1.Create a base class Vehicle and derived classes Car and Bike. Implement method overriding and demonstrate polymorphism.

//Vehicle Class

**package** Vehicle;

**public** **class** **vehicle** {

**public** **void** **startEngine**() {

**System**.***out***.println("The vehicle's engine is starting.");

}

}

//Car class

**package** Vehicle;

**public** **class** **car** **extends** **vehicle** {

***@Override***

**public** **void** **startEngine**() {

**System**.***out***.println("The car's engine roars to life with a vroom!");

}

}

//Bike class

**package** Vehicle;

**public** **class** **bike** **extends** **vehicle**{

***@Override***

**public** **void** **startEngine**() {

**System**.***out***.println("The bike's engine starts with a gentle purr.");

}

}

//Main class

**package** Vehicle;

**public** **class** **main** {

**public** **static** **void** **startVehicleEngine**(**vehicle** vehicle) {

vehicle.startEngine();

}

**public** **static** **void** **main**(**String**[] args) {

// Create instances of Car and Bike

**vehicle** **myCar** = **new** car();

**vehicle** **myBike** = **new** bike();

// Call startVehicleEngine with different types of vehicles

*startVehicleEngine*(myCar); // Output: The car's engine roars to life with a vroom!

*startVehicleEngine*(myBike); // Output: The bike's engine starts with a gentle purr.

}

}