

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
```

```
//
```

```
// 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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```
        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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```
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;
```

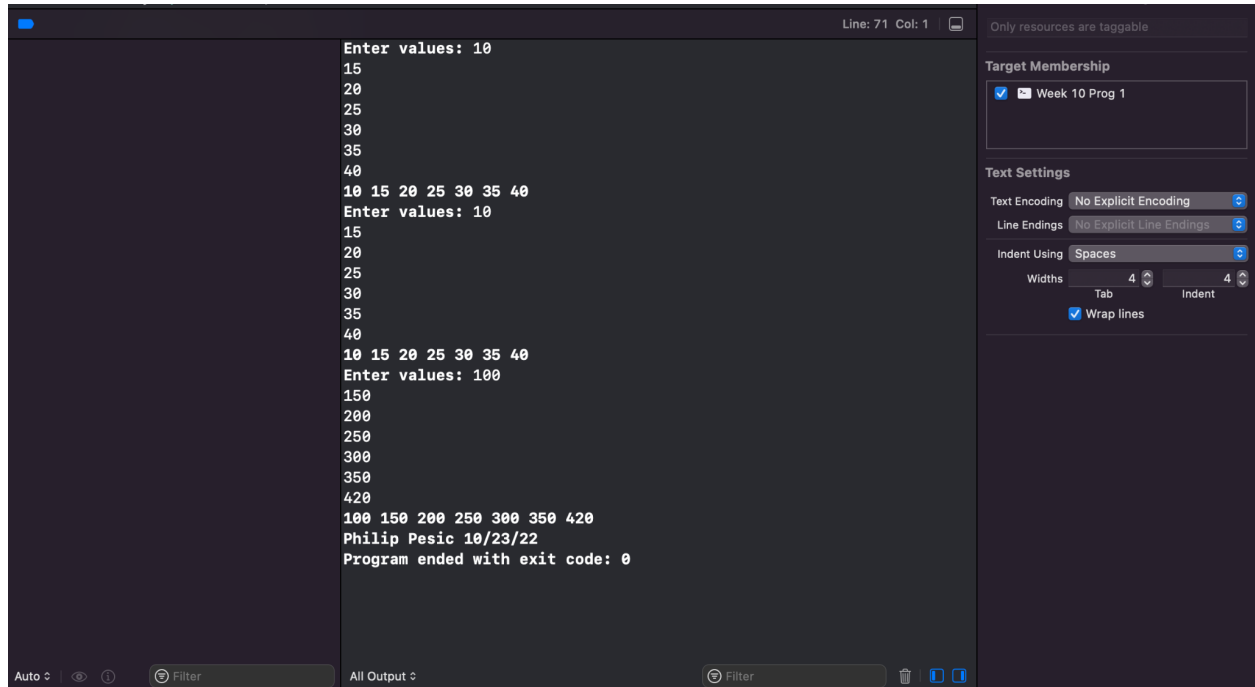
```
};
```

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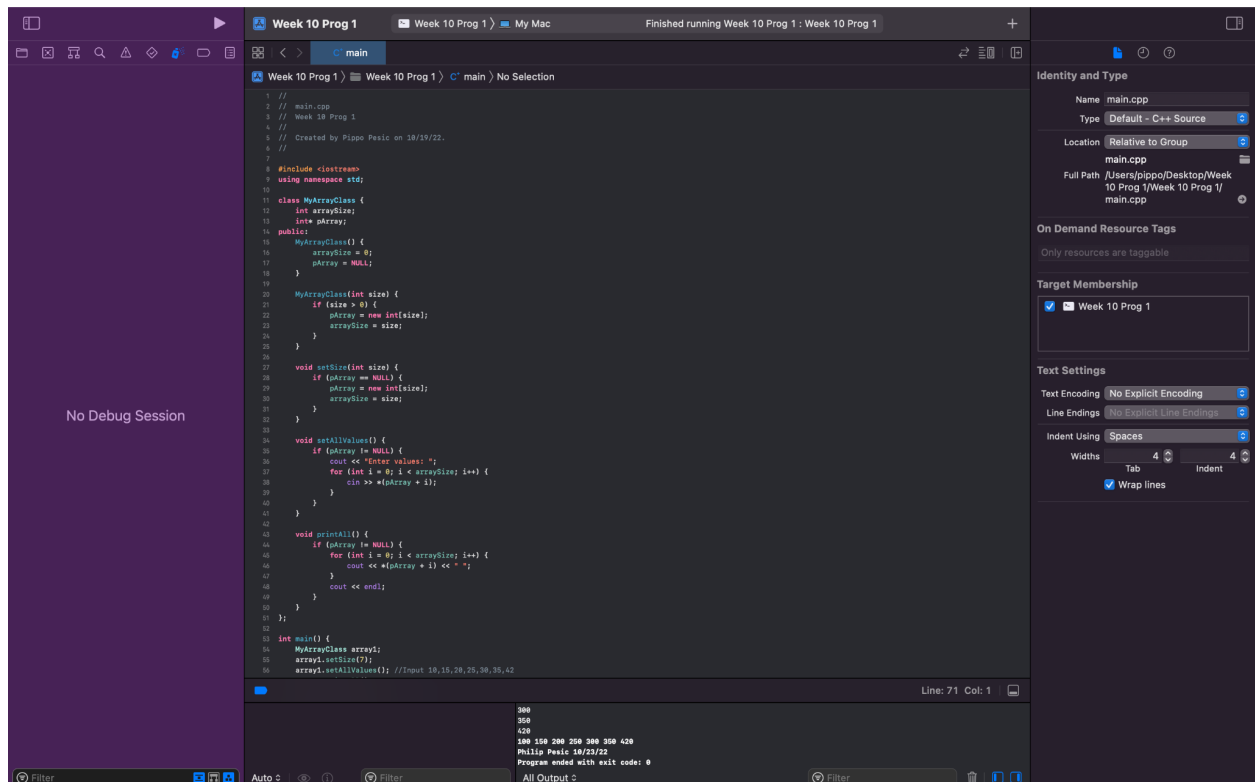
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```
Enter values: 10
15
20
25
30
35
40
10 15 20 25 30 35 40
Enter values: 10
15
20
25
30
35
40
10 15 20 25 30 35 40
Enter values: 100
150
200
250
300
350
420
100 150 200 250 300 350 420
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Program ended with exit code: 0
```



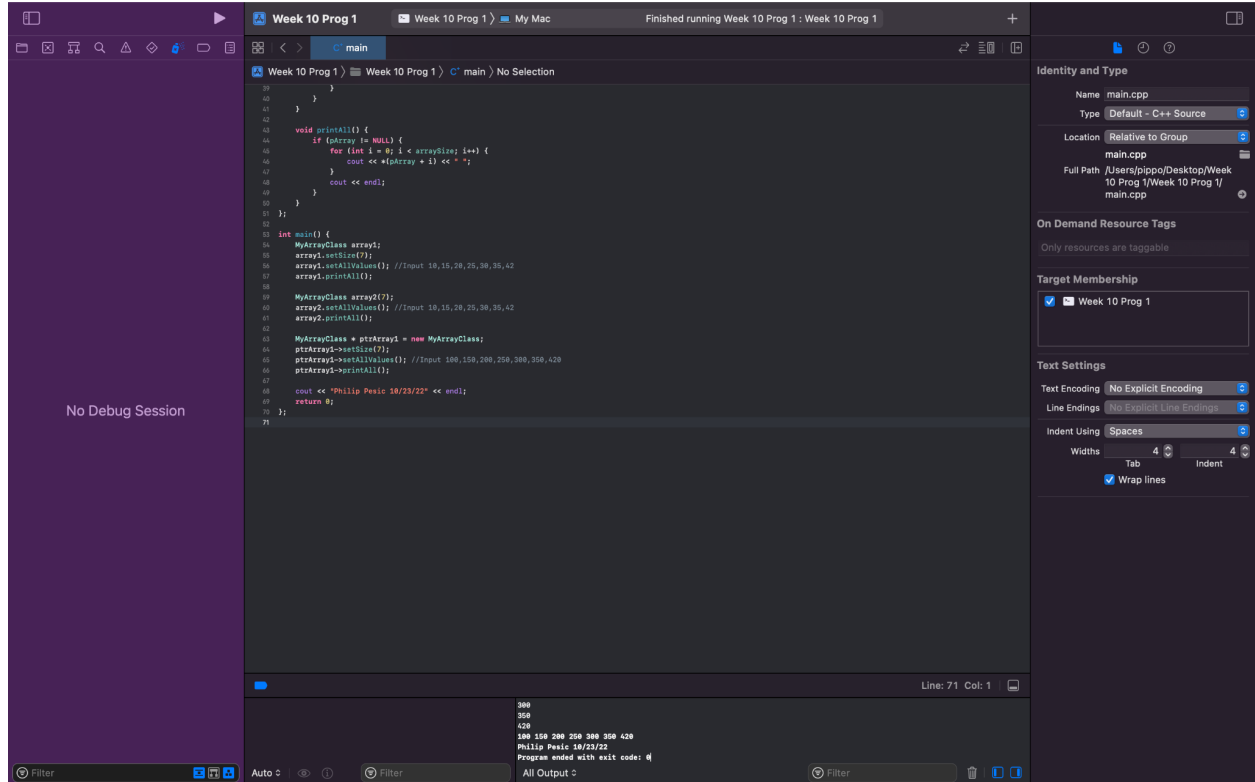
```
1 //
2 // main.cpp
3 // Week 10 Prog 1
4 //
5 // Created by Philip Pesic on 10/10/22.
6 //
7
8 #include <iostream>
9 using namespace std;
10
11 class MyArrayClass {
12     int arraySize;
13     int* pArray;
14 public:
15     MyArrayClass() {
16         arraySize = 0;
17         pArray = NULL;
18     }
19
20     MyArrayClass(int size) {
21         if (size > 0) {
22             pArray = new int[size];
23             arraySize = size;
24         }
25     }
26
27     void setArray(int size) {
28         if (pArray == NULL) {
29             pArray = new int[size];
30             arraySize = size;
31         }
32     }
33
34     void setAllValues() {
35         if (pArray != NULL) {
36             cout << "Enter values: ";
37             for (int i = 0; i < arraySize; i++) {
38                 cin >> *(pArray + i);
39             }
40         }
41     }
42
43     void printAll() {
44         if (pArray != NULL) {
45             for (int i = 0; i < arraySize; i++) {
46                 cout << *(pArray + i) << " ";
47             }
48             cout << endl;
49         }
50     }
51 };
52
53 int main() {
54     MyArrayClass array1;
55     array1.setArray(7);
56     array1.setAllValues(); //Input: 10,15,20,25,30,35,42
```

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I learned how to use arrays of classes and point to them