

Philip Pesic

Week 12

November 6 2022

Week 12 Prog 4

Inheritance - watch and **write the programs** found in the videos.

Turn in code, output, uml diagram and also, write a summary of what you learned in the videos

```
//
```

```
// main.cpp
```

```
// Week 12 Prog 4
```

```
//
```

```
// Created by Pippo Pesic on 11/3/22.
```

```
//
```

```
#include <iostream>
```

```
#include "Isosceles.hpp"
```

```
#include "Triangle.hpp"
```

```
using namespace std;
```

```
int main() {
```

```
    int base, height, equalSide;
```

```
    cout << "Please type in a base lenght: ";
```

```
    cin >> base;
```

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```
        cout << "Please type in a height: ";

        cin >> height;

        cout << "Please type in an equalSide: ";

        cin >> equalSide;


        Isosceles myTriangle(base, equalSide, height);


        cout << endl;

        myTriangle.printInfo();

        cout << "Philip Pesic 11/6/22" << endl;

        return 0;

    }


//

// Triangle.cpp

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//

// Created by Pippo Pesic on 11/3/22.

//

#include "Triangle.hpp"
```

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```
Triangle::Triangle() {  
    height = 0;  
}
```

```
Triangle::Triangle(int newHeight) {  
    height = newHeight;  
}
```

```
int Triangle::getHeight() const {  
    return height;  
}
```

```
void Triangle::setHeight(int newHeight) {  
    height = newHeight;  
}
```

```
Triangle::~~Triangle() {}
```

```
double Triangle::getArea(int base) const {  
    return (0.5 * base * height);  
}
```

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}

//

// Triangle.hpp

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//

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//

#ifndef Triangle_hpp

#define Triangle_hpp

#include <stdio.h>

#include <iostream>

using namespace std;

class Triangle {

public:

Triangle();

Triangle(int);

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```
        int getHeight() const;

        void setHeight(int);

        ~Triangle();

        double getArea(int) const;

private:
        int height;
};

#endif /* Triangle_hpp */

//
// Isosceles.cpp
// Week 12 Prog 4
//
// Created by Pippo Pesic on 11/3/22.
//

#include "Isosceles.hpp"
```

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```
Isosceles::Isosceles() {  
    base = 0;  
}
```

```
Isosceles::Isosceles(int newBase, int newSideOne, int newHeight):Triangle(newHeight) {  
    base = newBase;  
    sideOne = newSideOne;  
}
```

```
int Isosceles::getBase() const {  
    return base;  
}
```

```
int Isosceles::getSideOne() const {  
    return sideOne;  
}
```

```
void Isosceles::setBase(int newBase) {  
    base = newBase;  
}
```

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```
void Isosceles::setOneSide(int newSideOne) {  
    sideOne = newSideOne;  
}
```

```
Isosceles::~~Isosceles() {}
```

```
int Isosceles::getPerimeter() const {  
    return ((2 * sideOne) + base);  
}
```

```
void Isosceles::printInfo() const {  
    cout << endl << "Perimeter: " << getPerimeter() << endl;  
    cout << "Area: " << getArea(base) << endl;  
}
```

```
//
```

```
// Isosceles.hpp
```

```
// Week 12 Prog 4
```

```
//
```

```
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```

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//

#ifndef Isosceles_hpp

#define Isosceles_hpp

#include <stdio.h>

#include "Triangle.hpp"

class Isosceles:public Triangle {

public:

Isosceles();

Isosceles(int, int, int);

int getBase() const;

int getSideOne() const;

void setBase(int);

void setOneSide(int);

~Isosceles();

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```
int getPerimeter() const;
```

```
void printInfo() const;
```

```
private:
```

```
int base, sideOne;
```

```
};
```

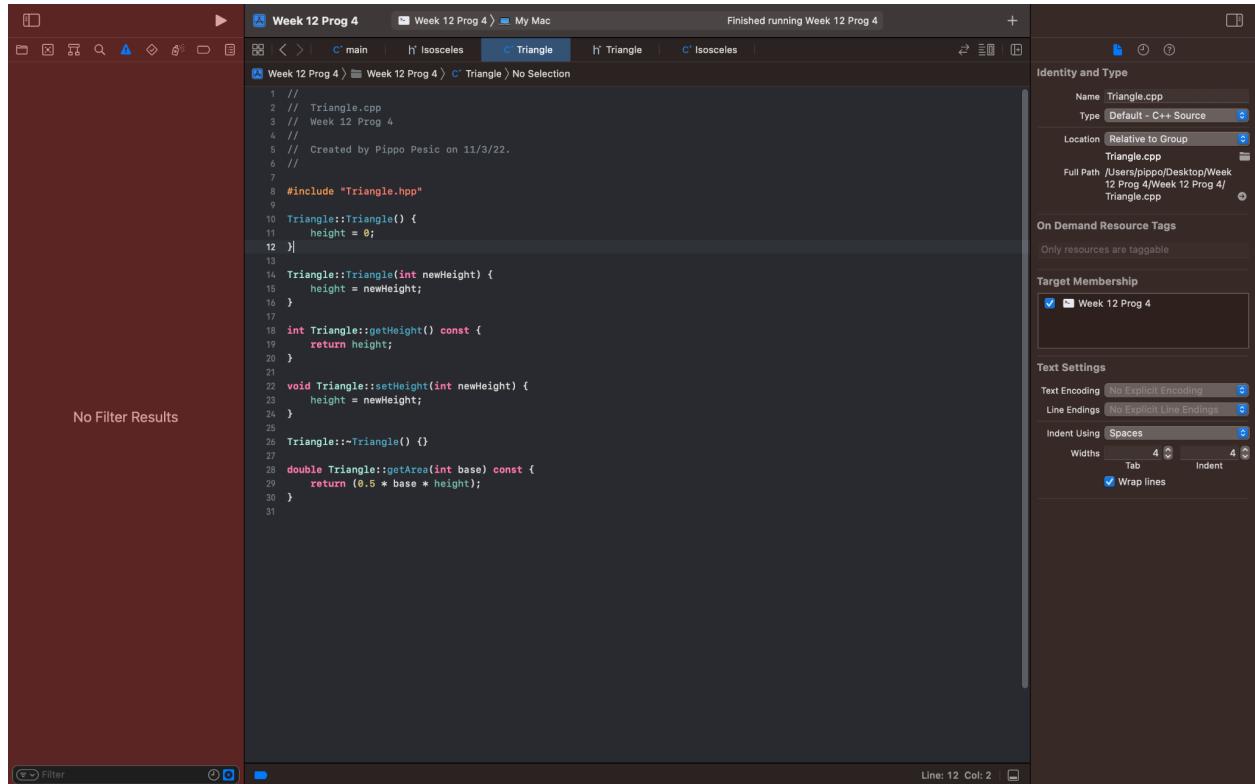
```
#endif /* Isosceles_hpp */
```

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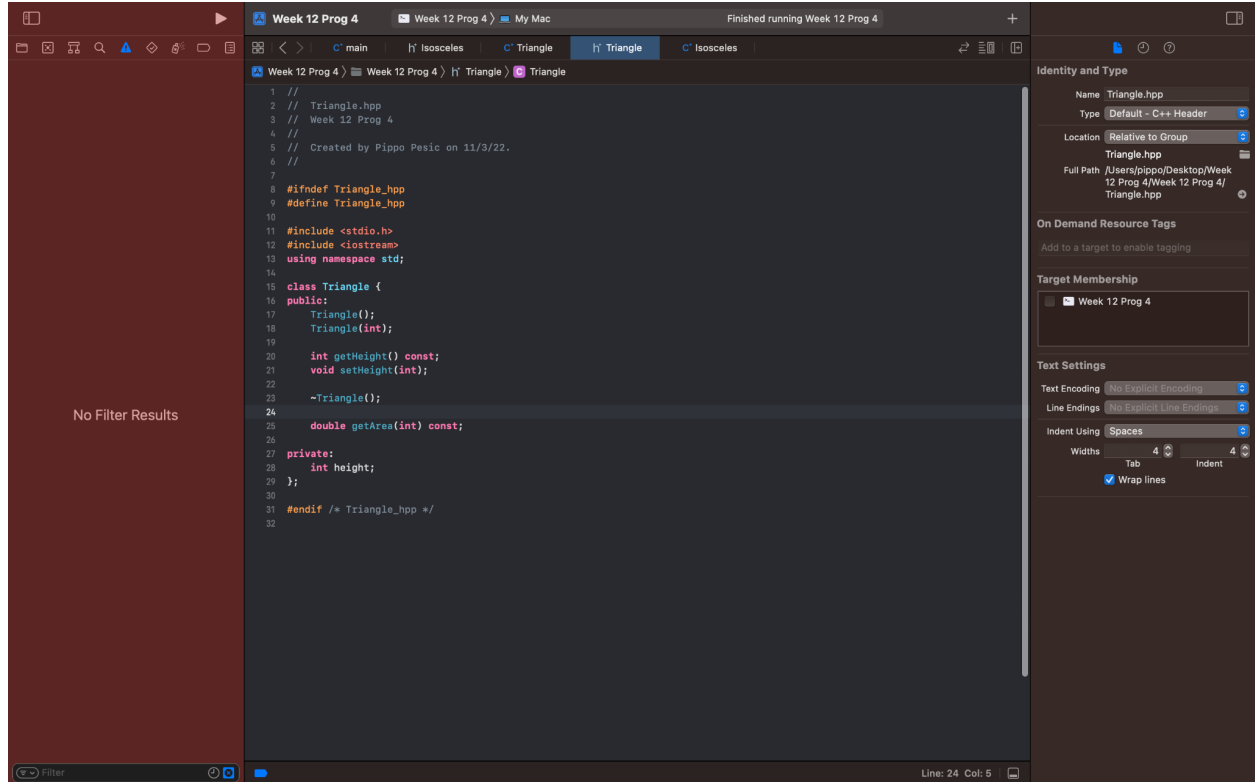


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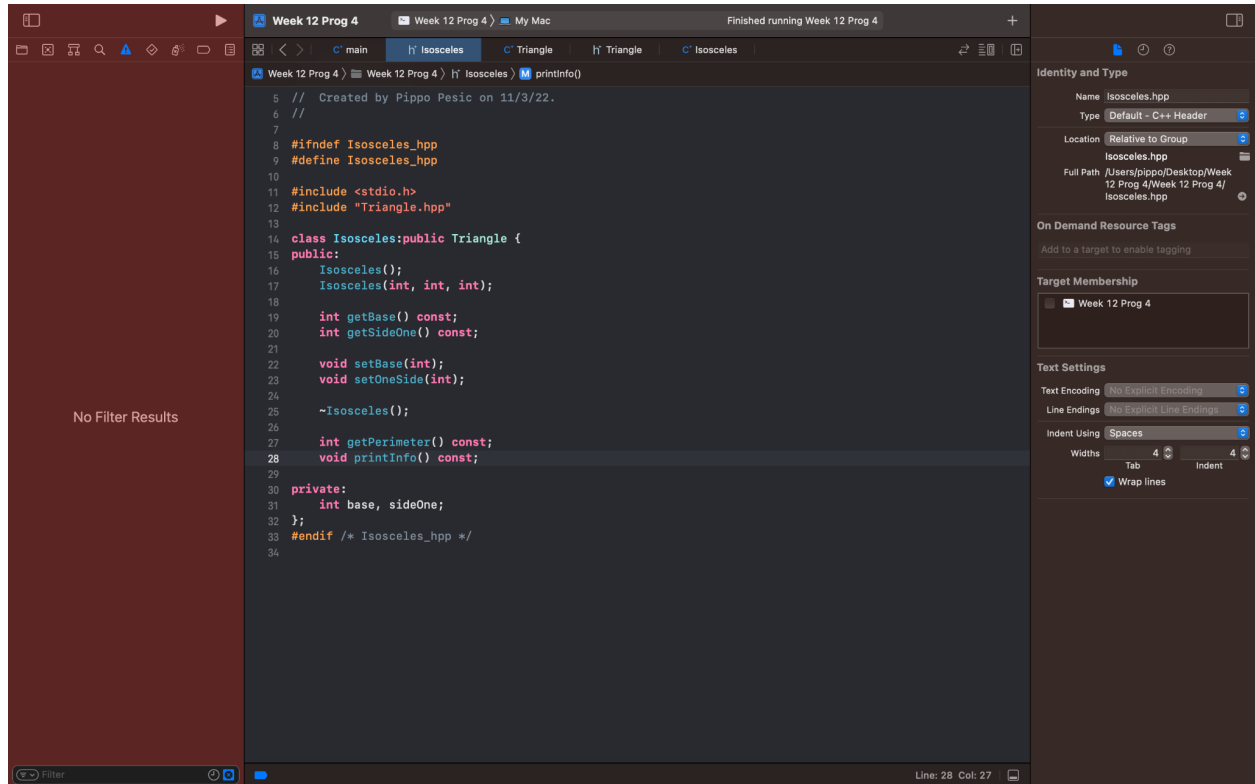


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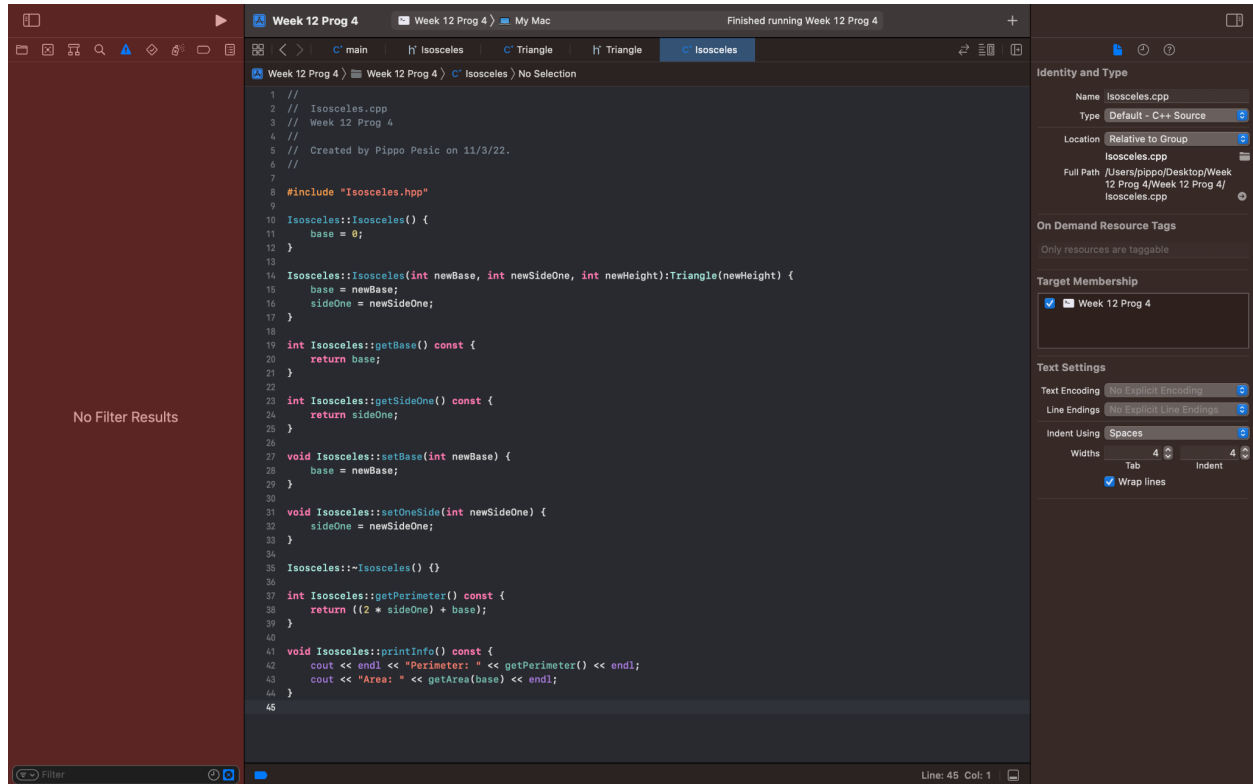


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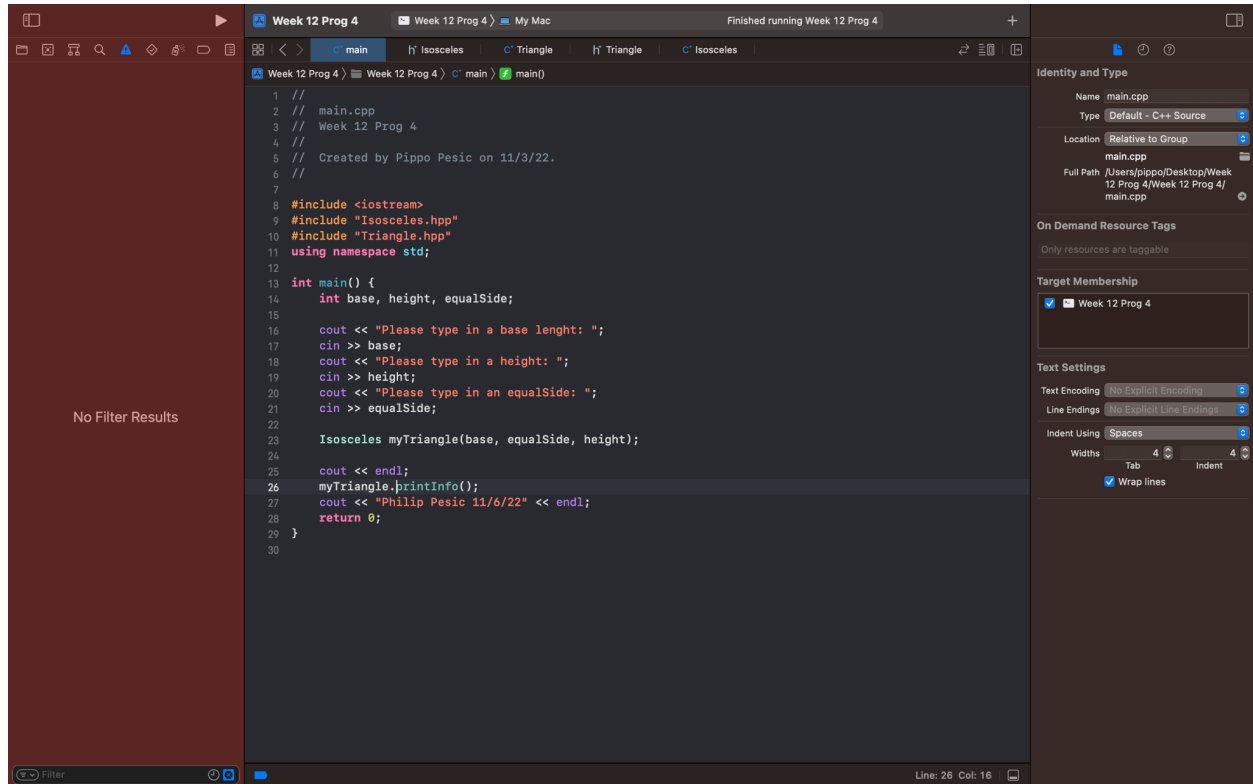


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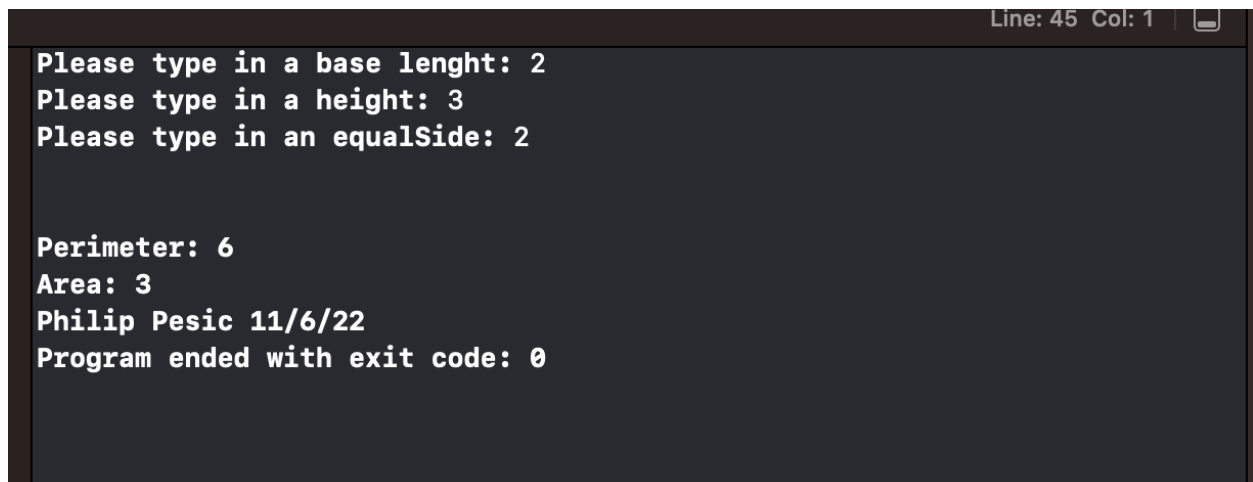
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```
1 //
2 // main.cpp
3 // Week 12 Prog 4
4 //
5 // Created by Pippo Pesic on 11/3/22.
6 //
7
8 #include <iostream>
9 #include "Isosceles.hpp"
10 #include "Triangle.hpp"
11 using namespace std;
12
13 int main() {
14     int base, height, equalSide;
15
16     cout << "Please type in a base lenght: ";
17     cin >> base;
18     cout << "Please type in a height: ";
19     cin >> height;
20     cout << "Please type in an equalSide: ";
21     cin >> equalSide;
22
23     Isosceles myTriangle(base, equalSide, height);
24
25     cout << endl;
26     myTriangle.printInfo();
27     cout << "Philip Pesic 11/6/22" << endl;
28     return 0;
29 }
30
```



```
Line: 45 Col: 1
Please type in a base lenght: 2
Please type in a height: 3
Please type in an equalSide: 2

Perimeter: 6
Area: 3
Philip Pesic 11/6/22
Program ended with exit code: 0
```

I learned: how to override functions