**Vehicle class with main class**

//abstract class

public abstract class Vehicle {

//abstract methods(do not have a body)

public abstract void accelerate();

public abstract void stop();

public abstract void gas();

//interface class

interface Automobile{

//interface methods(do not have a body)

public void accelerate(int acc);//overloaded method(same method name,different parameters)

public void gasRequired(int noofLitres);

public void display();

}

public static void main(String[] args) {

//Creating an instance of Sedan

Sedan sedanInstance = new Sedan();

sedanInstance.accelerate(100);

sedanInstance.gasRequired(20);

sedanInstance.display();

sedanInstance.print()

}

**Bus Class**

class Bus extends Vehicle{

@Override

public void accelerate(){

System.out.println("Accelerating...");

}

@Override

public void stop(){

System.out.println("Stopping...");

}

@Override

public void gas(){

System.out.println("Uses gas...");

}

}

**MotorCycle Class**

class Motorcycle extends Vehicle{

//overriden methods(same method name,same parameters)

@Override

public void accelerate(){

System.out.println("Accelerating...");

}

@Override

public void stop(){

System.out.println("Stopping...");

}

@Override

public void gas(){

System.out.println("Uses gas...");

}

}

**Sedan Class**

class Sedan implements Vehicle.Automobile{

int speed;

int amountOfLitres;

@Override

public void accelerate(int acc){

speed=speed+acc;

}

@Override

public void gasRequired(int noOfLitres){

amountOfLitres =50-noOfLitres;

}

@Override

public void display(){

System.out.println("...An Automobile...");

}

public void print(){

System.out.println("Speed: "+ speed +" Gas Required: "+amountOfLitres );

}

**SportCar class**

class Sportcar implements Vehicle.Automobile{

int speed;

int amountOfLitres;

@Override

public void accelerate(int acc){

speed=speed+acc;

}

@Override

public void gasRequired(int noOfLitres){

amountOfLitres =50-noOfLitres;

}

@Override

public void display(){

System.out.println("...An Automobile...");

}

public void print(){

System.out.println("Speed:"+ speed +"Gas Required:"+ amountOfLitres);

}

}