Philip Pesic

Week 10

October 23 2022

Week 10 Prog 1

Step 1 - Define the class

Write a class, myArrayClass, that creates an integer array.

* Add an 'arraySize' variable, initialize to zero (default constructor function)

* Create int * ptrArray (default constructor set to NULL)

* Add a default constructor (see above for what is should do)

* Add a parm constructor that can set the array size,

  and then assigns new int[arraySize] to ptrArray. Validate size > 0.

* Add a setSize function that lets the user input a size, arraySize, of an array of integers,

  and then assigns new int[arraySize] to ptrArray (only if it is NULL). Validate size > 0.

* Add a function, setAllValues, Have the user prompted and then enter the values for the array.

 Validate that ptrArray != NULL, if so then add values . Use pointer arithmetic to specify the index of the array while the user is entering the values into the array.

* Add a printAll function that prints out the array...values using pointer arithmetic. Validate that ptrArray != NULL, if so then print out all values

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testing: - code for int main() --

```
                    // Step 2 - Declare and Step 3 use it

                    // Test default constructor

                    myArrayClass  Array1;

                    Array1.setSize(7);

                    Array1.setAllValues();  // Code a Loop that asks for input for each value one at
a time

                              //  Input 10,15,20,25,30,35,42

                    Array1.printAll();



            // Test parm constructor

                    myArrayClass Array2(7);

                    Array2.setAllValues();

                    Array2.printAll();
```

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        // Test with default constructor

        myArrayClass * ptrArray1 = new myArrayClass;

        .... // add code to call setSize function, use 7

        .... // add code to call setAllValues function: input 100,150,200,250,300,350,420

        .... // add code to call printAll function

```cpp
//
//  main.cpp
//  Week 10 Prog 1
//
//  Created by Pippo Pesic on 10/19/22.
//

#include <iostream>
using namespace std;

class MyArrayClass {
        int arraySize;
        int* pArray;
```

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```
public:

        MyArrayClass() {

        arraySize = 0;

        pArray = NULL;

        }


        MyArrayClass(int size) {

        if (size > 0) {

        pArray = new int[size];

        arraySize = size;

        }

        }


        void setSize(int size) {

        if (pArray == NULL) {

        pArray = new int[size];

        arraySize = size;

        }

        }


        void setAllValues() {
```

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```cpp
        if (pArray != NULL) {

        cout << "Enter values: ";

        for (int i = 0; i < arraySize; i++) {

                cin >> *(pArray + i);

        }

        }

        }


        void printAll() {

        if (pArray != NULL) {

        for (int i = 0; i < arraySize; i++) {

                cout << *(pArray + i) << " ";

        }

        cout << endl;

        }

        }
};


int main() {

        MyArrayClass array1;

        array1.setSize(7);
```
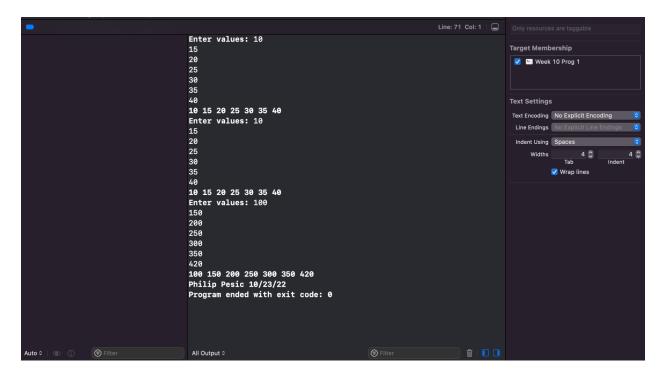
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```cpp
        array1.setAllValues(); //Input 10,15,20,25,30,35,42

        array1.printAll();


        MyArrayClass array2(7);

        array2.setAllValues(); //Input 10,15,20,25,30,35,42

        array2.printAll();


        MyArrayClass * ptrArray1 = new MyArrayClass;

        ptrArray1->setSize(7);

        ptrArray1->setAllValues(); //Input 100,150,200,250,300,350,420

        ptrArray1->printAll();


        cout << "Philip Pesic 10/23/22" << endl;

        return 0;
};
```
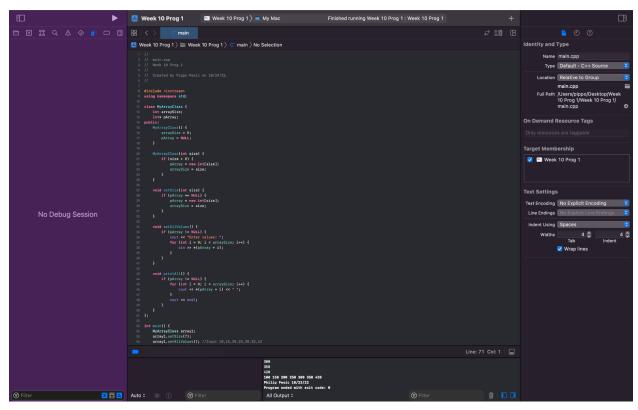
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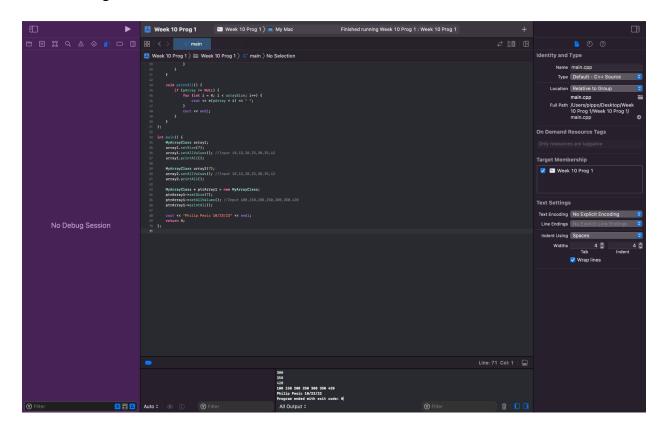
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I learned how to use arrays of classes and point to them