

Name - Yash Lakhtariya

Enrollment number - 21162101012

Branch - CBA , Batch - 31

OOP Practical - 9

Problem : Karan wants to opt for a student loan to pursue further +2 years of education abroad. Implement a java program which surveys various banks for their rate of interest, and display the returned ROI's through hierarchical inheritance. Consider the ROI of banks are as follows:

SBI 6.9%

HDFC 7.1%

BOI 6.5%

After displaying the ROI, the application accepts the Principal amount requested for the loan and keeping the tenure fix for 5 years, calculate the amount to be paid by the student from the ROI he choose after the display from the bank.

Code :

```
package yash_lakhtariya;
import java.util.Scanner;

public class prac_9
{
    public static void main(String[] args)
    {
        System.out.println("\nList of ROIs of different banks : ");
        Scanner in = new Scanner(System.in);
        sbi s = new sbi();
        hdfc h = new hdfc();
        boi b = new boi();
        s.roi = 6.9;
        h.roi = 7.1;
        b.roi = 6.5;
        s.sbiroi();
    }
}
```

Name - Yash Lakhtariya

Enrollment number - 21162101012

Branch - CBA , Batch - 31

OOP Practical - 9

```
h.hdfcroi();
b.boiroi();
System.out.print("\nEnter Your Principal amount : ");
int pa = in.nextInt();
System.out.println("\n\t1. SBI");
System.out.println("\n\t2. HDFC");
System.out.println("\n\t3. BOI");
System.out.print("\nChoose Your bank : ");
int c = in.nextInt();
if (c == 1)
{
    interest(pa, s.roi);
} else if (c == 2)
{
    interest(pa, h.roi);
} else if (c == 3)
{
    interest(pa, b.roi);
}
else
{
    System.out.println("Please Enter Valid Input.");
}
in.close();
}

static void interest(int p, double r)
{
    double intr = (p * r * 5) / 100;
    double amount = intr + p;
    System.out.println("\n\tTotal Interest : " + intr);
}
```

Name - Yash Lakhtariya

Enrollment number - 21162101012

Branch - CBA , Batch - 31

OOP Practical - 9

```
        System.out.println("\n\tTotal Amount : " + amount);
    }
}
class banks
{
    double roi;
}

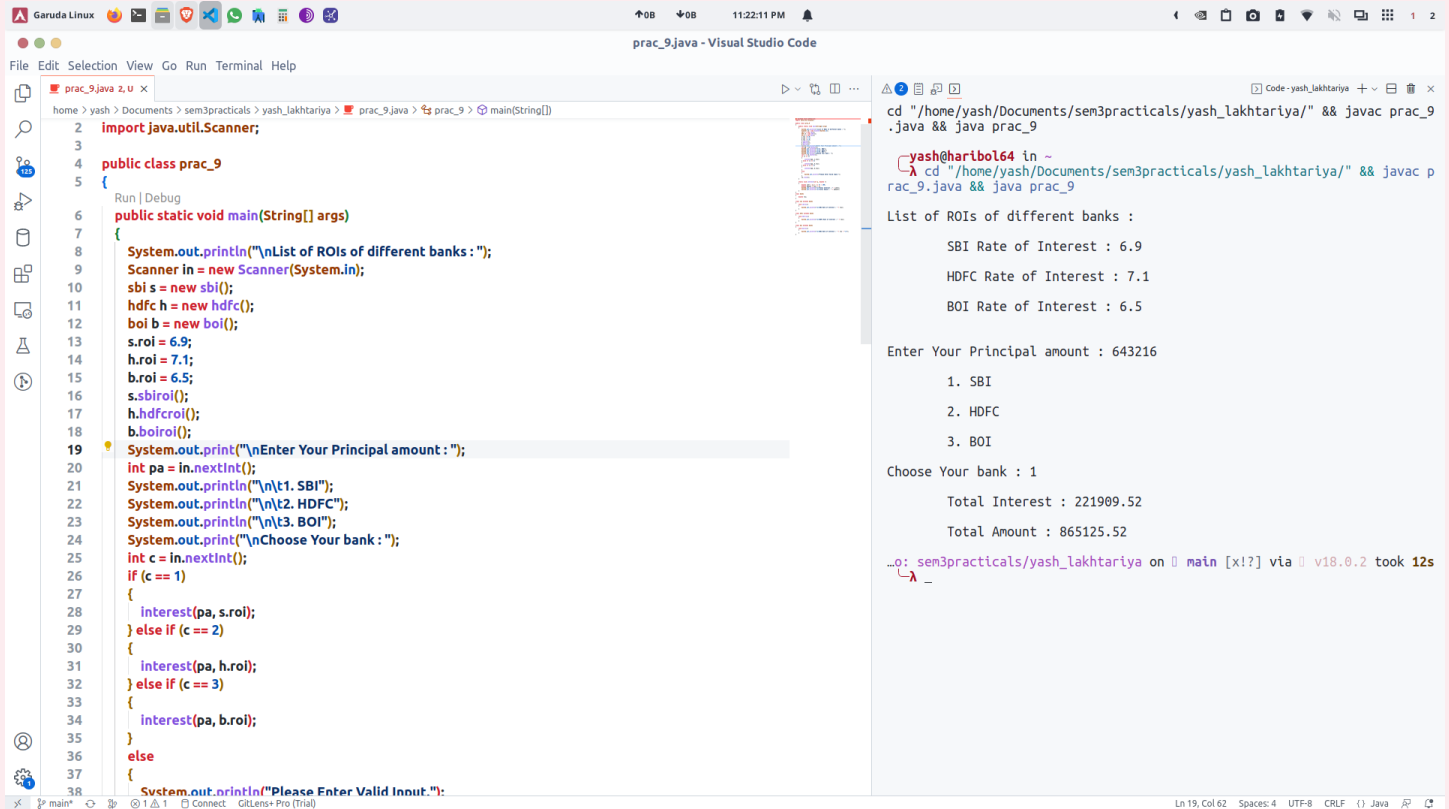
class sbi extends banks
{
    void sbiroi()
    {
        System.out.println("\n\tSBI Rate of Interest : " + roi);
    }
}

class hdfc extends banks
{
    void hdfcroi()
    {
        System.out.println("\n\tHDFC Rate of Interest : " + roi);
    }
}

class boi extends banks
{
    void boiroi()
    {
        System.out.println("\n\tBOI Rate of Interest : " + roi + "\n");
    }
}
```

Name - Yash Lakhtariya
Enrollment number - 21162101012
Branch - CBA , Batch - 31
OOP Practical - 9

Outputs : (With each input choice)



The screenshot displays the Visual Studio Code interface with a Java file named `prac_9.java` open. The code defines a `Scanner` to read user input and a `main` method that lists the ROIs of three banks: SBI (6.9%), HDFC (7.1%), and BOI (6.5%). It prompts the user to enter a principal amount and choose a bank. The output window on the right shows the execution results, including the list of ROIs, the entered principal amount (643216), the chosen bank (1. SBI), and the calculated total interest (221909.52) and total amount (865125.52).

```
import java.util.Scanner;

public class prac_9
{
    public static void main(String[] args)
    {
        System.out.println("\nList of ROIs of different banks :");
        Scanner in = new Scanner(System.in);
        sbi s = new sbi();
        hdfc h = new hdfc();
        boi b = new boi();
        s.roi = 6.9;
        h.roi = 7.1;
        b.roi = 6.5;
        s.sbiroi();
        h.hdfcroi();
        b.boiroi();
        System.out.print("\nEnter Your Principal amount : ");
        int pa = in.nextInt();
        System.out.println("\n\t1. SBI");
        System.out.println("\n\t2. HDFC");
        System.out.println("\n\t3. BOI");
        System.out.print("\nChoose Your bank : ");
        int c = in.nextInt();
        if (c == 1)
        {
            interest(pa, s.roi);
        } else if (c == 2)
        {
            interest(pa, h.roi);
        } else if (c == 3)
        {
            interest(pa, b.roi);
        } else
        {
            System.out.println("Please Enter Valid Input.");
        }
    }
}
```

cd "/home/yash/Documents/sem3practicals/yash_lakhtariya/" && javac prac_9.java && java prac_9

yash@haribol64 in ~
λ cd "/home/yash/Documents/sem3practicals/yash_lakhtariya/" && javac prac_9.java && java prac_9

List of ROIs of different banks :

SBI Rate of Interest : 6.9
HDFC Rate of Interest : 7.1
BOI Rate of Interest : 6.5

Enter Your Principal amount : 643216

1. SBI
2. HDFC
3. BOI

Choose Your bank : 1

Total Interest : 221909.52
Total Amount : 865125.52

...g: sem3practicals/yash_lakhtariya on main [x!?] via v18.0.2 took 12s

Name - Yash Lakhtariya

Enrollment number - 21162101012

Branch - CBA , Batch - 31

OOP Practical - 9

The screenshot shows the Visual Studio Code editor with a Java file named `prac_9.java`. The code defines a `main` method that prompts the user to enter their principal amount and choose a bank (SBI, HDFC, or BOI). It then calculates the interest rate for each bank and displays the results.

```
import java.util.Scanner;

public class prac_9
{
    public static void main(String[] args)
    {
        System.out.println("\nList of ROIs of different banks : ");
        Scanner in = new Scanner(System.in);
        sbi s = new sbi();
        hdfc h = new hdfc();
        boi b = new boi();
        s.roi = 6.9;
        h.roi = 7.1;
        b.roi = 6.5;
        s.sbiroi();
        h.hdfcroi();
        b.boiroi();
        System.out.print("\nEnter Your Principal amount : ");
        int pa = in.nextInt();
        System.out.println("\n\t1. SBI");
        System.out.println("\n\t2. HDFC");
        System.out.println("\n\t3. BOI");
        System.out.print("\nChoose Your bank : ");
        int c = in.nextInt();
        if (c == 1)
        {
            interest(pa, s.roi);
        } else if (c == 2)
        {
            interest(pa, h.roi);
        } else if (c == 3)
        {
            interest(pa, b.roi);
        }
        else
        {
            System.out.println("Please Enter Valid Input.");
        }
    }
}
```

The output of the program is displayed in the terminal window on the right. It shows the user entering a principal amount of 643216 and choosing bank 1 (SBI). The program calculates the interest rate for SBI as 6.5% and displays the total interest and total amount.

```
BOI Rate of Interest : 6.5

Enter Your Principal amount : 643216

1. SBI
2. HDFC
3. BOI

Choose Your bank : 1

Total Interest : 221909.52

Total Amount : 865125.52

...o: sem3practicals/yash_lakhtariya on main [x!?] via v18.0.2 took 12s
λ cd "/home/yash/Documents/sem3practicals/yash_lakhtariya/" && javac p
rac_9.java && java prac_9

List of ROIs of different banks :

SBI Rate of Interest : 6.9
HDFC Rate of Interest : 7.1
BOI Rate of Interest : 6.5

Enter Your Principal amount : 643216

1. SBI
2. HDFC
3. BOI

Choose Your bank : 2

Total Interest : 228341.68

Total Amount : 871557.6799999999

...po: sem3practicals/yash_lakhtariya on main [x!?] via v18.0.2 took 7s
λ _
```

The screenshot shows the Visual Studio Code editor with a Java file named `prac_9.java`. The code defines a `main` method that prompts the user to enter their principal amount and choose a bank (SBI, HDFC, or BOI). It then calculates the interest rate for each bank and displays the results.

```
import java.util.Scanner;

public class prac_9
{
    public static void main(String[] args)
    {
        System.out.println("\nList of ROIs of different banks : ");
        Scanner in = new Scanner(System.in);
        sbi s = new sbi();
        hdfc h = new hdfc();
        boi b = new boi();
        s.roi = 6.9;
        h.roi = 7.1;
        b.roi = 6.5;
        s.sbiroi();
        h.hdfcroi();
        b.boiroi();
        System.out.print("\nEnter Your Principal amount : ");
        int pa = in.nextInt();
        System.out.println("\n\t1. SBI");
        System.out.println("\n\t2. HDFC");
        System.out.println("\n\t3. BOI");
        System.out.print("\nChoose Your bank : ");
        int c = in.nextInt();
        if (c == 1)
        {
            interest(pa, s.roi);
        } else if (c == 2)
        {
            interest(pa, h.roi);
        } else if (c == 3)
        {
            interest(pa, b.roi);
        }
        else
        {
            System.out.println("Please Enter Valid Input.");
        }
    }
}
```

The output of the program is displayed in the terminal window on the right. It shows the user entering a principal amount of 643216 and choosing bank 2 (HDFC). The program calculates the interest rate for HDFC as 7.1% and displays the total interest and total amount.

```
BOI Rate of Interest : 6.5

Enter Your Principal amount : 643216

1. SBI
2. HDFC
3. BOI

Choose Your bank : 2

Total Interest : 228341.68

Total Amount : 871557.6799999999

...po: sem3practicals/yash_lakhtariya on main [x!?] via v18.0.2 took 7s
λ cd "/home/yash/Documents/sem3practicals/yash_lakhtariya/" && javac p
rac_9.java && java prac_9

List of ROIs of different banks :

SBI Rate of Interest : 6.9
HDFC Rate of Interest : 7.1
BOI Rate of Interest : 6.5

Enter Your Principal amount : 643216

1. SBI
2. HDFC
3. BOI

Choose Your bank : 3

Total Interest : 209045.2

Total Amount : 852261.2

...po: sem3practicals/yash_lakhtariya on main [x!?] via v18.0.2 took 8s
λ _
```