# Rajalakshmi Engineering College

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## 2024_28_III_OOPS Using Java Lab

### 2028_REC_OOPS using Java_Week 5_MCQ

Attempt : 1
Total Mark : 15
Marks Obtained : 14

### Section 1 : MCQ

1. What will be the output of the following code?

```
class Alpha {
    void greet(String name) {
        System.out.println("Hello " + name);
    }
}

public class Main {
    public static void main(String[] args) {
        Alpha obj = new Alpha();
        obj.greet("Anu");
    }
}
```

***Answer***

Hello Anu

***Status :*** Correct **Marks : 1/1**

2. What will be the output of the following code?

```
class A {
   int p = 5;
   int q = 2;
}

class Main {
   public static void main(String[] args) {
      A obj = new A();
      System.out.println(obj.p + obj.q);
   }
}
```

***Answer***

7

***Status :*** Correct **Marks : 1/1**

3. What will be the output of the following code?

```
class MathUtils {
   int add(int x) {
      return x + x;
   }
}

public class Main {
   public static void main(String[] args) {
      MathUtils m = new MathUtils();
      System.out.println(m.add(5));
   }
}
```

***Answer***

10

***Status :*** Correct **Marks : 1/1**

4. What will be the output of the following code?

```
class Person {
   String name;
   void setName(String n) {
      name = n;
   }
   void printName() {
      System.out.println(name);
   }
}

class Test {
   public static void main(String[] args) {
      Person p = new Person();
      p.printName();
   }
}
```

***Answer***

null

***Status :*** Correct **Marks : 1/1**

5. What will be the output of the following code?

```
class A {
   int x = 50;
}

public class Main {
   public static void main(String[] args) {
      A obj1 = new A();
      A obj2 = obj1;
      obj2.x = 100;
```

```
        System.out.println(obj1.x);
    }
}
```

***Answer***

100

***Status :*** Correct ***Marks : 1/1***

6. What will be the output of the following code?

```
class A {
    int y = 30;
}

public class Main {
    public static void main(String[] args) {
        A a1 = new A();
        A a2 = new A();
        a1.y = 50;
        System.out.println(a2.y);
    }
}
```

***Answer***

30

***Status :*** Correct ***Marks : 1/1***

7. What will be the output of the following code?

```
class Person {
    int age = 18;
}

public class Main {
    public static void main(String[] args) {
        Person p = new Person();
        p.age += 2;
```

```
        System.out.println("Age: " + p.age);
    }
}
```

***Answer***

Age: 20

***Status :*** Correct ***Marks : 1/1***

8. What will be the output of the following code?

```
class Box {
    int length = 5;
    int width = 4;

    int area() {
        return length * width;
    }

    public static void main(String[] args) {
        Box b = new Box();
        System.out.println("Area = " + b.area());
    }
}
```

***Answer***

Area = 20

***Status :*** Correct ***Marks : 1/1***

9. What will be the output of the following code?

```
class Test {
    private int value;
    Test(int value) {
        this.value = value;
    }
    public int getValue() {
        return value;
```

```
    }
}
public class Main {
    public static void main(String[] args) {
        Test obj = new Test(10);
        System.out.println(obj.value);
    }
}
```

***Answer***

Runtime error

***Status :*** Wrong ***Marks : 0/1***

10. What will be the output of the following code?

```
class Box {
    int volume(int l, int b, int h) {
        return l * b * h;
    }
}

public class Main {
    public static void main(String[] args) {
        Box b = new Box();
        System.out.println(b.volume(2, 3, 4));
    }
}
```

***Answer***

24

***Status :*** Correct ***Marks : 1/1***

11. What is the output of the following code?

```
class Box {
    int height;
    Box(int height) {
```

```
        this.height = height;
    }
    void modifyHeight(Box b) {
        b.height += 10;
    }
}
public class Main {
    public static void main(String[] args) {
        Box b1 = new Box(20);
        b1.modifyHeight(b1);
        System.out.println(b1.height);
    }
}
```

***Answer***

30

***Status :*** Correct ***Marks : 1/1***

12. What will be the output of the following code?

```
class Sample {
    int x = 10;

    void display() {
        System.out.println("x = " + x);
    }

    public static void main(String[] args) {
        Sample s = new Sample();
        s.display();
    }
}
```

***Answer***

x = 10

***Status :*** Correct ***Marks : 1/1***

13. What will be the output of the following code?

```
class Demo {
    void printMessage() {
        System.out.println("Hello from Demo");
    }
}

public class Main {
    public static void main(String[] args) {
        Demo d = new Demo();
        d.printMessage();
    }
}
```

***Answer***

Hello from Demo

***Status :*** Correct ***Marks : 1/1***

14. What will be the output of the following code?

```
class Ball {
    int size = 11;
}

class Game {
    public static void main(String[] args) {
        Ball b1 = new Ball();
        Ball b2 = new Ball();
        b2.size = 10;
        System.out.println(b1.size);
    }
}
```

***Answer***

11

***Status :*** Correct ***Marks : 1/1***

15. What will be the output of the following code?

```
class A {
    int val = 20;
}

public class Main {
    public static void main(String[] args) {
        A obj1 = new A();
        A obj2 = obj1;
        obj2.val += 5;
        System.out.println(obj1.val);
    }
}
```

***Answer***

25

***Status :*** Correct ***Marks : 1/1***

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## 2024_28_III_OOPS Using Java Lab

### 2028_REC_OOPS using Java_Week 5_Q2

Attempt : 1
Total Mark : 10
Marks Obtained : 10

### Section 1 : Coding

1. Problem Statement

You are working as a developer for CityBank, which wants to build a basic account management system.

Each customer at the bank has:

An Account Number (integer)A Customer Name (string)An Initial Balance (double)

The bank allows two types of transactions:

Deposit – increases the balance.Withdrawal – decreases the balance only if enough funds are available.

If the withdrawal amount is greater than the balance, the withdrawal should not happen, and the balance should remain the same.

You are required to implement this system using:

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

Finally, display each customer’s account details after all transactions.

***Input Format***

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

For each customer:

- The next line contains the account number (integer).
- The following line contains the customer name (string).
- The next line contains the initial balance (double).
- The next line contains the deposit amount (double).
- The next line contains the withdrawal amount (double).

***Output Format***

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

1. Account Number: <account_number>
2. Customer Name: <customer_name>
3. Final Balance: <final_balance> (rounded to one decimal place)

Refer to the sample output for formatting specifications.

***Sample Test Case***

Input: 1
1234
Rahul Sharma
5000
2000
3000
Output: Account Number: 1234
Customer Name: Rahul Sharma

Final Balance: 4000.0

***Answer***

```
// You are using Java
import java.util.Scanner;
class Account{
    int accno;
    String name;
    double balance;
    Account(int accno,String name,double balance){
        this.accno=accno;
        this.name=name;
        this.balance=balance;
    }
    void deposit(double amt){balance+=amt;}
    void withdraw(double amt){if (amt<=balance)balance-=amt;}
}
public class Main{
    public static void main(String[] args){
        Scanner sc=new Scanner(System.in);
        int n=sc.nextInt();
        sc.nextLine();
        for(int i=0;i<n;i++){
            int accno=sc.nextInt();
            sc.nextLine();
            String name=sc.nextLine();
            double bal=sc.nextDouble();
            double dep=sc.nextDouble();
            double wd=sc.nextDouble();
            Account a=new Account(accno,name,bal);
            a.deposit(dep);
            a.withdraw(wd);
            System.out.println("Account Number: "+a.accno);
            System.out.println("Customer Name: "+a.name);
            System.out.printf("Final Balance: %.1f\n",a.balance);
        }
    }
}
```

***Status :*** Correct ***Marks : 10/10***

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## 2024_28_III_OOPS Using Java Lab

### 2028_REC_OOPS using Java_Week 5_Q2

Attempt : 1
Total Mark : 10
Marks Obtained : 10

### Section 1 : Coding

1. Problem Statement

You are working as a developer for CityBank, which wants to build a basic account management system.

Each customer at the bank has:

An Account Number (integer)A Customer Name (string)An Initial Balance (double)

The bank allows two types of transactions:

Deposit – increases the balance.Withdrawal – decreases the balance only if enough funds are available.

If the withdrawal amount is greater than the balance, the withdrawal should not happen, and the balance should remain the same.

You are required to implement this system using:

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

Finally, display each customer’s account details after all transactions.

***Input Format***

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

For each customer:

- The next line contains the account number (integer).
- The following line contains the customer name (string).
- The next line contains the initial balance (double).
- The next line contains the deposit amount (double).
- The next line contains the withdrawal amount (double).

***Output Format***

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

1. Account Number: <account_number>
2. Customer Name: <customer_name>
3. Final Balance: <final_balance> (rounded to one decimal place)

Refer to the sample output for formatting specifications.

***Sample Test Case***

Input: 1
1234
Rahul Sharma
5000
2000
3000
Output: Account Number: 1234
Customer Name: Rahul Sharma

Final Balance: 4000.0

***Answer***

```
// You are using Java
import java.util.Scanner;
class Account{
    int accno;
    String name;
    double balance;
    Account(int accno,String name,double balance){
        this.accno=accno;
        this.name=name;
        this.balance=balance;
    }
    void deposit(double amt){balance+=amt;}
    void withdraw(double amt){if (amt<=balance)balance-=amt;}
}
public class Main{
    public static void main(String[] args){
        Scanner sc=new Scanner(System.in);
        int n=sc.nextInt();
        sc.nextLine();
        for(int i=0;i<n;i++){
            int accno=sc.nextInt();
            sc.nextLine();
            String name=sc.nextLine();
            double bal=sc.nextDouble();
            double dep=sc.nextDouble();
            double wd=sc.nextDouble();
            Account a=new Account(accno,name,bal);
            a.deposit(dep);
            a.withdraw(wd);
            System.out.println("Account Number: "+a.accno);
            System.out.println("Customer Name: "+a.name);
            System.out.printf("Final Balance: %.1f\n",a.balance);
        }
    }
}
```

***Status :*** Correct ***Marks : 10/10***

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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***

```
// You are using Java

import java.util.Scanner;
```

```
class Booking {
    private int bookingId;
    private String customerName;
    private double distanceTravelled;

    // Constructor
    public Booking(int bookingId, String customerName, double distanceTravelled)
{
        this.bookingId = bookingId;
        this.customerName = customerName;
        this.distanceTravelled = distanceTravelled;
    }

    // Setter methods
    public void setBookingId(int bookingId) {
        this.bookingId = bookingId;
    }

    public void setCustomerName(String customerName) {
        this.customerName = customerName;
    }

    public void setDistanceTravelled(double distanceTravelled) {
        this.distanceTravelled = distanceTravelled;
    }

    // Getter methods
    public int getBookingId() {
        return bookingId;
    }

    public String getCustomerName() {
        return customerName;
    }

    public double getDistanceTravelled() {
        return distanceTravelled;
    }

    // Method to calculate final fare
    public double calculateFare() {
```

```
        double baseFare = 50;
        double perKmCharge = 10;
        double totalFare = baseFare + (distanceTravelled * perKmCharge);

        if (distanceTravelled > 20) {
            totalFare *= 0.9; // Apply 10% discount
        }

        return totalFare;
    }
}

public class Main {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int n = Integer.parseInt(sc.nextLine());

        Booking[] bookings = new Booking[n];

        for (int i = 0; i < n; i++) {
            int id = Integer.parseInt(sc.nextLine());
            String name = sc.nextLine();
            double distance = Double.parseDouble(sc.nextLine());

            bookings[i] = new Booking(id, name, distance);
        }

        for (Booking b : bookings) {
            System.out.println("Booking ID: " + b.getBookingId());
            System.out.println("Customer Name: " + b.getCustomerName());
            System.out.printf("Final Fare: %.1f\n", b.calculateFare());
        }

        sc.close();
    }
}
```

***Status :*** Correct ***Marks : 10/10***

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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***

```
// You are using Java

import java.util.Scanner;
```

```
class Booking {
    private int bookingId;
    private String customerName;
    private double distanceTravelled;

    // Constructor
    public Booking(int bookingId, String customerName, double distanceTravelled)
{
        this.bookingId = bookingId;
        this.customerName = customerName;
        this.distanceTravelled = distanceTravelled;
    }

    // Setter methods
    public void setBookingId(int bookingId) {
        this.bookingId = bookingId;
    }

    public void setCustomerName(String customerName) {
        this.customerName = customerName;
    }

    public void setDistanceTravelled(double distanceTravelled) {
        this.distanceTravelled = distanceTravelled;
    }

    // Getter methods
    public int getBookingId() {
        return bookingId;
    }

    public String getCustomerName() {
        return customerName;
    }

    public double getDistanceTravelled() {
        return distanceTravelled;
    }

    // Method to calculate final fare
    public double calculateFare() {
```

```
        double baseFare = 50;
        double perKmCharge = 10;
        double totalFare = baseFare + (distanceTravelled * perKmCharge);

        if (distanceTravelled > 20) {
            totalFare *= 0.9; // Apply 10% discount
        }

        return totalFare;
    }
}

public class Main {
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        int n = Integer.parseInt(sc.nextLine());

        Booking[] bookings = new Booking[n];

        for (int i = 0; i < n; i++) {
            int id = Integer.parseInt(sc.nextLine());
            String name = sc.nextLine();
            double distance = Double.parseDouble(sc.nextLine());

            bookings[i] = new Booking(id, name, distance);
        }

        for (Booking b : bookings) {
            System.out.println("Booking ID: " + b.getBookingId());
            System.out.println("Customer Name: " + b.getCustomerName());
            System.out.printf("Final Fare: %.1f\n", b.calculateFare());
        }

        sc.close();
    }
}
```

***Status :*** Correct ***Marks : 10/10***