Intro to Computing—CSCI-1310

Mon, Feb 16, 2015 · Lab

Lab 6—Files & functions

Objectives

Write a program:

Read from a file and write to a file.
Define functions to perform several operations.

Download the `Statistics.csv` file which contains the information listed below separated by commas (,).

```
Quarterback, Completions, Attempts, Yards, Touchdowns, Interceptions
```

Define the following functions:

readFile

The `readFile()` function reads the comma-separated values file named `Statistics.csv`. It is a file which has data separated by commas (,). Read each line, split values in each line based on the comma (,) and store them in a list. It will also call the `rating()` function and pass the values of completions, attempts, yards, touchdowns and interceptions to it.

rating

The `rating()` function is used to calculate the passer rating based on each of the five arguments that are passed to it from `readFile()`. The function should perform the following calculations:

```
C = (completions per attempt – 0.30) * 5

Y = (yards per attempt – 3) * 0.25
```

```
T = touchdowns per attempt * 20

I = 2.375 – (Intercepts per attempt * 25)

PasserRating = (C+Y+T+I)/6*100
```

Return the passer rating value that you calculated back to the calling function.

clean

The `clean()` function is used to get rid of the new lines in the .csv file and returns a new list with the cleaned up values.

Hint: It can be called from `readFile()`, and the list after splitting based on the commas can be passed to it as a parameter.

writeFile

The `writeFile()` function should write the total passer rating value into a text file named `QBOutput.txt`. The contents of the text file should be as follows:

```
Total PasserRating value is: 616.84
```

Your program should also print out the names and the passer rating of each quarterback.

Output

```
T. Romo: 113.24
D. McNabb: 95.53
T. Brady: 97.37
P. Manning: 101.52
A. Rodgers: 112.19
D. Brees: 97.00
```

Name your program Lab6.py

Zip and submit

To get credit for this lab exercise:

Submit your code and QBOutput.txt file to Moodle as a zip file named Firstname_Lastname_Lab6.zip

Show the TA your code and run your program.

Lists Dictionaries