MANAV RACHNA UNIVERSITY, FARIDABAD
Department of Computer Science and Technology

Course: B.Tech. CSE   **Semester: III**

Subject: Object Oriented Programming using Java (CSH201B-T&P)

Lab: 08 Interfaces and Abstract class in Java

Objective: Programs on interfaces and abstract class in Java.

Course Outcomes:
CSH201B.1: To impart **understanding** of basic programming concepts in Java language.
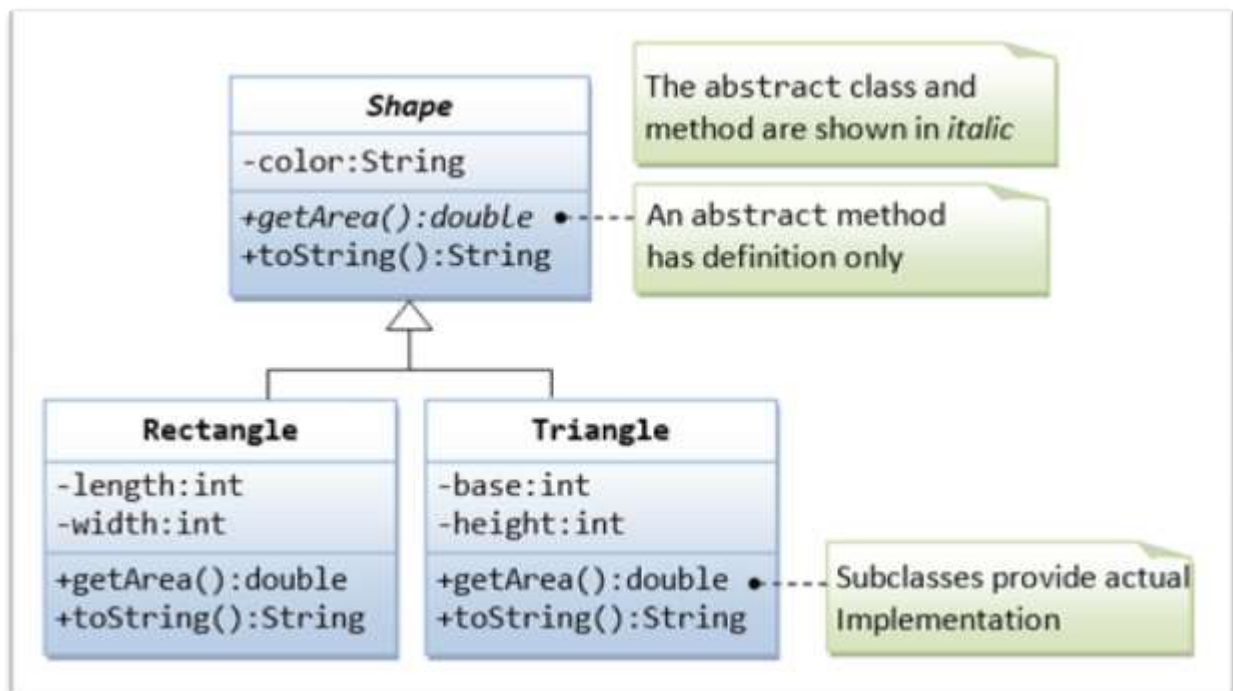
CSH201B.2: To enable the student to articulate given program scenario and **apply** different programming constructs.

CSH201B.3: To **analyze** the semantics of the given problem statement and illustrate the programming techniques to solve them.

Blooms Taxonomy Level: BT1, BT2, BT3

Question 1:

Write a program to implement the following class hierarchy.

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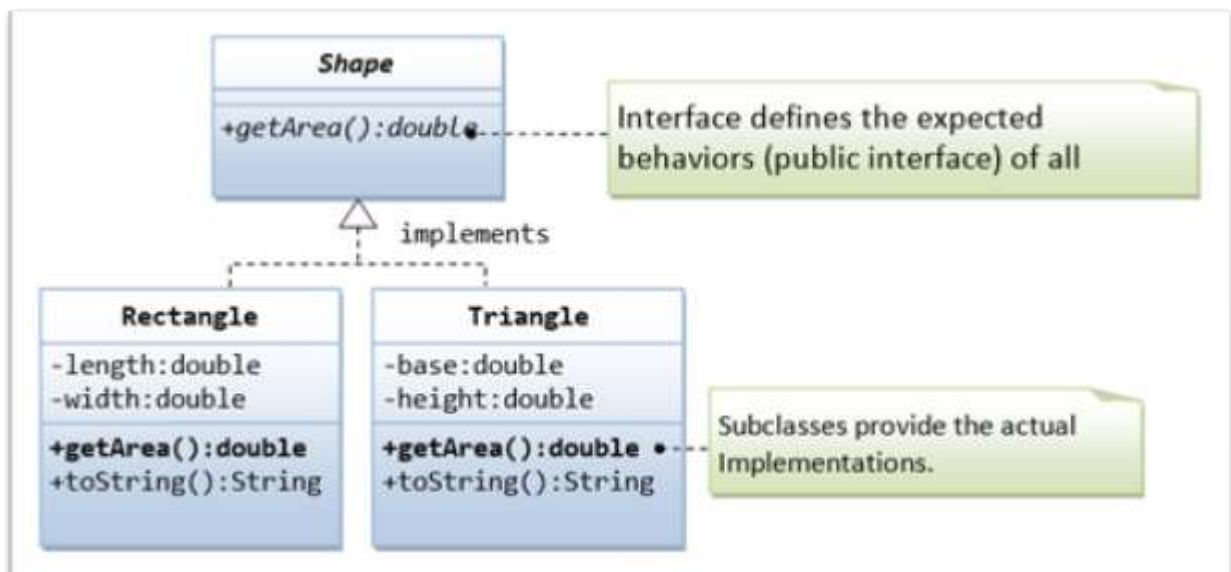**Subject: Object Oriented Programming using Java (CSH201B-T&P)**

Create a class TestShape as code of class is given below and predict the output.

```java
public class TestShape {
   public static void main(String[] args) {
      Shape s1 = new Rectangle("red", 4, 5);
      System.out.println(s1);
      System.out.println("Area is " + s1.getArea());

      Shape s2 = new Triangle("blue", 4, 5);
      System.out.println(s2);
      System.out.println("Area is " + s2.getArea());

      Shape s3 = new Shape("green");
   }
}
```

List out the errors in above mentioned code if any. Correct them to run the program successfully.

Question 2:

Re-write the `abstract` superclass Shape into an `interface`, containing only `abstract` methods, as follows:

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