow called "dataReady" is called. "dataReady" sends the data to the function "TableWidgetDisplay". This is the main function that constructs the table. It creates a QTable and sets mainWindow's center widget as this table. Then sets the size of the table according to the number of the coins. Then sets the horizontal labels as "USD", "EUR" and "GBP". Then using the data in the map, the table is constructed.