

# Rajalakshmi Engineering College

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## 2024\_28\_III\_OOPS Using Java Lab

### 2028\_REC\_OOPS using Java\_Week 5\_Q4

Attempt : 1  
Total Mark : 10  
Marks Obtained : 10

#### **Section 1 : Coding**

##### **1. Problem Statement**

You are working as a developer for CityCab, a taxi service company that wants to build a ride fare management system.

Each customer booking has:

A Booking ID (integer)  
A Customer Name (string)  
A Distance Travelled in km (double)

The fare calculation rules are:

Base Fare = 50 units (flat charge for every ride). Per km charge = 10 units/km. If the distance is greater than 20 km, a 10% discount is applied on the total fare.

You are required to implement this system using:

A class with attributes for booking details. A constructor to initialize booking details. Setter methods to update details if needed. Getter methods to retrieve details. Objects of the class to represent customer rides.

Finally, display each booking's details and final fare.

### ***Input Format***

The first line of input contains an integer N, representing the number of bookings.

For each booking:

- The next line contains the booking ID (integer).
- The following line contains the customer's name (string).
- The next line contains the distance travelled (double).

### ***Output Format***

For each booking, print the details in the following format:

1. Booking ID: <booking\_id>
2. Customer Name: <customer\_name>
3. Final Fare: <final\_fare> (rounded to one decimal place)

Refer to the sample output for formatting specifications.

### ***Sample Test Case***

Input: 1

1234

Rahul Sharma

15

Output: Booking ID: 1234

Customer Name: Rahul Sharma

Final Fare: 200.0

### ***Answer***

```
import java.util.Scanner;
```

```
// Class to represent a booking
```

```
class Booking {  
    private int bookingId;  
    private String customerName;  
    private double distanceTravelled;  
    private double finalFare;  
  
    // Constructor  
    public Booking(int bookingId, String customerName, double distanceTravelled)  
    {  
        this.bookingId = bookingId;  
        this.customerName = customerName;  
        this.distanceTravelled = distanceTravelled;  
        this.finalFare = calculateFare();  
    }  
  
    // Fare calculation method  
    private double calculateFare() {  
        double baseFare = 50;  
        double perKmCharge = 10 * distanceTravelled;  
        double totalFare = baseFare + perKmCharge;  
  
        if (distanceTravelled > 20) {  
            totalFare = totalFare - (totalFare * 0.10); // 10% discount  
        }  
  
        return totalFare;  
    }  
  
    // Display booking details  
    public void displayDetails() {  
        System.out.println("Booking ID: " + bookingId);  
        System.out.println("Customer Name: " + customerName);  
        System.out.printf("Final Fare: %.1f\n", finalFare);  
    }  
}  
  
// Main class  
public class Main {  
    public static void main(String[] args) {  
        Scanner scanner = new Scanner(System.in);  
  
        int N = Integer.parseInt(scanner.nextLine()); // Number of bookings
```

```
Booking[] bookings = new Booking[N];  
  
for (int i = 0; i < N; i++) {  
    int bookingId = Integer.parseInt(scanner.nextLine());  
    String customerName = scanner.nextLine();  
    double distance = Double.parseDouble(scanner.nextLine());  
  
    Booking booking = new Booking(bookingId, customerName, distance);  
    bookings[i] = booking;  
}  
  
// Output  
for (Booking b : bookings) {  
    b.displayDetails();  
}  
  
scanner.close();  
}  
}
```

**Status :** Correct

**Marks :** 10/10