```java
1 package person;
2
3 public class Main {
4     // Main class to test the classes and method overriding
5     public static void main(String[] args) {
6         // Creating objects of Doctor, Surgeon, and Nurse
7         Doctor doctor = new Doctor();
8         Surgeon surgeon = new Surgeon();
9         Nurse nurse = new Nurse();
10
11         // Calling work method for each object to demonstrate method overriding
12         System.out.println("Doctor's Work:");
13         doctor.work();  // Calls work() method from Doctor class
14
15         System.out.println("\nSurgeon's Work:");
16         surgeon.work();  // Calls overridden work() method from Surgeon class
17
18         System.out.println("\nNurse's Work:");
19         nurse.work();  // Calls overridden work() method from Nurse class
20
21         // Specific actions for Surgeon and Nurse
22         System.out.println("\nSurgeon-Specific Action:");
23         surgeon.performSurgery();  // Surgeon-specific method
24
25         System.out.println("\nNurse-Specific Action:");
26         nurse.administerInjection();  // Nurse-specific method
27     }
28 }
29
30
```

- person
- Main
  - main(String[]) : void

Javadoc Declaration Console ×

<terminated> Main (1) [Java Application] C:\Users\josej\Downloads\spring-tool-suite-4-4.26.0.RELEASE-e4.33.0-win32.win32.x86_64\sts-4.26.0.RELEASE\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_21

Doctor's Work:
The doctor diagnoses and treats patients.

Surgeon's Work:
The surgeon performs surgeries on patients.

Nurse's Work:
The nurse takes care of patients and assists doctors.

```java
1  package person;
2
3  public class MainVEHICLE {
4
5      // Main class to test the Vehicle hierarchy
6      public class VehicleTest {
7          public static void main(String[] args) {
8              // Create objects for Truck, Car, and Motorcycle
9              Truck truck = new Truck("Ford", "F-150", 2020, "Diesel", 5.0);
10             Car car = new Car("Toyota", "Camry", 2021, "Gasoline", 4);
11             Motorcycle motorcycle = new Motorcycle("Harley-Davidson", "Iron 883", 2022, "Gasoline", false);
12
13             // Display details of each vehicle
14             System.out.println("Truck Details:");
15             truck.displayTruckDetails();
16             System.out.println("Max Speed: " + truck.getMaxSpeed() + " km/h");
17
18             System.out.println("\nCar Details:");
19             car.displayCarDetails();
20             System.out.println("Max Speed: " + car.getMaxSpeed() + " km/h");
21
22             System.out.println("\nMotorcycle Details:");
23             motorcycle.displayMotorcycleDetails();
24             System.out.println("Max Speed: " + motorcycle.getMaxSpeed() + " km/h");
25
26             // Demonstrate fuel efficiency and distance calculations
27             double fuelEfficiency = truck.calculateFuelEfficiency(500, 50); // Distance 500 km, Fuel 50 liters
28             System.out.println("\nTruck Fuel Efficiency: " + fuelEfficiency + " km/l");
29             double distanceTraveled = truck.calculateDistanceTraveled(50, fuelEfficiency); // Fuel 50 liters
30             System.out.println("Truck Distance Traveled with 50 liters of fuel: " + distanceTraveled + " km");
31         }
```

```java
1  package person;
2
3  public class main {
4      // Main class to test the interface and classes
5      public static void main(String[] args) {
6              // Creating an object of Student
7              Person student = new Student();
8              student.speak();   // Calling the speak method of Student
9
10             // Creating an object of Teacher
11             Person teacher = new Teacher();
12             teacher.speak();   // Calling the speak method of Teacher
13         }
14     }
15
16
```