

JAVA LAB – 7

INTERFACE PROGRAM:

CODE:

```
J Runjava > ...
1  import java.util.Scanner;
2
3  interface FixedDeposit {
4      void getDetails();
5      void showDetails();
6      void calcInterest();
7  }
8
9  class HDFC implements FixedDeposit {
10     String name, pan;
11     int age;
12     double principal, time;
13
14     public void getDetails() {
15         Scanner sc = new Scanner(System.in);
16         System.out.print("Enter Name: ");
17         name = sc.nextLine();
18         System.out.print("Enter PAN: ");
19         pan = sc.nextLine();
20         System.out.print("Enter Age: ");
21         age = sc.nextInt();
22         System.out.print("Enter Principal Amount: ");
23         principal = sc.nextDouble();
24         System.out.print("Enter Time in years: ");
25         time = sc.nextDouble();
26     }
27
28     public void showDetails() {
29         System.out.println("\n--- HDFC BANK DETAILS ---");
30         System.out.println("Name: " + name);
31         System.out.println("PAN: " + pan);
32         System.out.println("Age: " + age);
33     }
34
35     public void calcInterest() {
36         double interest = principal * 0.04 * time; // 4%
37         System.out.println("Interest (4%): " + interest);
38         System.out.println("Total Amount: " + (principal + interest));
39     }
40 }
41
42 class IndianBank implements FixedDeposit {
43     String name, aadhar, phone;
44     double principal, time;
45 }
```

```
J Runjava > ...
42  class IndianBank implements FixedDeposit {
43      public void getDetails() {
44          System.out.print(s: "Enter Name: ");
45          name = sc.nextLine();
46          System.out.print(s: "Enter Aadhar: ");
47          aadhar = sc.nextLine();
48          System.out.print(s: "Enter Phone Number: ");
49          phone = sc.nextLine();
50          System.out.print(s: "Enter Principal Amount: ");
51          principal = sc.nextDouble();
52          System.out.print(s: "Enter Time in years: ");
53          time = sc.nextDouble();
54      }
55
56      public void showDetails() {
57          System.out.println(x: "\n--- INDIAN BANK DETAILS ---");
58          System.out.println("Name: " + name);
59          System.out.println("Aadhar: " + aadhar);
60          System.out.println("Phone: " + phone);
61      }
62
63      public void calcInterest() {
64          double interest = principal * 0.045 * time; // 4.5%
65          double extra = 300 * time; // extra 300 per year
66          double totalInterest = interest + extra;
67
68          System.out.println("Interest (4.5%): " + interest);
69          System.out.println("Extra Rs 300/year: " + extra);
70          System.out.println("Total Interest: " + totalInterest);
71          System.out.println("Total Amount: " + (principal + totalInterest));
72      }
73  }
74
75  public class Run {
76      Run main | Debug main | Run | Debug
77      public static void main(String[] args) {
78          Scanner sc = new Scanner(System.in);
79          FixedDeposit fd;
80
81          System.out.println(x: "Choose Bank:");
82          System.out.println(x: "1. HDFC");
83          System.out.println(x: "2. Indian Bank");
84          System.out.print(s: "Enter your choice: ");
85          int choice = sc.nextInt();
86          sc.nextLine(); // clean extra newline
```

```
public class Run {
    Run main | Debug main | Run | Debug
    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        FixedDeposit fd;

        System.out.println(x: "Choose Bank:");
        System.out.println(x: "1. HDFC");
        System.out.println(x: "2. Indian Bank");
        System.out.print(s: "Enter your choice: ");
        int choice = sc.nextInt();
        sc.nextLine(); // clear extra newline

        if (choice == 1) {
            fd = new HDFC();
        } else if (choice == 2) {
            fd = new IndianBank();
        } else {
            System.out.println(x: "Invalid choice!");
            return;
        }

        fd.getDetails();
        fd.showDetails();
        fd.calcInterest();
    }
}
```

OUTPUT:

```
Choose Bank:  
1. HDFC  
2. Indian Bank  
Enter your choice: 1  
Enter Name: Varsha  
Enter PAN: 123456  
Enter Age: 21  
Enter Principal Amount: 2000  
Enter Time in years: 2  
  
--- HDFC BANK DETAILS ---  
Name: Varsha  
PAN: 123456  
Age: 21  
Interest (4%): 160.0  
Total Amount: 2160.0  
● PS C:\Users\student\Desktop\1BM24CS073> c:; cd 'c:\Users\student\Desktop\1BM24CS073'; &  
Data\Roaming\Code\User\workspaceStorage\aba7b23026fb4aed7eea83cd130a89b9\redhat.java\jdt_  
Choose Bank:  
1. HDFC  
2. Indian Bank  
Enter your choice: 2  
Enter Name: Raksha  
Enter Aadhar: 24242424  
Enter Phone Number: 9353504771  
Enter Principal Amount: 5000  
Enter Time in years: 1  
  
--- INDIAN BANK DETAILS ---  
Name: Raksha  
Aadhar: 24242424  
Phone: 9353504771  
Interest (4.5%): 225.0  
Extra Rs 300/year: 300.0  
Total Interest: 525.0  
Total Amount: 5525.0  
● PS C:\Users\student\Desktop\1BM24CS073> c:; cd 'c:\Users\student\Desktop\1BM24CS073'; &  
Data\Roaming\Code\User\workspaceStorage\aba7b23026fb4aed7eea83cd130a89b9\redhat.java\jdt_  
Choose Bank:  
1. HDFC  
2. Indian Bank  
Enter your choice: 3  
Invalid choice!
```