

JAVA LAB – 7

INTERFACE PROGRAM:

CODE:

```
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(s: "Enter Name: ");
17         name = sc.nextLine();
18         System.out.print(s: "Enter PAN: ");
19         pan = sc.nextLine();
20         System.out.print(s: "Enter Age: ");
21         age = sc.nextInt();
22         System.out.print(s: "Enter Principal Amount: ");
23         principal = sc.nextDouble();
24         System.out.print(s: "Enter Time in years: ");
25         time = sc.nextDouble();
26     }
27
28     public void showDetails() {
29         System.out.println(x: "\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 }
```

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
87     }
88 }
```

```
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!
```

```
PS C:\Users\student\Desktop\1BM24CS073>
```