

## Inheritance Activity

1. Write a Java program to Implement this task.

Create a class **Vehicle**

Include the following protected data members / attributes:

make – of type String

vehicleNumber – of type String

fuelType – of type String

fuelCapacity - of type Integer

cc – of type Integer

Include the following public methods

Create a constructor that initializes all the data members --- `public Vehicle(String make,String vehicleNumber,String fuelType,Integer fuelCapacity,Integer cc)`

displayMake – Display the make of the vehicle

"displayBasicInfo" – display basic information of the vehicle.

"displayDetailInfo" – An empty method.

Create a class **TwoWheeler** that extends Vehicle

Include the following private attributes / data members:

kickStartAvailable – of type Boolean.

Include the following public methods

Include appropriate constructors.

"displayDetailInfo" – displays the availability of kick start.

Create a class **FourWheeler** that extends Vehicle

Include the following private attributes / data members:

audioSystem – of type String.

numberOfDoors – of type Integer.

Include the following public methods

Include appropriate constructors.

"displayDetailInfo" - displays the audio system and number of doors.

Include getter setters for all the classes.

Create a main class to test the classes defined above.

### **Input and Output Format:**

Refer sample input and output for formatting specifications.

All text in bold corresponds to input and the rest corresponds to output

### **Sample Input Output 1:**

1.Four Wheeler  
2.Two Wheeler  
Enter Vehicle Type:

**1**

Vehicle Make:

**Volvo**

Vehicle Number:

**TN01BR9689**

Fuel Type:

1.Petrol

2.Diesel

**2**

Fuel Capacity:

**40**

Engine CC:

**1960**

Audio System:

**Beats**

Number of Doors:

**5**

\*\*\*Volvo\*\*\*

---Basic Information---

Vehicle Number:TN01BR9689

Fuel Capacity:40

Fuel Type:Diesel

CC:1960

---Detail Information---

Audio System:Beats

Number of Doors:5

### **Sample Input and Output 2:**

1.Four Wheeler  
2.Two Wheeler  
Enter Vehicle Type:

**2**

Vehicle Make:

**Suzuki**

Vehicle Number:

**TN60Z1234**

Fuel Type:

1.Petrol

2.Diesel

**1**

Fuel Capacity:

**15**

Engine CC:

**150**

Kick Start Available(yes/no):

**yes**

\*\*\*Suzuki\*\*\*

---Basic Information---

Vehicle Number:TN60Z1234

Fuel Capacity:15

Fuel Type:Petrol

CC:150

---Detail Information---

Kick Start Available:YES

2. Write a Java program to Implement this task.

Create a class **HotelRoom**

Include the following protected data members / attributes:

hotelName – of type String

numberOfSqFeet – of type Integer

hasTV - of type Boolean

hasWifi – of type Boolean

Include the following public methods :

Create a constructor that initializes all the data members

**public** HotelRoom(String hotelName,Integer numberOfSqFeet,Boolean hasTV,Boolean hasWifi)

"calculateTariff" – Calculates cost using the number of sq feet and cost per sq feet and returns an Integer.

"getRatePerSqFeet" - This method returns an Integer. In this case, it always returns 0

Create a class **DeluxeRoom** that extends **HotelRoom**

Include the following protected attributes / data members:

ratePerSqFeet – of type Integer.

Include the following public methods :

Include a constructor that sets ratePerSqFeet as 10.

**public** HotelRoom(String hotelName,Integer numberOfSqFeet,Boolean hasTV,Boolean hasWifi)

"getRatePerSqFeet" – returns (ratePerSqFeet + 2) if wifi is present, else returns ratePerSqFeet.

Create a class **DeluxeACRoom** that extends **DeluxeRoom**

Include the following public methods :

Include a constructor that sets ratePerSqFeet as 12.

Create a class **SuiteACRoom** that extends **HotelRoom**

Include the following private attributes / data members:

ratePerSqFeet – of type Integer.

Include the following public methods :

Include a constructor that sets ratePerSqFeet as 15.

**public** HotelRoom(String hotelName,Integer numberOfSqFeet,Boolean hasTV,Boolean hasWifi)

getRatePerSqFeet – returns (ratePerSqFeet + 2) if wifi is present, else returns ratePerSqFeet.

Create a Main class to test the above classes.

**Sample Input Output 1:**

Hotel Tariff Calculator

1. Deluxe Room

2. Deluxe AC Room

3. Suite AC Room

Select Room Type:

**1**

Hotel Name:

**Taj**

Room Square Feet Area:

**3200**

Room has TV (yes/no):

**yes**

Room has Wifi (yes/no):

**yes**

Room Tariff per day is:38400