



# CSE 215: Programming Language II Lab

## Lab – 11

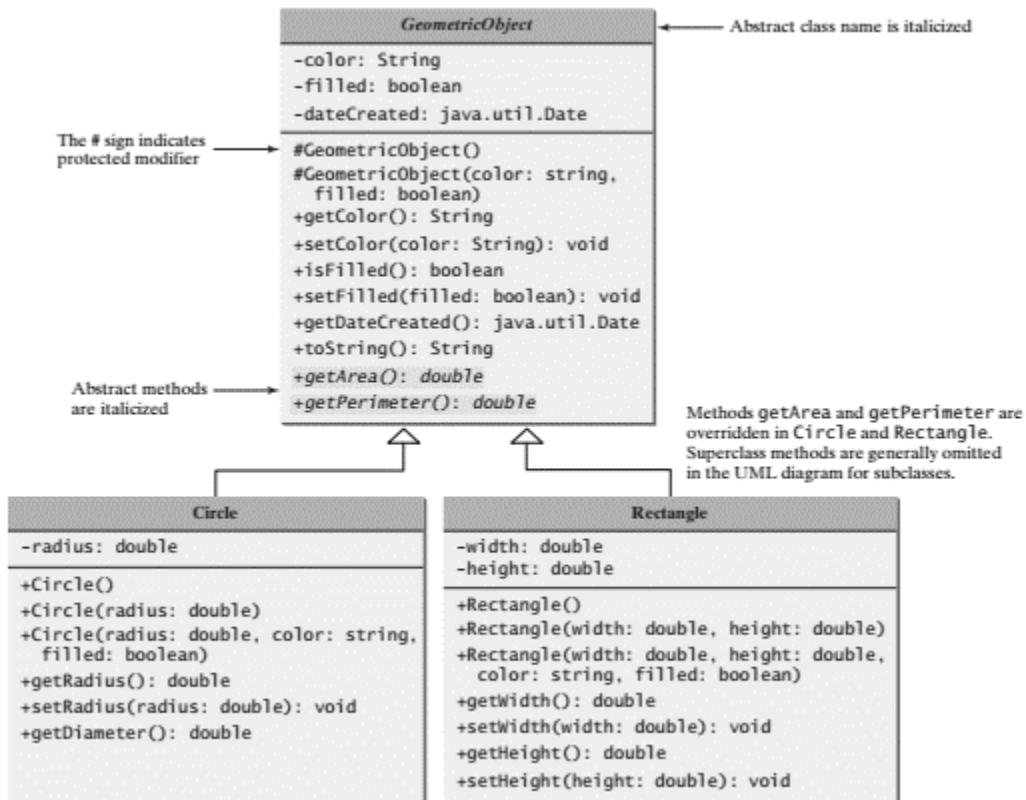
### Abstract Class

#### Objective:

- To understand abstract class and its usage
- To utilize abstract method to ensure reusability of existing code

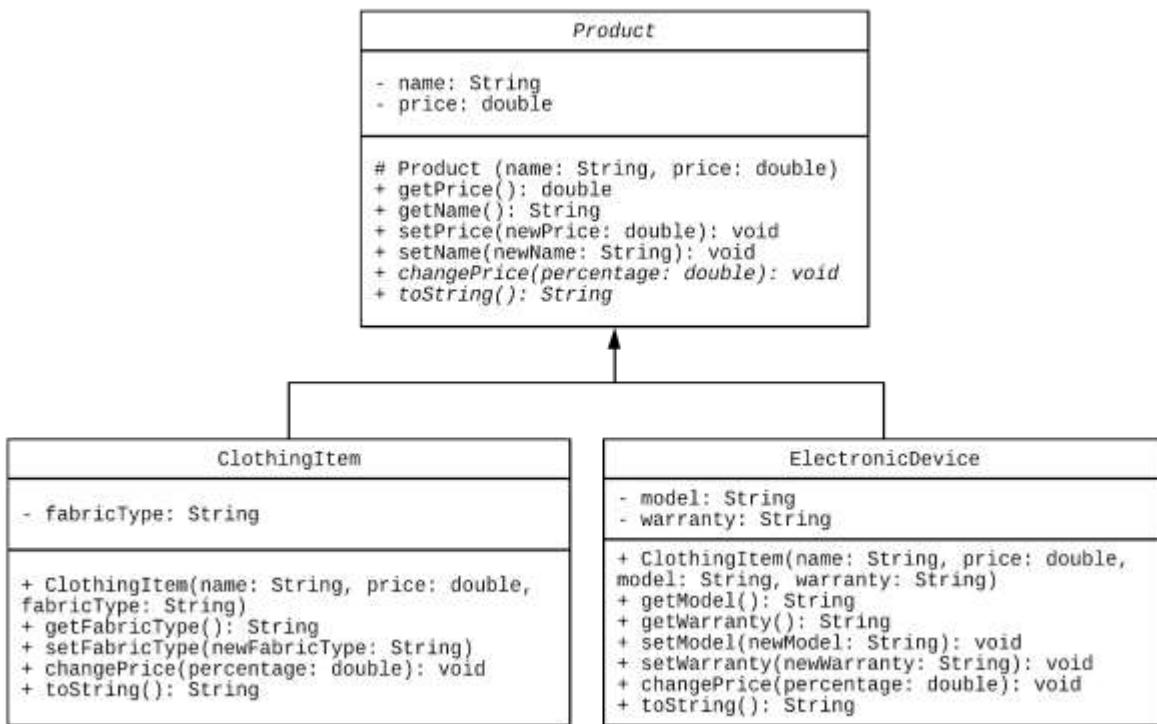
An abstract method is a method that is declared without an implementation (without braces, and followed by a semicolon). An abstract class is a class that is declared abstract. It may or may not include abstract methods. Abstract classes cannot be instantiated, but they can have subclasses.

Abstract method	Abstract class
<pre>Modifier abstract return-type methodName(); public abstract double getArea();</pre>	<pre>public <b>abstract</b> class Shape {     // declare fields and non     //abstract methods     <b>public abstract double</b> getArea(); }</pre>



## Lab Task

Implement the following classes:



\*\*take public data fields instead of private in Product class.

From main method, implement the following tasks:

- Create a new **ClothingItem** object p1 with reference type **ClothingItem**.
- Create a new **ElectronicDevice** object p2 with reference type **ElectronicDevice**.
- Add 10% tax with p2 and 20% discount with p1.
- Now, create an **ArrayList** of type **Product** and add p1, p2 in that ArrayList.
- Invoke **toString()** method for all elements in ArrayList.