# Queens College Computer Science Department

# **CS 212 – Spring 2023 – Project 4**

Assigned: 28 April 2023

Due and Cutoff: 12 May 2023 (no exceptions)

## Use a HashMap for getting individual Roman numeral Arabic values

If you haven't already done so, use a HashMap to get the Arabic value of a given Roman numeral character. See the example code given on Project 1.

### Use a TreeMap to sort the Roman numerals

Modify the GUI to again show two columns, one with the Roman numerals and the other with the Arabic values. They should appear in sorted order, using the TreeMap to do the sorting. Remember that you will need to write a Comparrator object as shown in lecture to inform the TreeMap on how Roman numerals are compared.

### Submitting the Project.

Submit all files that are necessary to run the application in a **jar** file called **Project4.jar**. Make sure the jar file contains source code (Java files), not class files. There will be no opportunities to resubmit the project. Do not upload individual Java files.

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