Assignment 7

FUNCTIONS AGAIN

1- Read Chapter 6, pages 384-411 and Lesson 7 on Blackboard (Course Contents)

2- Answer the following questions based on your readings, Google searches and reflection about the topic of functions:

Given the code answer the questions:

```
1. #include <iostream>
2. using namespace std;
3.
4.
5. int testing (int a, float b);
6.
7.     int main()
8.     {
9.     int x;
10.    float y;
11.    cout << "Enter an integer and a decimal number"<< endl;
12.    cin >> x >> y;
13.    cout << testing (x, y);
14.    return 0; 15.
15.    }
16.
17.     int testing (int c, float d)
18.     {
19.     //if d is greater than c, return the integer part of d, else return c20.
21.          if (d > c)
```

```
22.     return (int) d;
23.     else
24.     return c;
25.     }
```

Q 1. Is line 5 a call to function testing, a definition of function testing or the prototype of function testing?

Q2. What are the names of the parameters to function *testing*? remember the parameters are the ones that appear in the definition, not in the prototype

Q3. If we change the names of the parameters, will function testing still work? That is, if we rewrite the code and replace them throughout the function with the names number1 and number2, would the computation and results be the same? Try it

Q4. Is d inside the function the same variable as (another name for) the calling variable y, or not? In other words, if we assigned a value to d inside the function, at the end of the execution of test, would the value of y be changed too?

Q5. Given the functions below, explain the difference in behavior when these two functions are called using the concept of calling by-reference vs calling by-value:

```
#include <iostream>
using namespace std;


void change (int & val)

  {
val = 27;
}


 void change2 (int val)

{

val= 27;

 }


int main()

        {
```

```
    int x = 99;
      change2(x);
      cout << "After calling change2() , the value of x is " << x << endl;
    change();
    cout << "After calling change() , the value of x is " << x << endl;
    return 0;
}
```

Q6. Using the concept of scope explain what instances of variable x are displayed AND WHY.

```
#include <iostream>
using namespace std;
 int x = 12;
int main()
{
    int x = 9;
     {
         int x = 10 ;
          cout << x << endl;
     }
   cout << x << endl;
   return 0;
 }
```

Q7) In order to use in C++ many of the common mathematical functions, we need to include the *cmath*

```
#include <cmath>
```

One of the C++ functions that this *include* implements is the power function, that allows us to raise numbers to exponents.

Use the web to seek examples of how function *pow* is used, and based on them, write a simple program that displayed the result of 5 raised to 3 using *pow.*

Q8) Write a do-while loop to display ten first names and ages entered from the keyboard.

The first names and ages will be entered into variables *name* (of type string) and *age* (of type int).

The loop will continue asking for the first name and age until we have displayed the ten names and ages. Every name and its corresponding age will appear in a different line.