Philip Pesic

Week 10

March 26 2023

Week 10 Prog 4

Write code

// Remember the three steps ..

Step 1 - DEFINE

1) Create this class first: Square

two variables: length, width

five function: getWidth, setWidth, getLength, setLength, getArea

Write a constuctor that sets default values of lenght and witdh to 0;

2) Write the class second: Cube

inheritance the square class code

one variable: height

three functions: getHeight, setHeight, getVolume

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Step 2 - DECLARE 3 different instances of a cube: C1, C2, C3

Step 3 - USE the three instances of the cube.

set the length, width and height of each: C1: 2,3,4 and C2: 3,4.5,7 and C3: 4,,9.5,42

by calling the set functions.

get volume of each cube

```
package Prog4;

class prog4 {
   public static void main(String[] args) {
       cube c1 = new cube();
       cube c2 = new cube();
       cube c3 = new cube();

       c1.setLength(2);
       c1.setWidth(3);
       c1.setHeight(4);

       c2.setLength(3);
       c2.setWidth(4.5);
       c2.setHeight(7);

       c3.setLength(4);
       c3.setWidth(9.5);
       c3.setHeight(42);

       System.out.println("C1 volume = " + c1.getVolume());
       System.out.println("C2 volume = " + c2.getVolume());
       System.out.println("C3 volume = " + c3.getVolume());
```

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```
        System.out.println("Philip Pesic 3/26/23");
    }
}


package Prog4;

public class square {
    private double length, width;

    public void setLength(double length) {
        this.length = length;
    }

    public void setWidth(double width) {
        this.width = width;
    }

    public double getLength() {
        return this.length;
    }

    public double getWidth() {
        return this.width;
    }

    public double getArea() {
        return this.length * this.width;
    }
}


package Prog4;

public class cube extends square {
    private double height;
```

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```
    public void setHeight(double height) {
        this.height = height;
    }

    public double getHeight() {
        return this.height;
    }

    public double getVolume() {
        return getArea() * this.height;
    }
}
```

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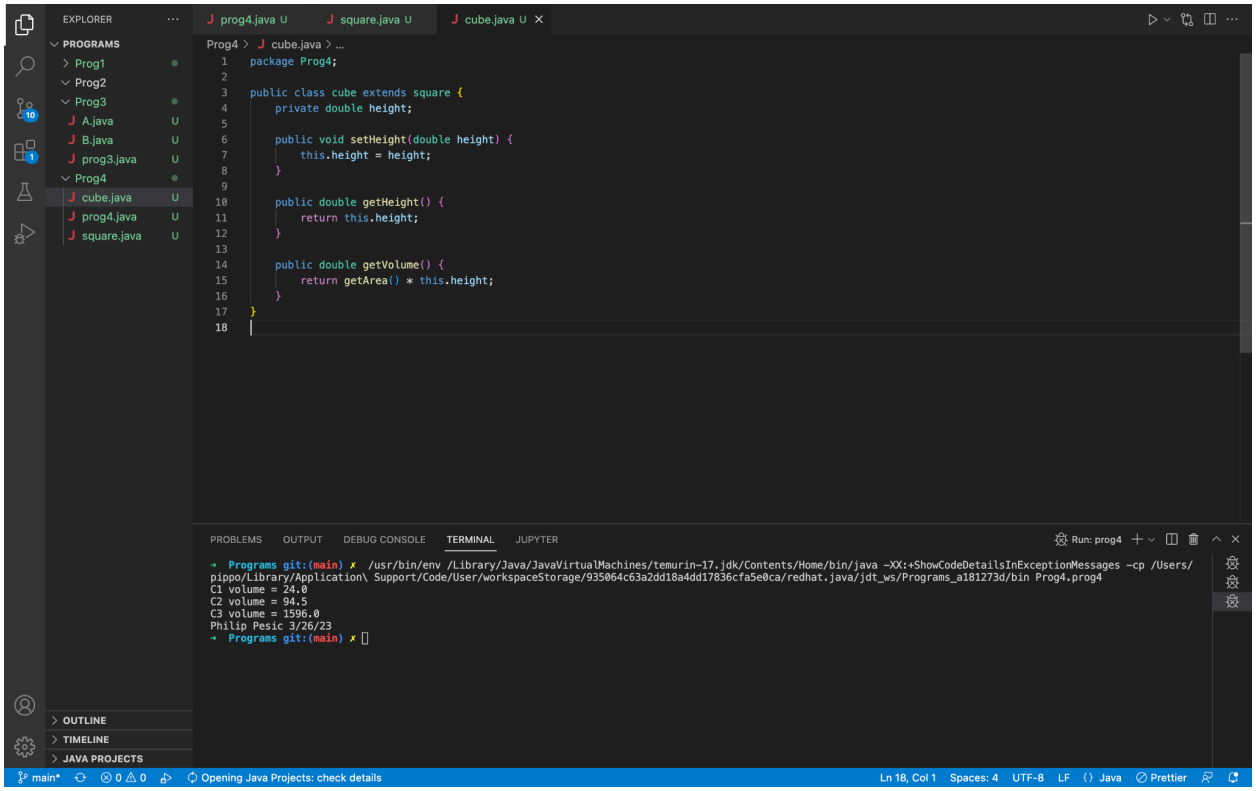

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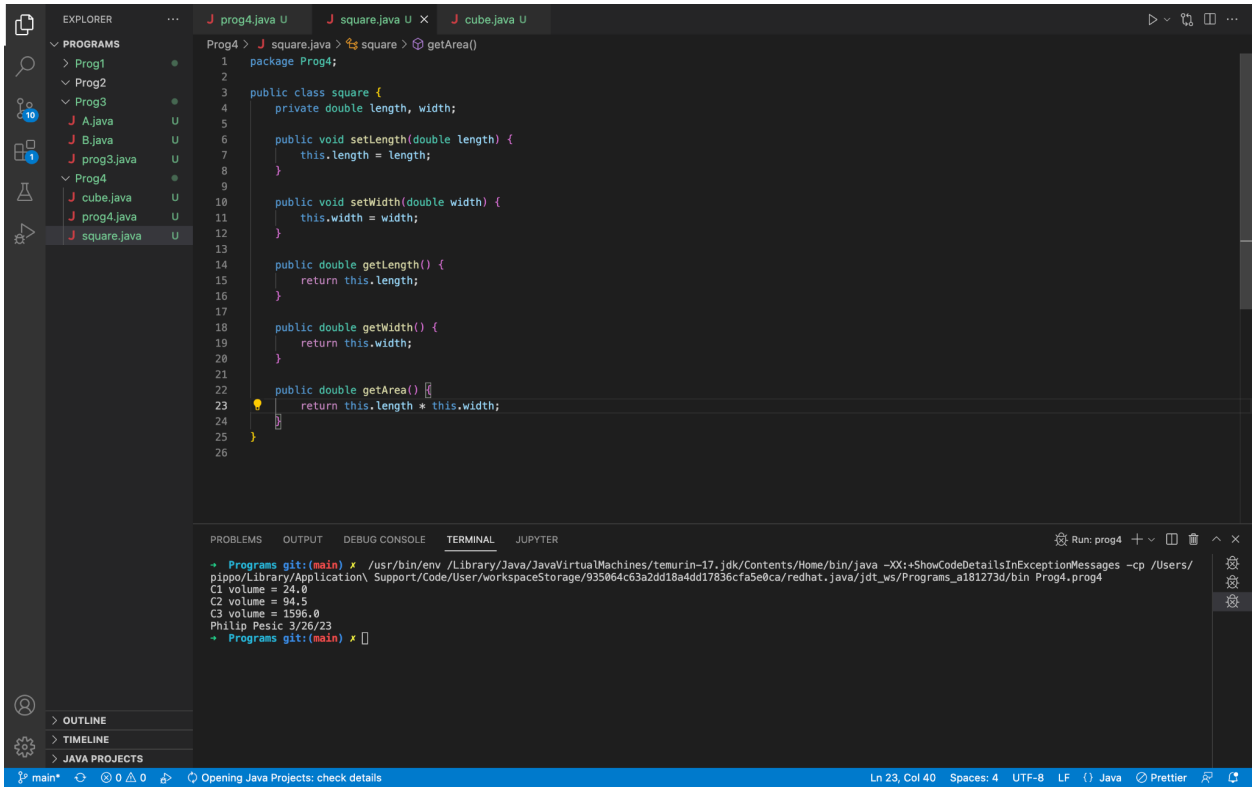

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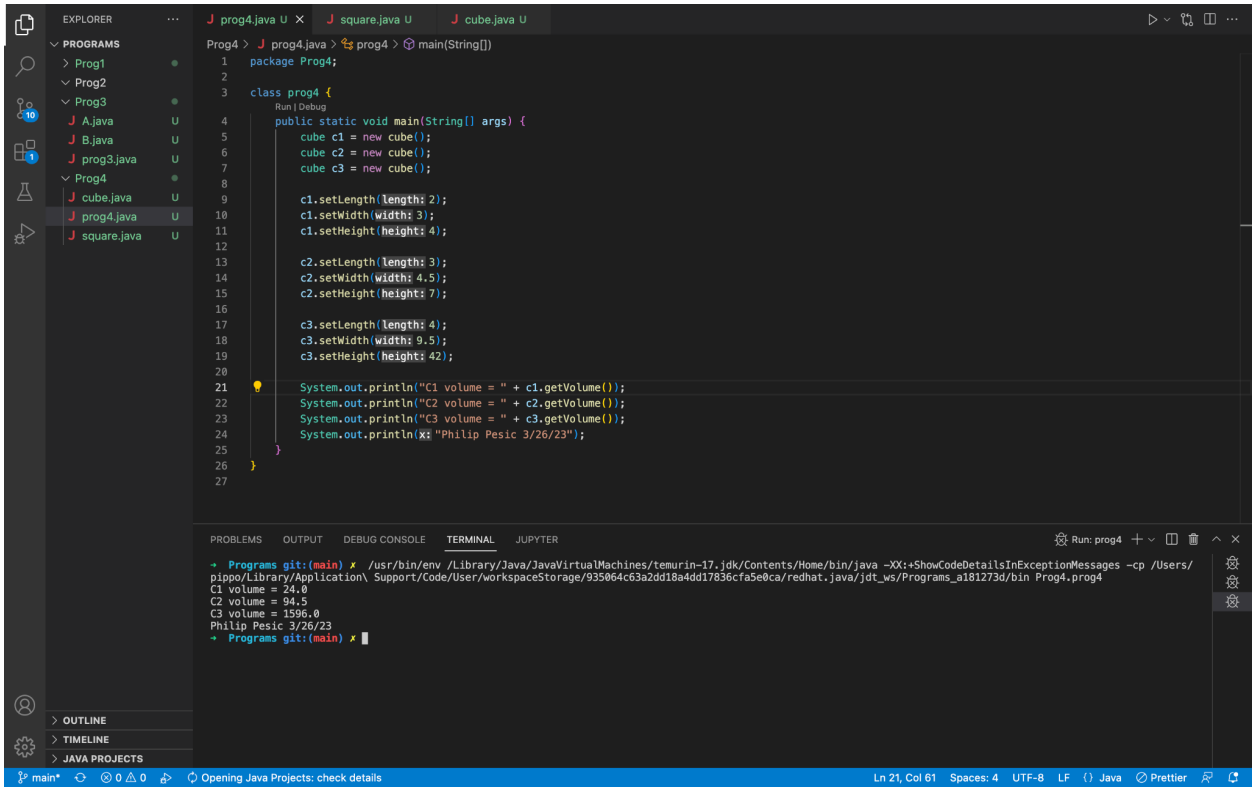

I learned how to write my own inheritance