Philip Pesic

Week 3

September 4 2022

Week 3 Prog 4

Assignment:

In one program, write 3 functions, and use them. 1) Write the function body for each: int squareInteger s(int x) double squareDouble(double d) float squareFloat (float f) They basically do the same thing, square a number, but use different argument datatypes. 2) Test Each function: Using int 4, double 4.9, float 9.4 What happened when you use the 1 correct data type as input ? What happens when you use the 2 incorrect data types as inputs ? What is the lesson this teaches you about functions?

Source:

```
//
//  main.cpp
//  Week 3 Prog 4
//
//  Created by Pippo Pesic on 9/4/22.
//

#include <iostream>
#include <cmath>
using namespace std;
int squareInteger( int x){
   return pow(x, 2);
}
double squareDouble( double d){
   return pow(d, 2);
}
float squareFloat ( float f){
   return pow(f, 2);
}

int main() {
   int x = 4;
   double d = 4.9;
   float f = 9.4;

   cout << "squareInteger(4)=" << squareInteger(x) << endl;
   cout << "squareInteger(4.9)=" << squareInteger(d) << endl;
   cout << "squareInteger(9.4)=" << squareInteger(f) << endl;
```

Philip Pesic

Week 3

September 4 2022

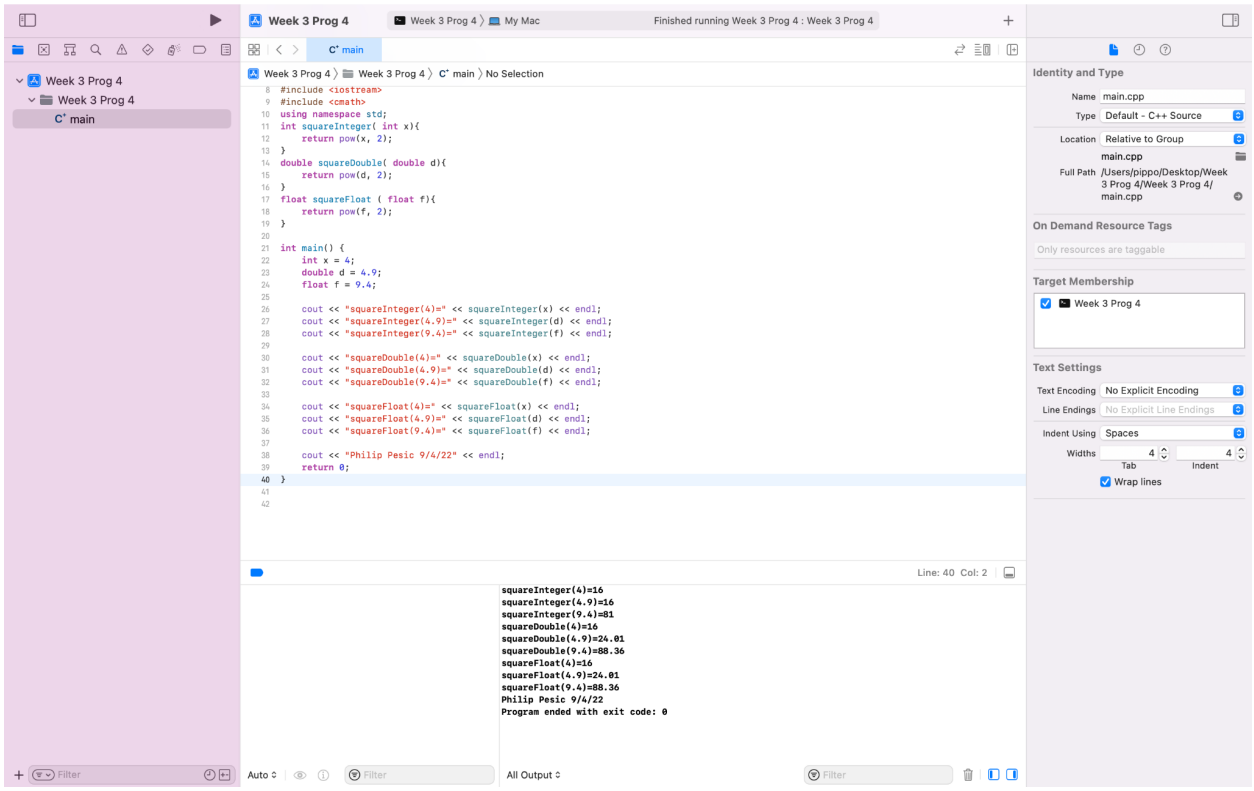
Week 3 Prog 4

```
    cout << "squareDouble(4)=" << squareDouble(x) << endl;
    cout << "squareDouble(4.9)=" << squareDouble(d) << endl;
    cout << "squareDouble(9.4)=" << squareDouble(f) << endl;

    cout << "squareFloat(4)=" << squareFloat(x) << endl;
    cout << "squareFloat(4.9)=" << squareFloat(d) << endl;
    cout << "squareFloat(9.4)=" << squareFloat(f) << endl;

    cout << "Philip Pesic 9/4/22" << endl;
    return 0;
}
```

Screenshot:



Philip Pesic

Week 3

September 4 2022

Week 3 Prog 4

I learned: When a variable of an incorrect data type is passed into the function, the function will convert that variable into whatever datatype the argument was declared with. If a function expects an integer, and I pass in a float or double, the function will convert my argument into an integer. If I use the argument of the correct data type, I will get the expected result. I learned that functions will convert the argument into the data type that the function expects.