Grade Calculator

LAB # 10

By

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***“On my honor, as a Mississippi State University student, I have neither***

***given nor received unauthorized assistance on this academic work.”***

Signatures:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

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CSE-1284-06-201430 Intro to Computer Programming

Class Section # 6

Josh Crowson

11/19/3014

**Analysis and Conclusions**

This was a very difficult code, first we had to create the class system and import it into our other file with the classes. We had to use file opening to open and read the file we received with the code, then we used a list and if statements to break up the file into individual lists with names and hp’s. then it was easy to relate everything by its index number. We used functions to create a menu that was interloping. We had a difficult time opening and writing the new information for the characters we would create, it would keep overwriting the file with only the new class and deleting all the old information. One crucial part of this was we had to begin with the new line (’\n’), or the new class would be added to the back of the last one. We incorporated a lot of validation loops to make things easier incase you mess up and that way the program will not crash. After we had everything running, we took out the import for classes and pasted it into the program. Loops and if statements were extreamly useful in this program. As well as the len, index, and int fucntions. Int was very needed in this because everything gets brought in as strings instead on intergers. This was a major function when determining who had the higher health and so we wouldn’t have a negative outcome.

Source Code:

# Corey Henry & Geoffrey Sanchez # Date Assigned: 12Nov14

# #

# Course CSE 1284 Sec 02 # Date Due: 19Nov2014

# File name: lab10.py

#

# Program description - open a list to run to iso file and create and add more characters

#create class

class Characters:

#intialize the object

def \_\_init\_\_(self, name, hp, damage):

self.\_\_name = name

self.\_\_hp = hp

self.\_\_damage = damage

#function to get the name from the list

def get\_name(self):

return self.\_\_name

#function to get the hp for list

def get\_hp(self):

return self.\_\_hp

#function to get the damage from the list

def get\_damage(self):

return self.\_\_damage

#function to add a name in the list

def set\_name(self, name):

self.\_\_name = name

#function to add hp in the list

def set\_hp(self, hp):

self.\_\_hp = hp

#function to add damage into the list

def set\_damage(self, damage):

self.\_\_damage = damage

#create main function and call functions to run

def main():

characters\_list = []

read\_file(characters\_list)

menu(characters\_list)

# open the file and strip the lines and split it up into name, hp, and damage

def read\_file(characters\_list):

inFile = open("fileio.txt")

for each\_line in inFile:

each\_line = each\_line.strip()

if each\_line == "character\_info setup: name, hp, damage":

continue

name, hp, damage = each\_line.split(', ')

character = Characters(name, hp, damage)

characters\_list.append(character)

#close the file

inFile.close()

#create the menu

def menu(characters\_list):

print("1. Compare 2 characters")

print("2. Create a new character")

print("3. Quit")

#validation loop

flag = False

while flag == False:

choice = int(input("What would you like to do: "))

if choice == 1 or choice == 2 or choice == 3:

flag = True

else:

print("ERROR: enter a valid choice")

#if statements that lead to the different functions

if choice == 1:

print("")

compare\_characters(characters\_list)

elif choice == 2:

print("")

create\_characters(characters\_list)

elif choice == 3:

quit

#function to compare the characters

def compare\_characters(characters\_list):

print("Pick 2 characters to compare.")

for each in range(len(characters\_list)):

print(str(each + 1) + ". " + characters\_list[each].get\_name())

#validation loop

flag = False

while flag == False:

character\_1 = int(input("Character 1: "))

if character\_1 > 0 and character\_1 < len(characters\_list) + 1:

flag = True

else:

print("ERROR: enter a valid choice")

#validation loop

flag = False

while flag == False:

character\_2 = int(input("Character 2: "))

if character\_2 > 0 and character\_2 < len(characters\_list) + 1:

flag = True

else:

print("ERROR: enter a valid choice")

#if and else statments to determine which character goes first and do the math involved and print answer

if int(characters\_list[character\_1 - 1].get\_hp()) < int(characters\_list[character\_2 - 1].get\_hp()):

diff = int(characters\_list[character\_2 - 1].get\_hp()) - int(characters\_list[character\_1 - 1].get\_hp())

print(characters\_list[character\_2 - 1].get\_name() + " has " + str(diff) + " more health than " + characters\_list[character\_1 - 1].get\_name())

else:

diff = int(characters\_list[character\_1 - 1].get\_hp()) - int(characters\_list[character\_2 - 1].get\_hp())

print(characters\_list[character\_1 - 1].get\_name() + " has " + str(diff) + " more health than " + characters\_list[character\_2 - 1].get\_name())

if int(characters\_list[character\_1 - 1].get\_damage()) < int(characters\_list[character\_2 - 1].get\_damage()):

diff = int(characters\_list[character\_2 - 1].get\_damage()) - int(characters\_list[character\_1 - 1].get\_damage())

print(characters\_list[character\_2 - 1].get\_name() + " has " + str(diff) + " more damage than " + characters\_list[character\_1 - 1].get\_name())

else:

diff = int(characters\_list[character\_1 - 1].get\_damage()) - int(characters\_list[character\_2 - 1].get\_damage())

print(characters\_list[character\_1 - 1].get\_name() + " has " + str(diff) + " more damage than " + characters\_list[character\_2 - 1].get\_name())

#call menu to create a continuous loop

print("")

menu(characters\_list)

# function to create a new character and add him to the file

def create\_characters(characters\_list):

name = input("Name: ")

hp = input("HP: ")

damage = input("Damage: ")

character = Characters(name, hp, damage)

characters\_list.append(character)

#open file to add new inofrmation

inFile = open("fileio.txt", 'a+')

#write information in to the file and close it

inFile.write("\n" + name + ", " + hp + ", " + damage)

inFile.close()

#call menu to continue contious loop

print("")

menu(characters\_list)

main()

