ITEC 109: Programming and Problem Solving

Homework 2 – Monster testing

>>>>>>> Due Date: Friday, October 17th 10:00PM via D2L <<<<<<<

In doing this homework, remember to abide by the RU Honor Code.

Problem 1
16 points

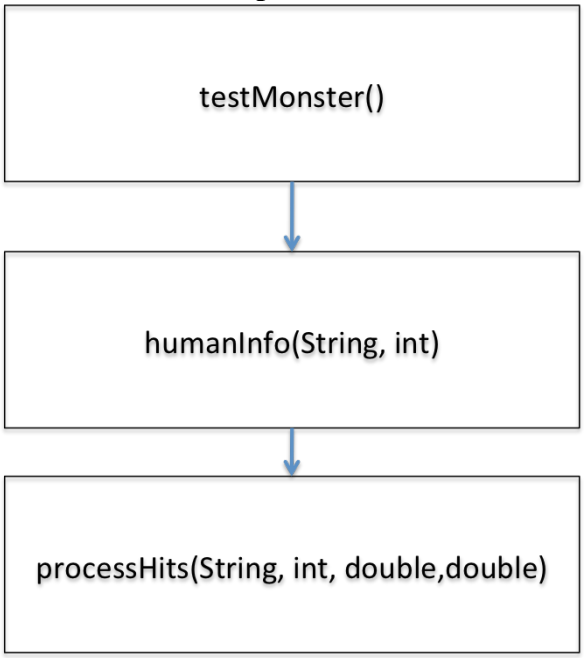
You have been hired by the World of Wyvern testing department to implement a new monster testing program. Your bosses want a program that can measure the HP of any player after one and two hits by any monster. In order to accomplish this, you have been given a set of functions to create by a senior developer. The main program calls a header function to indicate the program is starting, starts the processing for the monster hit test, and then calls a footer function that indicates the test is over. You must create the functions called by this program.

The architecture description lists the different functions used in the program, their parameters, and the flow of execution.

Driver program:

```
header();
testMonster();
footer();
```

Architecture description:



-Reads in a line of text in the format: monsterName|damage
-Processes it and sends it to humanInfo

-Reads in a line of text in the format: hp|damagePrevention
-Processes it and sends it and the information from testMonster to processHits

-Calculates the hit points of the player after one and two hits from the monster entered in testMonster
-Prints out hit points

Reiteration of steps required in the architecture:
You will need to write five functions: header, footer, testMonster, humanInfo, and processHits. The main program will call the header function, then the testMonster function. The testMonster function will call the humanInfo function, which will call the processHits function. Lastly, when the main program resumes executing code, it calls the footer method, then exits.

Input format:
The input for the program is in the format of value|value and will be entered twice. The first line represents the information for the monster. It will be in the format of monsterName|damage where the first part of the line is a string and the second part is an integer. The second line of input represents information about the player. It is in the format of hitpoints|percentageDamageReductionFromArmor. The first part is a double and the second is a double.

Calculation:
In order to calculate the hit points for a player after a hit, you take the number of hit points the player has and subtract off the value of the damage from the hit minus the amount reduced from the original damage by the armor the player wears.

Output Format:
Your program must match the following format exactly. Obviously, you will need to replace the portions represented in < > with the appropriate information.

Monster testing program
Enter Monster Stats:
<input from the user >
Enter Player Stats:
<input from the user>
Testing Monster named <from command prompt> that deals <from command prompt> damage per hit
After 1 hit the player has <calculated> hit points left
After 2 hits the player has <calculated> hit points left
End monster testing program

Sample run:
One possible input to the program is listed below. Make sure you test your program with more than just this one input case.

Monster testing program
Enter Monster Stats:
Orc|30
Enter Player Stats:
50|.5
Testing Monster named Orc that deals 30 damage per hit:
After 1 hit the player has 35.0 hit points left
After 2 hits the player has 20.0 hit points left
End monster testing program

Hints:
Write all of the functions with blank bodies (this will allow your program to run).
Write the header and footer functions first.
See me or a tutor if you need help.

After you are finished writing and testing your program, log into D2L and submit the python file under the homework 2 drop box.

Grading rubric
2 points – Compiles (no syntax errors)
2 points – Prints out header and footer properly
10 points – Produces correct output that conforms to the format described above.
2 points – Follows the design listed in the architecture description