

# CS F213 OOP Lab 5 : Abstract Classes

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General instructions:

1. Read the question carefully
2. Indent your code so as to make your code more readable and amenable to debugging.

In this lab we will be focusing on the concept of abstract classes and how they can be used to implement runtime polymorphism.

The objective of this lab will be to simulate a race and predict the winner. A brief description of the classes involved are mentioned below.

1. Two abstract classes named ***RacePerson*** and ***Vehicle***
2. Each Person can either be a **Driver** or a **CrewMember**
3. Each Vehicle can either be a **TwoWheeler** or a **FourWheeler**.
4. A **Team** consists of a Driver, CrewMember and a Vehicle.
5. A **Race** consists of a collection of different Teams.

Note:

1. TwoWheelers and FourWheelers take part in different races.
2. All calculations are of type *int* only.

You will have to implement various methods in each of these classes as per the javadoc in order to successfully simulate the race.

The test cases are as follows:

1. RacePerson - 1 Mark
2. Vehicle - 1 Mark
3. Driver - 1 Mark
4. CrewMember - 1 Mark
5. TwoWheeler - 1 Mark
6. FourWheeler - 1 Mark
7. Team - 2 Marks
8. Race - 2 Marks