eclipse-workspace - TrafficSignalOptimization/src/TrafficSignalOptimization/TrafficManagementSystem.java - Eclipse IDE

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Project Explorer

- dharshini
- dj
- TrafficSignalOptimization
  - JRE System Library [JavaSE-15]
  - src

*TrafficManagementSystem.java

```java
package TrafficSignalOptimization;
import java.util.List;
import java.util.ArrayList;
import java.util.Scanner;

public class TrafficManagementSystem {

    static class TrafficSensorData {
        private int intersectionId;
        private int vehicleCount;
        private int pedestrianCount;

        public TrafficSensorData(int intersectionId, int vehicleCount, int pedestrianCount) {
            this.intersectionId = intersectionId;
            this.vehicleCount = vehicleCount;
            this.pedestrianCount = pedestrianCount;
        }

        public int getIntersectionId() {
            return intersectionId;
        }

        public int getVehicleCount() {
            return vehicleCount;
        }

        public int getPedestrianCount() {
            return pedestrianCount;
        }
    }
```

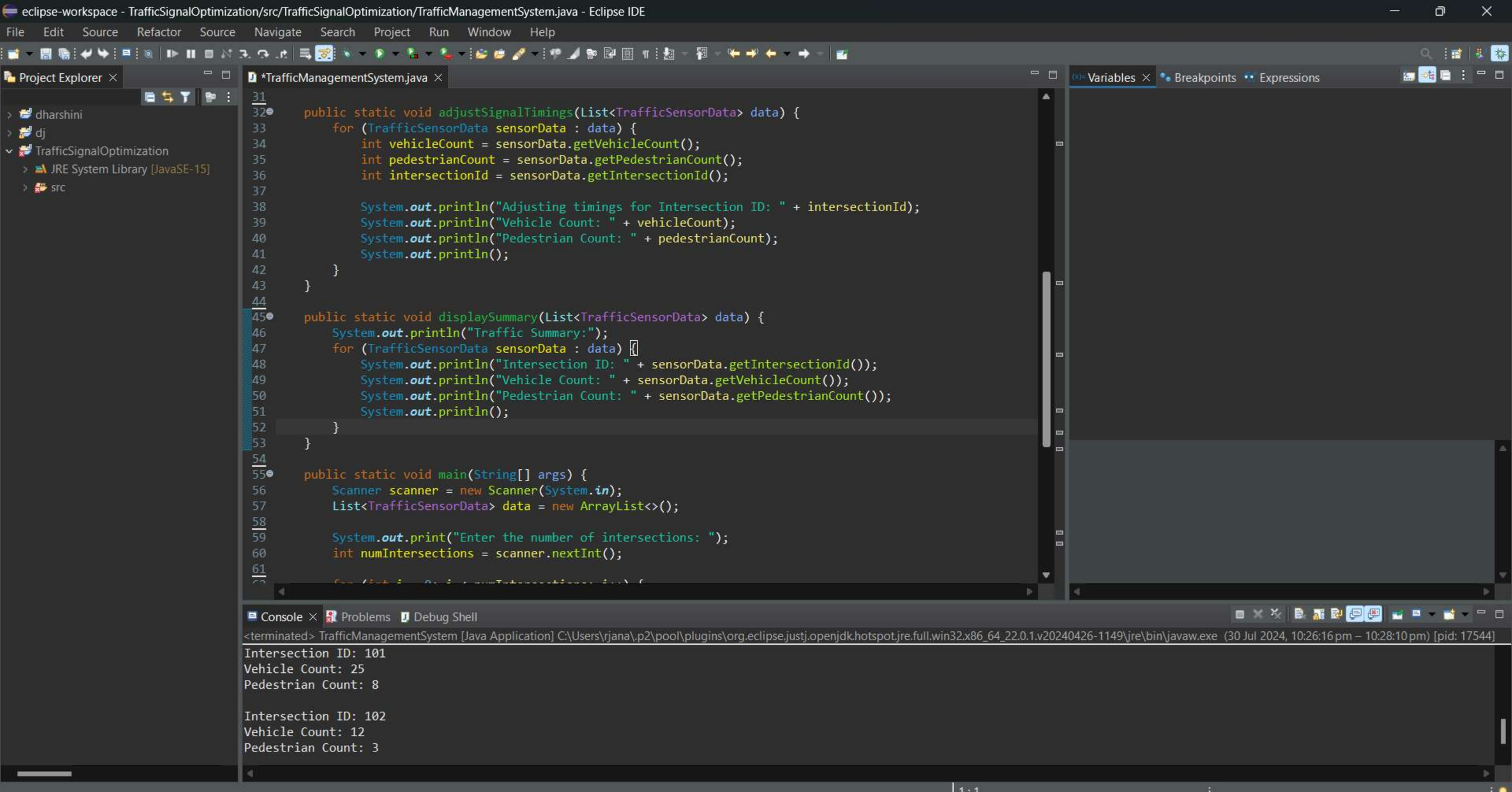
Variables Breakpoints Expressions

Console Problems Debug Shell

<terminated> TrafficManagementSystem [Java Application] C:\Users\rjana\.p2\pool\plugins\org.eclipse.justj.openjdk.hotspot.jre.full.win32.x86_64_22.0.1.v20240426-1149\jre\bin\javaw.exe (30 Jul 2024, 10:26:16 pm – 10:28:10 pm) [pid: 17544]

```
Intersection ID: 101
Vehicle Count: 25
Pedestrian Count: 8

Intersection ID: 102
Vehicle Count: 12
Pedestrian Count: 3
```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*TrafficManagementSystem.java
31
32 public static void adjustSignalTimings(List<TrafficSensorData> data) {
33 for (TrafficSensorData sensorData : data) {
34 int vehicleCount = sensorData.getVehicleCount();
35 int pedestrianCount = sensorData.getPedestrianCount();
36 int intersectionId = sensorData.getIntersectionId();
37
38 System.out.println("Adjusting timings for Intersection ID: " + intersectionId);
39 System.out.println("Vehicle Count: " + vehicleCount);
40 System.out.println("Pedestrian Count: " + pedestrianCount);
41 System.out.println();
42 }
43 }
44
45 public static void displaySummary(List<TrafficSensorData> data) {
46 System.out.println("Traffic Summary:");
47 for (TrafficSensorData sensorData : data) {
48 System.out.println("Intersection ID: " + sensorData.getIntersectionId());
49 System.out.println("Vehicle Count: " + sensorData.getVehicleCount());
50 System.out.println("Pedestrian Count: " + sensorData.getPedestrianCount());
51 System.out.println();
52 }
53 }
54
55 public static void main(String[] args) {
56 Scanner scanner = new Scanner(System.in);
57 List<TrafficSensorData> data = new ArrayList<>();
58
59 System.out.print("Enter the number of intersections: ");
60 int numIntersections = scanner.nextInt();
61
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Intersection ID: 101
Vehicle Count: 25
Pedestrian Count: 8
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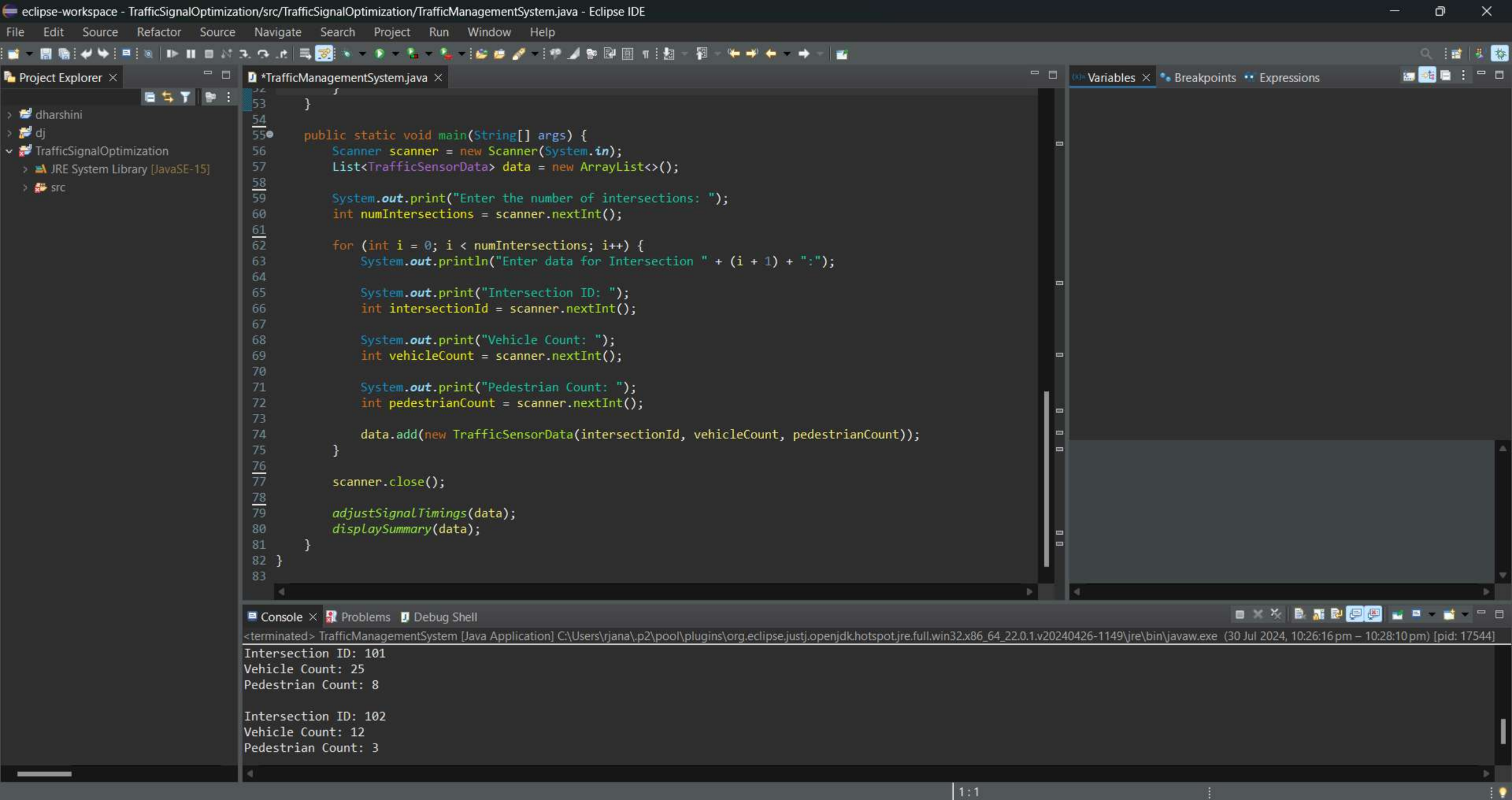
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53 }
54
55 public static void main(String[] args) {
56 Scanner scanner = new Scanner(System.in);
57 List<TrafficSensorData> data = new ArrayList<>();
58
59 System.out.print("Enter the number of intersections: ");
60 int numIntersections = scanner.nextInt();
61
62 for (int i = 0; i < numIntersections; i++) {
63 System.out.println("Enter data for Intersection " + (i + 1) + ":");
64
65 System.out.print("Intersection ID: ");
66 int intersectionId = scanner.nextInt();
67
68 System.out.print("Vehicle Count: ");
69 int vehicleCount = scanner.nextInt();
70
71 System.out.print("Pedestrian Count: ");
72 int pedestrianCount = scanner.nextInt();
73
74 data.add(new TrafficSensorData(intersectionId, vehicleCount, pedestrianCount));
75 }
76
77 scanner.close();
78
79 adjustSignalTimings(data);
80 displaySummary(data);
81 }
82 }
83
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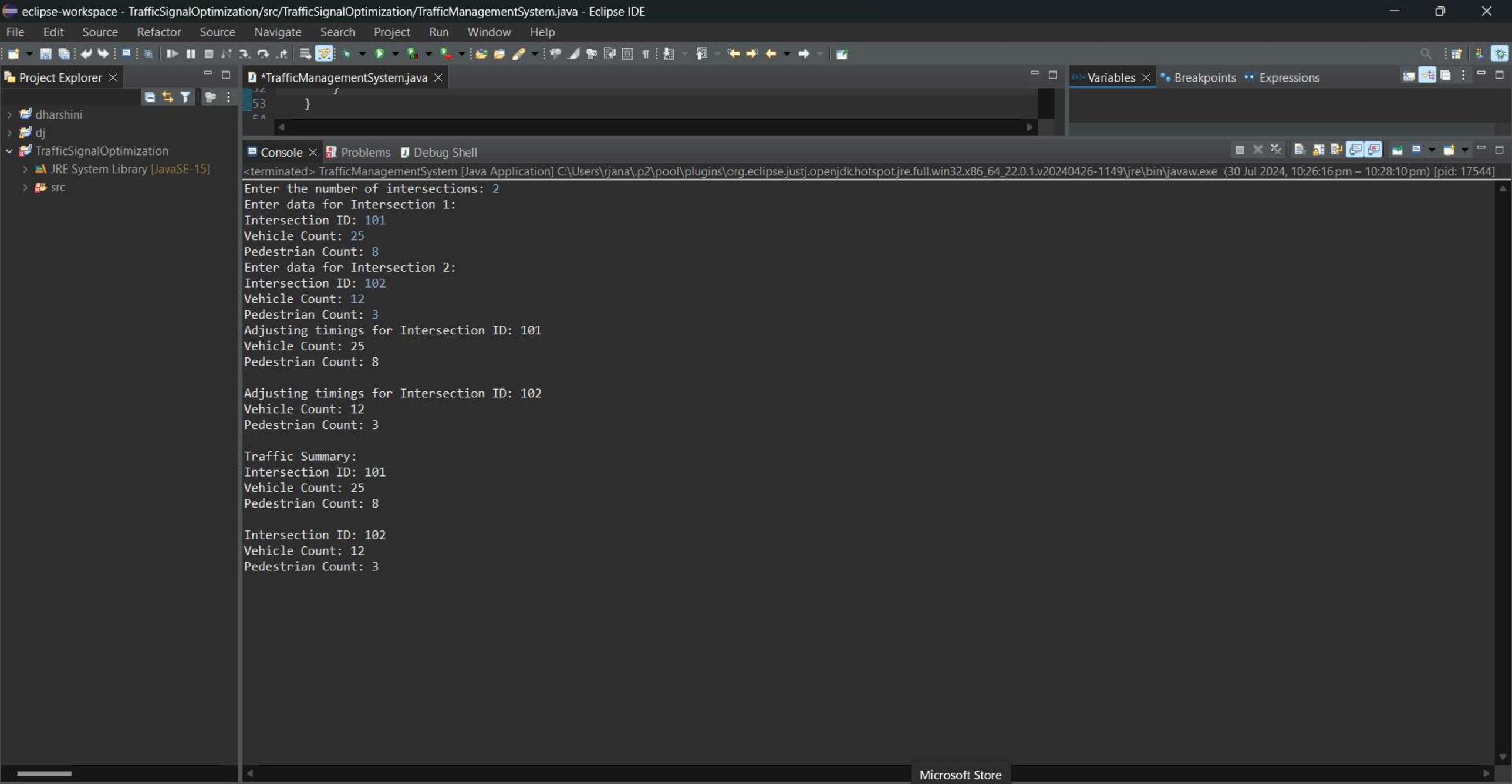
Intersection ID: 101
Vehicle Count: 25
Pedestrian Count: 8
Intersection ID: 102
Vehicle Count: 12
Pedestrian Count: 3
1 : 1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Enter the number of intersections: 2
Enter data for Intersection 1:
Intersection ID: 101
Vehicle Count: 25
Pedestrian Count: 8
Enter data for Intersection 2:
Intersection ID: 102
Vehicle Count: 12
Pedestrian Count: 3
Adjusting timings for Intersection ID: 101
Vehicle Count: 25
Pedestrian Count: 8
Adjusting timings for Intersection ID: 102
Vehicle Count: 12
Pedestrian Count: 3
Traffic Summary:
Intersection ID: 101
Vehicle Count: 25
Pedestrian Count: 8
Intersection ID: 102
Vehicle Count: 12
Pedestrian Count: 3
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