Philip Pesic

Week 11

October 30 2022

Week 11 Prog 3

Write and run the code for the first example in the lecture notes

```cpp
//
//  main.cpp
//  Week 11 Prog 3
//
//  Created by Pippo Pesic on 10/24/22.
//


#include <iostream>
using namespace std;


// Pass by value
void byValueFun ( int inX )
{  cout << endl << endl;

   cout << "Value of inX: " << inX << endl;

   cout << "Address of inX " << &inX << endl;

}
// Pass by Reference method 1
void byRef1Fun ( int & inX )
{  cout << endl << endl;
```

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```cpp
  cout << "Value of inX: " << inX << endl;

  cout << "inX is the SAME Address of inX " << &inX << endl;

}
// Pass by Reference method 2


void byRef2Fun ( int * ptrInX ) // Uses pointer variables
{  cout << endl << endl;

  cout << "Value *inX: " << *ptrInX << endl;

  cout << "Address in inX: " << ptrInX << endl;



}



int main()
{


        int x = 42;

        cout << "----------------------------------------------------------------------" << endl;

        cout << endl << "Declared in main: Value of x: " << x << endl;

        cout << "Declared in main: Address of x: " << &x << endl;


        cout << "----------------------------------------------------------------------" << endl;
```

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// Pass by value

```
cout << endl << "PASS by Value" << endl;

cout << "Value of variable x in main, COPIED to variable inX in function byValueFun"
<< endl;

byValueFun(x);


cout << "----------------------------------------------------------------------" << endl;
```

// Pass by Reference method 1

```
cout << endl << "PASS by Reference method 1" << endl;

cout << "The address of variable x in main, becomes the SAME address as inX in
function byRef1Fun" << endl;

byRef1Fun(x);


cout << "----------------------------------------------------------------------" << endl;
```

// Pass by Reference method 2

```
cout << endl << "PASS by Reference method 2" << endl;

cout << "The address of variable x in main, copied to variable ptrInX in function
byRef2Fun" << endl;

byRef2Fun(&x);


cout << "----------------------------------------------------------------------" << endl;
```

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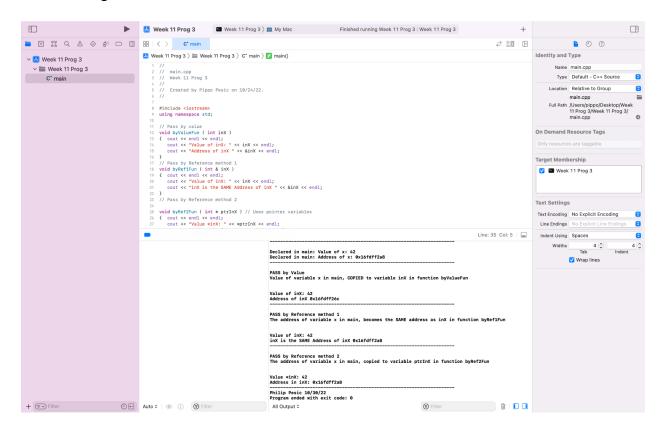
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```cpp
        cout << "Philip Pesic 10/30/22" << endl;

        return 0;

}
```

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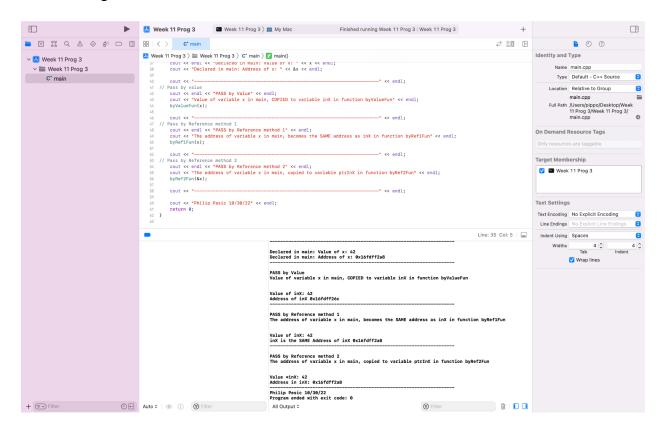
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I learned: how to pass by reference and value with different functions