Philip Pesic

Week 4

September 11 2022

Week 4 Prog 6

Program 6 BOX - Complete the following code then run it

- Produce the correct output and Turn it in for credit

- Note: A Box is a 3D object...

Write a class for a BOX (box is another name for a cube)

It should contain: Width, Height, and Depth

It should contain 3 methods to input/set the Width, Height, and Depth Values.

It should contain a method to calculate the Volume of the box.

It should contain a method to calculate sum of the Area the 6 sides of the box,.

It should contain three method to return/get the individual values of the Width, Height and Depth variables in the class

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All dimensions must be greater than zero, before the area or volume can be calculate... the calc functions should cout an error message is they are not.

Test the box with the following driver code:

```
//
//  main.cpp
//  Week 4 Prog 6
//
//  Created by Pippo Pesic on 9/11/22.
//

#include <iostream>
using namespace std;

class box {
   int width, height, depth;
public:
   int getWidth(void) {
      return width;
   }
   void setWidth(int inWidth) {
      width = inWidth;
   }

   int getHeight(void) {
      return height;
   }
   void setHeight(int inHeight) {
      height = inHeight;
   }

   int getDepth(void) {
      return depth;
   }
   void setDepth(int inDepth) {
      depth = inDepth;
   }

   int calcArea() {
      int area = (( height * width ) * 4)  + ( ( depth * width ) * 2);
      return area;
   }

   int calcVolume() {
      int volume = height * width * depth;
      return volume;
   }

};

int main() {
```

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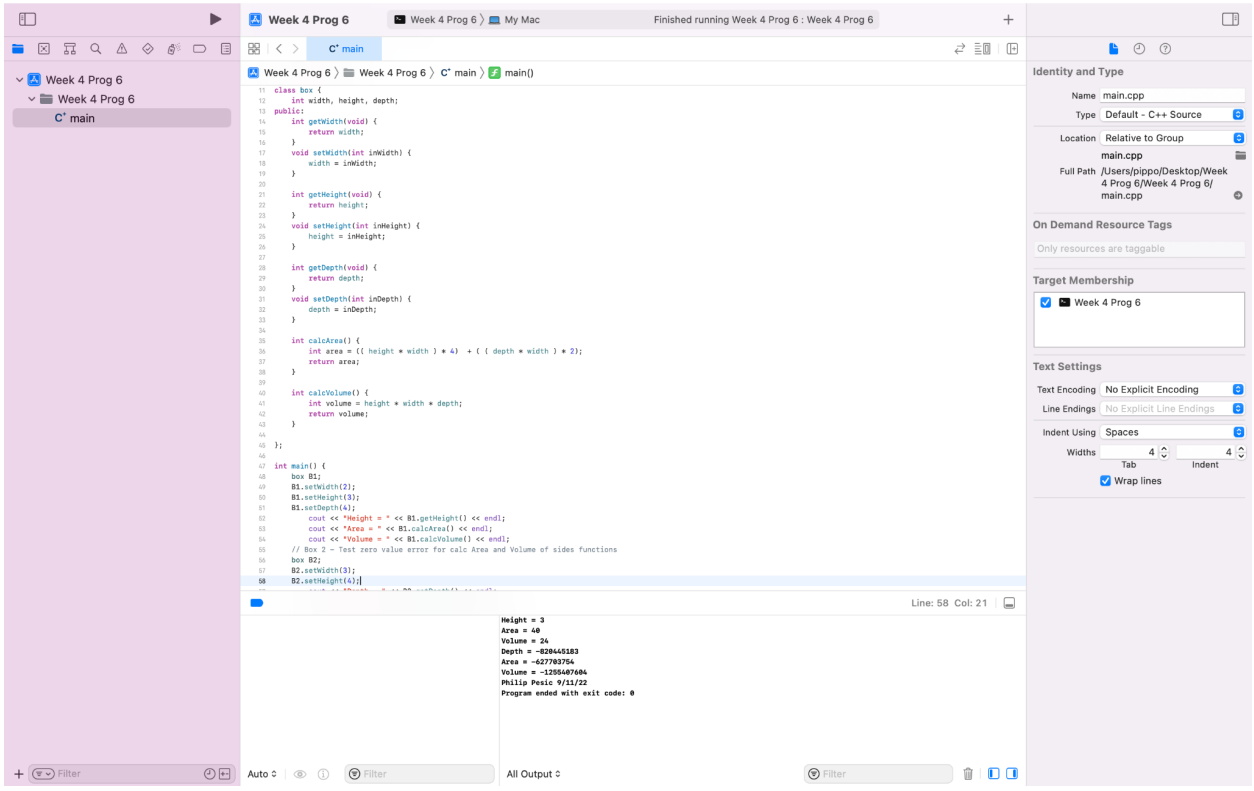
```
box B1;
B1.setWidth(2);
B1.setHeight(3);
B1.setDepth(4);
   cout << "Height = " << B1.getHeight() << endl;
   cout << "Area = " << B1.calcArea() << endl;
   cout << "Volume = " << B1.calcVolume() << endl;
// Box 2 - Test zero value error for calc Area and Volume of sides functions
box B2;
B2.setWidth(3);
B2.setHeight(4);
   cout << "Depth = " << B2.getDepth() << endl;
   cout << "Area = " << B2.calcArea() << endl;
   cout << "Volume = " << B2.calcVolume() << endl;
cout << "Philip Pesic 9/11/22" << endl;
return 0;
}
```



I learned: How to write classes with many intersecting properties