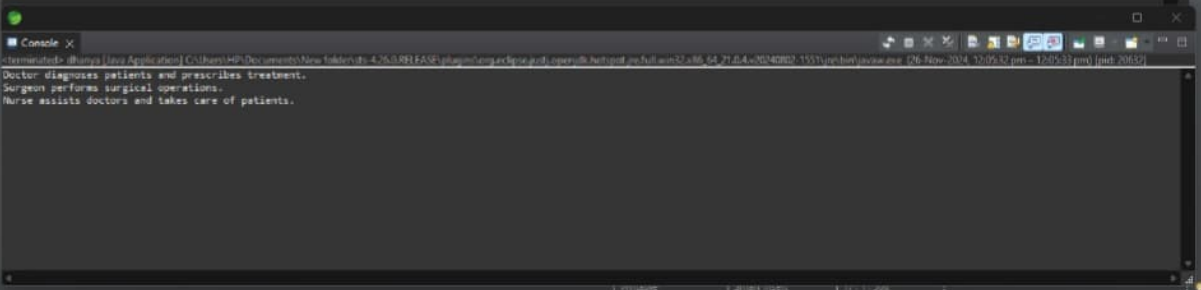


```

1 package lab7;
2
3
4
5 public class dhanya {
6     // Create objects of each class
7     MedicalStaff doctor = new Doctor();
8     MedicalStaff surgeon = new Surgeon();
9     MedicalStaff nurse = new Nurse();
10
11     // Call the work method on each object
12     doctor.work(); // Calls Doctor's work method
13     surgeon.work(); // Calls Surgeon's work method
14     nurse.work(); // Calls Nurse's work method
15 }
16
17
18

```



IntelliJ IDEA interface showing a Java project named "lab7". The Package Explorer on the left lists the project structure, including packages "lab10" and "lab7". The main editor displays the code for "Main.java" in the "lab7" package. The code defines a "Main" class with a "main" method that creates and calls the "speak" method on "Student" and "Teacher" objects.

```
1 package lab7;
2
3
4 public class Main {
5     // Create an object of Student
6     Person student = new Student("Guhan");
7     student.speak(); // Call the speak method
8
9     // Create an object of Teacher
10    Person teacher = new Teacher("Mrs.Revathi");
11    teacher.speak(); // Call the speak method
12
13 }
14
15
16
```

The Console window at the bottom shows the output of the program:

```
terminated: Main [1] Java Application [C:\Users\HP\Documents\New folder\lab7\src\lab7\Main.java] [26-Nov-2024 12:06:28 pm - 12:06:31 pm] [pid 21188]
I am a student. My name is Guhan.
I am a teacher. My name is Mrs.Revathi.
```

```

ShowRoom.java
50
51
52 // Override
53
54 public double maximumSpeed() {
55     return 80; // Example maximum speed for a truck in mph
56 }
57
58 public void displayTruckInfo() {
59     displayInfo();
60     System.out.println("Payload Capacity: " + payloadCapacity + " tons");
61     System.out.println("Maximum Speed: " + maximumSpeed() + " mph");
62     System.out.println();
63 }
64 }
65 }
66
67 // Subclass Car
68 class Car extends Vehicle {
69     private int numberOfDoors;
70
71     public Car(String make, String model, int year, String fuelType, int numberOfDoors) {
72         super(make, model, year, fuelType);
73         this.numberOfDoors = numberOfDoors;
74     }
75
76 // Override
77 public double maximumSpeed() {
78     return 120; // Example maximum speed for a car in mph
79 }
80
81 public void displayCarInfo() {
82     displayInfo();
83     System.out.println("Number of Doors: " + numberOfDoors);
84     System.out.println("Maximum Speed: " + maximumSpeed() + " mph");
85 }

```

```

    make: String
    model: String
    year: int
    fuelType: String
    Vehicle(String, String, int, String)
    calculateFuelEfficiency(double, double): double
    calculateDistance(double, double): double
    maximumSpeed(): double
    displayInfo(): void
    Truck
    payloadCapacity: double
    truck(String, String, int, String, double)
    maximumSpeed(): double
    displayTruckInfo(): void
    Car
    numberOfDoors: int
    Car(String, String, int, String, int)
    maximumSpeed(): double
    displayCarInfo(): void
    Motorcycle
    hasSidecar: boolean
    Motorcycle(String, String, int, String, boolean)
    maximumSpeed(): double
    displayMotorcycleInfo(): void

```

```

Console X
C:\Users\j\Documents\New folder\src\4.25.0 RELEASE\plugins\org.eclipse.just.openjdk.hotspot.jre.full.win32.x86_64_21.0.4.vjck40002-1551\jre\bin\java.exe (26-Nov-2024, 12:07:25 pm - 12:07:27 pm) [pid: 19924]

Truck Information:
Make: Chevrolet
Model: Chevrolet Silverado 1500

Year: 2020
Fuel Type: Gasoline
Payload Capacity: 2.5 tons
Maximum Speed: 80.0 mph

Car Information:
Make: Kia
Model: Kia Rio
Year: 2021
Fuel Type: Hybrid
Number of Doors: 4
Maximum Speed: 120.0 mph

Motorcycle Information:
Make: Harley-Davidson
Model: Street 750
Year: 2020
Fuel Type: Gasoline
Has Sidecar: No

```