Queens College
Computer Science Department

CS 212 – Spring 2023 – Project 3

Assigned: 3 April 2022
Due: 21 April 2023
Cutoff: 26 April 2023

Use a GUI to open the file for displaying the Roman numerals

Modify your RomanNumeralGUI so that it will be a complete *JFrame* with a menu bar and menus.
There should be two menus: one called *File* and another called *Convert*. The File menu should have
the menu items *Open* and *Quit*. The *Convert* menu should have one menu item that says "Roman to
Arabic". When chosen, a dialog box should be displayed asking the user to type in a Roman numeral.
After receiving the Roman numeral, another dialog box should display the Arabic value. If the Roman
numeral is not valid (see below) a dialog box should say so.

You will need a handler for the File menu, and another handler for the Convert menu. As mentioned in
lecture, be sure when opening a file with the file menu handler that your ask for the absolute path to the
file rather than just its file name (*getAbsolutePath()* rather than *getName()*).

Create an exception for illegal Roman numerals

Create a class called *IllegalRomanNumeralException* that extends *IllegalArgumentException* as shown
in lecture. This exception should be thrown by the constructor of a RomanNumeral if there is an invalid
character (e.g., not M,D,X, etc.) in the Roman numeral. Illegal Roman numerals should be printed to
the console, not placed in the GUI. This exception may be thrown when constructing a Roman numeral
read from the file, or when trying to convert from Roman to Arabic.

Submitting the Project.

Submit all files that are necessary to run the application in a **jar** file called **Project3.jar**. Make sure the
jar file contains **source code** (Java files), not class files. Do not upload individual Java files.

Upload your project to Blackboard by the due date for full credit. Do not send projects by email.