

## **Lab 7**

### **Abstract classes and interfaces**

**Learning outcome:**

At the end of this lab, student should be able:

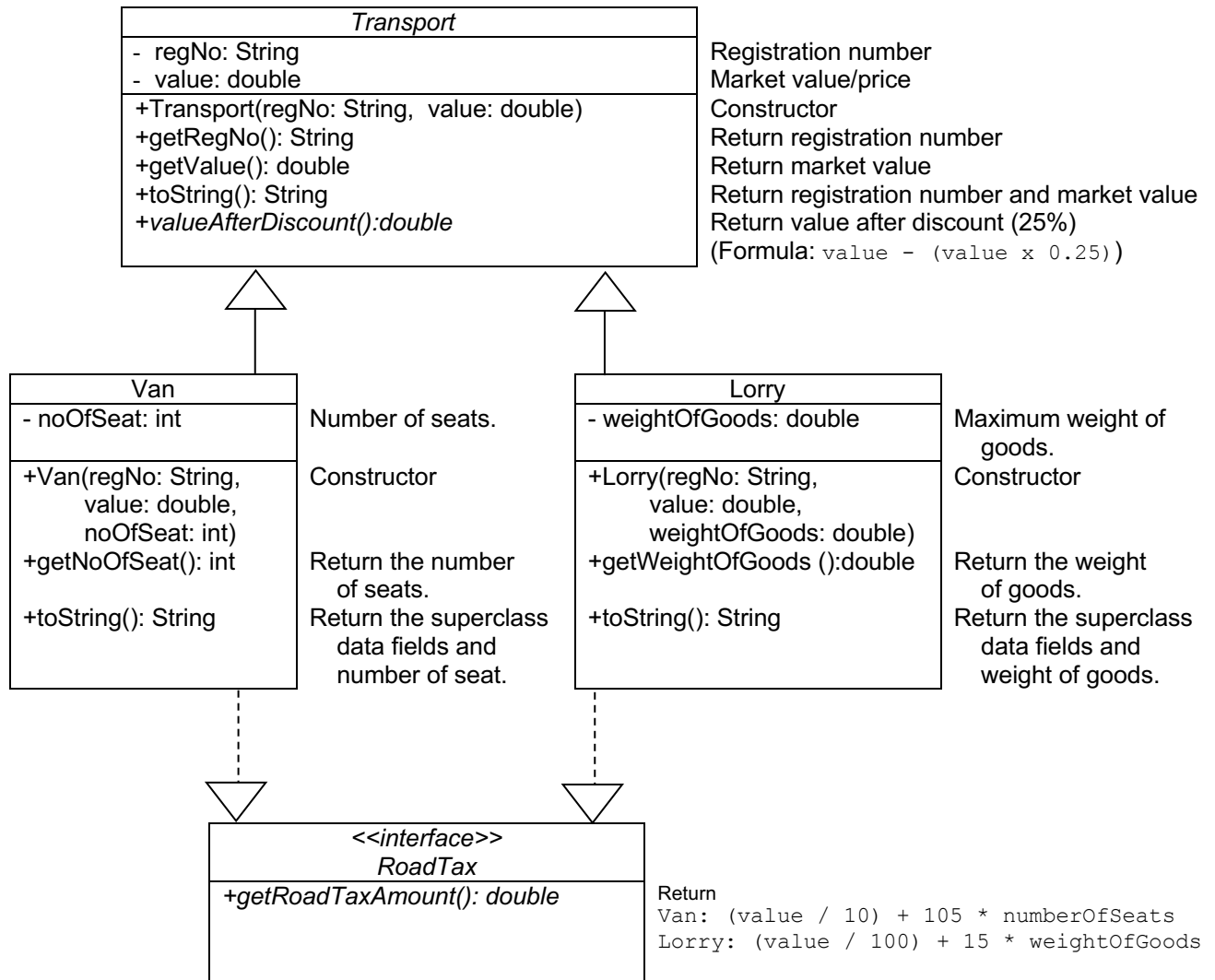
1. to analyze the problem and construct an object-oriented program by implementing abstract class and interface.

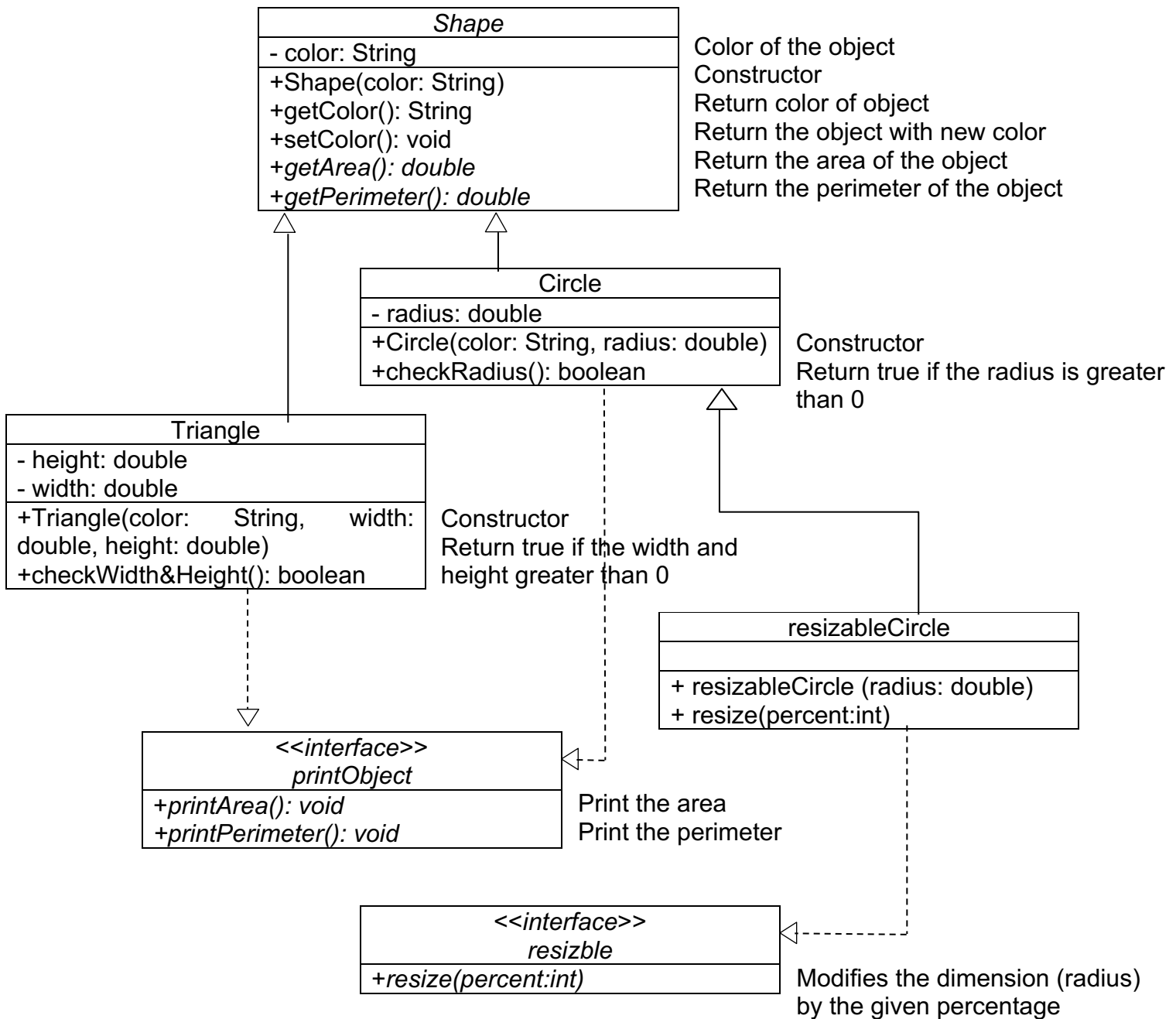
**Dateline:** Ends of Week 11 - depending on your lab hour. Submit to your demonstrator before the lab session ends. Upload to Putrablast.

**\*\*** Copy or other forms of cheating is forbidden. The standard penalty for the first offence is to award 0 to all parties concerned.

**Questions:**

Construct the classes based on the following UML diagram, which consists of abstract Transport class, Van and Lorry classes, and RoadTax interface. Write the complete Java program code for the following diagram.





Based on the UML diagram write an application demonstrating that you can create both a circle and triangle, and display the area and perimeter. Write an application named shapeArray in which you create an array that holds 10 shapes, some Circle and some Triangle. Using a for loop, display details about all shape objects.