Philip Pesic

Week 8

October 9 2022

Week 8 Prog 1

Create a class called TEST.

Write the following 4 functions for it.

Function 1

void testNullPtr().

In it, Declare a pointer int * ptrInt.

Assign NULL to the pointer.

What happen when you dereference a NULL pointer ?

(*ptrInt = 42;)

Function 2

void memoryLeak().

In it, Declare a pointer double * ptrDouble

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Assign a new double to ptrDouble.

DeReference it and assign 3.123456789 as the value

Function 3

Declare the function header: string * deletePointer()

In it, Declare a pointer string * ptrString

Assign a new string to ptrString.

DeReference it and assign "Carlos" as the value.

write a return statement - for the pointer ptrString

Function 4

void testTwoAlias()

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In it, Declare a pointer int * ptrAlias1

Assign new int to ptrAlias1

De-reference it and assign a value of 42

Also, Declare a 2nd pointer int * ptrAlias2 in the function.

copy the ADDRESS in ptrAlias1 to ptrAlias2

cout the address values stored in ptrAlias1 and ptrAlias2

cout the dereferenced values of ptrAlias1 and ptrAlias2

```
//
//  main.cpp
//  Week 8 Prog 1
//
//  Created by Pippo Pesic on 10/5/22.
//

#include <iostream>
```

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```cpp
#include <string>

using namespace std;


void testNullPtr() {

        int * ptrInt = NULL;

        int testNull;

        ptrInt = &testNull;

        *ptrInt = 42;

        cout << ptrInt << endl;

}


void memoryLeak() {

        double * ptrDouble = NULL;

        double testDouble;

        ptrDouble = &testDouble;

        *ptrDouble = 3.123456789;

        cout << testDouble << endl;

}


string * deletePointer() {

        string * ptrString = NULL;
```

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```
        string testString;

        ptrString = &testString;

        *ptrString = "Carlos";

        return ptrString;

}


void testTwoAlias() {

        int * ptrAlias1 = NULL;

        int * ptrAlias2 = NULL;

        int testAlias;

        ptrAlias1 = &testAlias;

        *ptrAlias1 = 42;

        ptrAlias2 = ptrAlias2;

        cout << ptrAlias1 << endl;

        cout << ptrAlias2 << endl;

}


int main () {

        testNullPtr();

        memoryLeak();

        deletePointer();
```

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```cpp
        testTwoAlias();

        cout << "Philip Pesic 10/9/22" << endl;

    return 0;

}
```
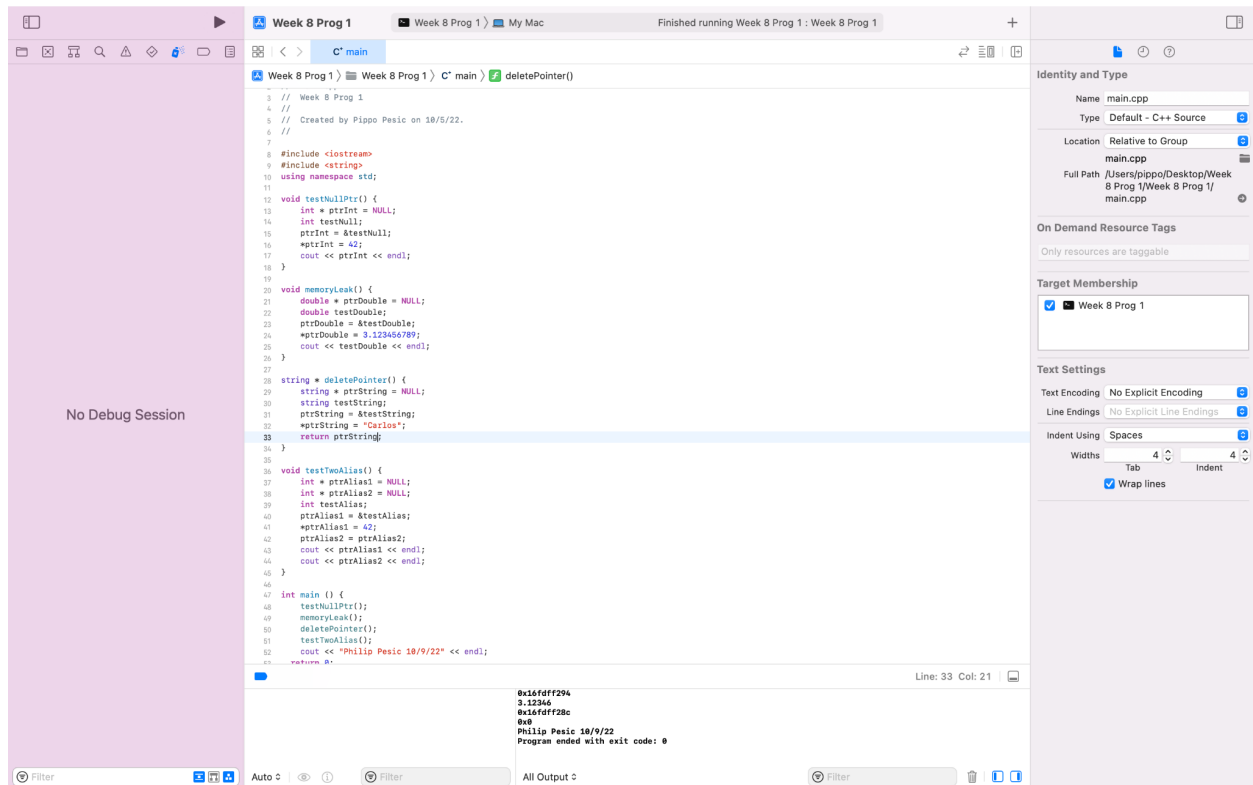

I learned: how to use pointer variables