CS 021 Lab – Week 8

1. (review_report.py)
   Consider online reviews using the 5 star rating system. We have a file containing the reviews of some item in reviews_good.txt. Write a script that will open that file, read in the reviews, and report the average review to the user.
2. Now edit the script file to ask the user for the file name, instead of always using reviews_good.txt. Add in exception handling around the opening of the file. If the file cannot be opened it should print a message saying so, then exit the program.
3. Edit the script file to ask the user for the name of an output file. Have the script print the average review to the output file instead of to the screen.
4. This script works because our input file is good. But what if there was some junk data in our file? Edit the script to use exception handling so that when it finds a line of the file that contains non-integer data (such as "one") it will ignore that entry, and print a message to the user notifying them that bad data was removed. The program should not exit just because of bad data. Use the input file reviews_errors.txt to test your script.
5. Edit your script to count how many reviews there are in each category (5-Star, 4-Star, etc). We will use these counts to create a histogram in our output file. Add the following function to your program:

Function Name	Input	Processing	Output
`histogram`	The category label, the count for that category, the name of a file you want to append to.	Prints the line of the histogram for that category to the output file. If "5-Star reviews" is passed in as the category with a count of 3: `5-Star reviews: ***` Will append the line to the output file. The function should open and close the file	Does not return a value, just prints to the file

Use this function to create a histogram for each category of reviews in your output file.

Sample Run:

What file should I use? reviews_errors.txt

Invalid data removed

Invalid data removed

Invalid data removed

Invalid data removed

Invalid data removed

What file name should be used for output? report.txt

>>>

Example output in file:

```
Average review is: 3.42

5-Star Reviews: ***************

4-Star Reviews: ************

3-Star Reviews: ***********

2-Star Reviews: **********

1-Star Reviews: *****
```

Reminders (not following will result in point deductions):

If a function's task doesn't include output to the user, do not do it!

All programs should have a `main()` function

Use constants! No magic numbers! No global variables!

It is expected that you will complete the same process of development that we use in class. When you reach the point of having an algorithm (pseudocode), this will become the comments of your program as a starting point for writing code. Comment first, then code!

Be sure to include comments at the top of the program that include your name, class and a short description of the program.

Each function should begin with a comment describing the task the function will perform.

Be sure all output is formatted. Unless otherwise, specified, displays non-integer values with 2 digits after the decimal point.

Any work you submit for this assignment should be authored entirely by yourself. Assistance is permitted from the instructor or teaching assistants only. All submitted programming assignments are subject to originality verification through software designed and used for the Measure Of Software Similarity (MOSS).