

Week 03

Functions

Lab 02 - Functions

Develop a menu based application that simulates a combat based RPG. For this lab you must use the provided prototypes within your program. Take note of their return types and how their parameters are passed (reference or value). Your solution shall use these functions when updating the variables located in the main (Do not use global variables!) Code to produce random numbers can be found below.

Useful Code: *Random Number Generator*

```
#include <time.h> //header
srand(time(0)); //should be the 1st line in main()

// generate number in the range of Max Value(4) to Min Value(1)
int num = rand() % 4 + 1; //Generates a random number 1-4 and saves the result in a variable (num).
```

Your program must implement the following prototypes.

char menu();

//Outputs the menu and returns the user's selection.

void takeHit(int &playerHP);

*//When an attack is made against the player, damage is calculated randomly(1-5),
//then subtracted from the playersHP. Hint: This parameter is passed by
reference.*

int makeAttack(int enemyHP);

*//When an attack is made against the enemy, damage is calculated randomly(1-3),
//then subtracted from the enemyHP. Hint: This parameter is passed by value.*

Feel free to create additional functions if it helps you with this lab.

Starting the RPG!
You spawned with 20 health!
An enemy lies before you, what will you do?
'a' Attack, 'b' Run
a
The enemy strikes you for 2 damage!
18 HP remaining..
You strike your foe for 2 damage!
8 Enemy HP remaining..
An enemy lies before you, what will you do?
'a' Attack, 'b' Run
a
The enemy strikes you for 5 damage!
13 HP remaining..
You strike your foe for 2 damage!
6 Enemy HP remaining..
An enemy lies before you, what will you do?
'a' Attack, 'b' Run
a
The enemy strikes you for 5 damage!
8 HP remaining..
You strike your foe for 3 damage!
3 Enemy HP remaining..
An enemy lies before you, what will you do?
'a' Attack, 'b' Run
a
The enemy strikes you for 5 damage!
3 HP remaining..
You strike your foe for 1 damage!
2 Enemy HP remaining..
An enemy lies before you, what will you do?
'a' Attack, 'b' Run
a
The enemy strikes you for 4 damage!
You died..
You strike your foe for 2 damage!
Your foe has been slain!
Game Over

Press any key to close this window . . .

Starting the RPG!
You spawned with 20 health!
An enemy lies before you, what will you do?
'a' Attack, 'b' Run
a
The enemy strikes you for 2 damage!
18 HP remaining..
You strike your foe for 2 damage!
8 Enemy HP remaining..
An enemy lies before you, what will you do?
'a' Attack, 'b' Run
a
The enemy strikes you for 3 damage!
15 HP remaining..
You strike your foe for 1 damage!
7 Enemy HP remaining..
An enemy lies before you, what will you do?
'a' Attack, 'b' Run
b
You ran away safely
Game Over

Press any key to close this window . . .