**Task 1**

Create classes called **Rectangle, Circle** and

**Triangle,** which are all inherited from the class **Shape.** Create

a class called **Square** which is inherited from **Rectangle**.

The classes will have the following members:

**Rectangle:**

* length
* width
* parametrized constructor
* generateArea() – should place the result in area

**Circle:**

* radius
* parametrized constructor
* generateArea() – should place the result in area

**Triangle:**

* height
* base
* parametrized constructor
* generateArea() – should place the result in area (Area = height\*base/2)

**Square:**

* It should have a parametrized constructor that takes **one side** as input. The constructor should call the constructor for **Rectangle** class with that value as parameters.
* checkSides(); - checks if both sides are equal. Sides are inherited from **Rectangle**.
* generateArea() – should place the result in area

**You must make use of parametrized constructors to initialize the values.**

**Task 2**

### A boy has his money deposited $1000, $1500 and $2000 in banks-Bank A, Bank B and Bank C respectively. We have to print the money deposited by the bank. Create a class 'Bank' with a method 'getBalance' which returns 0. Make its three subclasses named 'BankA', 'BankB' and 'BankC' with a method with the same name 'getBalance' which returns the amount deposited in that bank. Call the method 'getBalance' by the object of each of the three banks.

**Task 3**

Write a program to calculate the final bill after the discount. “Imtiaz Store” gives a 7 percent discount on the total bill while “Bin Hashim Store” gives a 5 percent discount on the total bill. You must initialize the value of the total bill through a constructor and then calculate the final bill after discount for both stores using the concept of abstract class and abstract functions.

**Task 4**

**Generate the Java Code of the following Class diagram**

Diagram

Description automatically generated