```
// Interface defining the Vehicle
interface Vehicle {
   void accelerate();
   void brake();
// Car class implementing the Vehicle interface
class Car implements Vehicle {
   @Override
   public void accelerate() {
       System.out.println("Car is accelerating.");
   @Override
   public void brake() {
       System.out.println("Car is braking.");
   // Method overloading for accelerate() in Car class
   public void accelerate(int speed) {
       System.out.println("Car is accelerating at speed: " + speed + " km/h.");
   public void accelerate(int speed, int duration) {
       System.out.println("Car is accelerating at speed: " + speed + " km/h for " + duration + " seconds.");
// Bicycle class implementing the Vehicle interface
class Bicycle implements Vehicle {
   @Override
   public void accelerate() {
       System.out.println("Bicycle is speeding up.");
   @Override
   public void brake() {
       System.out.println("Bicycle is applying brakes.");
   // Method overloading for accelerate() in Bicycle class
   public void accelerate(int speed) {
       System.out.println("Bicycle is accelerating at speed: " + speed + " km/h.");
   public void accelerate(int speed, int duration) {
       System.out.println("Bicycle is accelerating at speed: " + speed + " km/h for " + duration + " seconds.");
// Main class to demonstrate the program
public class \overline{	t Q8Main} \{
   public static void main(String[] args) {
       // Creating objects of Car and Bicycle
       Car car = new Car();
       Bicycle bicycle = new Bicycle();
       // Testing overridden methods
       System.out.println("Testing Car:");
       car.accelerate();
       car.brake();
       System.out.println("\nTesting Bicycle:");
       bicycle.accelerate();
       bicycle.brake();
        // Testing method overloading
       System.out.println("\nMethod Overloading in Car:");
        car.accelerate(60);
       car.accelerate(80, 10);
       System.out.println("\nMethod Overloading in Bicycle:");
       bicycle.accelerate(20);
       bicycle.accelerate(30, 5);
```