Program 3

Included is a txt file that contains a list of movies. These movies include a title, run time in minutes, and rating. Your goal is to create a program with a menu that allows users to pick one of the following functions and implement those in functions. The functions are as follows:

1. Print the Movies alphabetically by name.
2. Print movies with a rating matching one taken in by the user
3. Print the movies by run time.
4. Find all movies with a run time less than an entered int run time
5. Find all movies with a run time greater than an entered int run time

Outline:

1. Def getInput(). getInput() should try to open the file movies.txt. If it cannot it should throw an IOError and print “File not found or something similar. If the file is successfully opened that file variable should be returned. Hint: you can use readlines() to read from the file only once.
2. Def menu(). menu() should call getInput() into a list variable and print out the options outlined above for the user. If the user enters a valid option, the menu should call the function with the argument of the variable the file was stored in. If the option is -1 the program should exit. If the option is invalid the program should inform the user. If the program does not exit (i.e. -1 is not entered), the menu should loop.
3. Option 1: First define a method called alpha or alphabetical or something similar. This method should be passed our list containing our file content as an argument. It should then sort the list based on the movie title and print it to our user. Hint: remember lists have built-in functions for common actions.
4. Option 2: define a function called rating() or something similar. The rating() should take in the list containing our file contents as an argument. It should then prompt the user to enter a rating as a string. Then iterate through the list checking if the ratings match. For example, the user entered “R” and the movie has a rating of “R” then all that movies information should be printed.
5. Option 3: define a function called runTime() or something similar. This also will take the list and sort it by runtime from least to greatest and print it out. Hint: in addition to using split to store items into variables like we saw in the employees.txt example in the powerpoint we can also store items as a list within our list. For example if L[i]=”title,rating,runtime” we could use L[i]=L[i].split(“,”) and then we can refer to the items as a double index. Example:

L[i][0] has the value ”title”

L[i][1] has ”rating”

L[i][2] has ”runtime”.

1. Option 4: You should have a method called lessThan() or something similar that takes in our list of file contents as an argument. It should prompt the user for a runtime and converts it to an integer. It should then iterate through the list comparing the runtimes(also converted to ints) to the entered value if the runtimes are lower print all the movie information for that enter.
2. Option 5: Should be called greaterThan() or something like that and work similar to the function outlined above. The only difference being that it will print movies based on if they have a longer runtime.

Rubric:

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| 10 pts. | Menu() is implemented as specified. |
| 10 pts. | A getInput() style function is defined and used as specified. |
| 10 pts. | A function to print movies in alphabetical order is defined as specified and is called if the user selects 1 in the menu. |
| 10 pts. | A function to print movies with a rating matching one the user enters is defined as specified and is called if the user selects 2 in the menu. |
| 10 pts. | A function to print movies in order of runtime from least to greatest is defined as specified and is called if the user selects 3 in the menu. |
| 10 pts. | A function to print movies with a runtime less than one entered by the user is defined as specified and is called if the user selects 4 in the menu. |
| 10 pts. | A function to print movies with a runtime greater than one entered by the user is defined as specified and is called if the user selects 5 in the menu. |
| 10 pts. | Comments |
| 20 pts | Overall Style and Correctness |