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Branch - CBA , Batch - 31

OOP Practical 15

Problem : Mayra is developing an application related to the banking sector, where she is required to take input like ROI which is in float format, principal which is in INT format, no_of_years in float format. Make sure the exceptions handle individual formats. If input is correct, calculate the total amount to be paid using compound interest.

NOTE: if no_of_years is 2.12 convert it to 3 years(handle in the exception)

Program :

```
package Hare_Krishna;

import java.util.Scanner;

public class Prac_15
{
    public static void main(String[] args)
    {
        Scanner sc = new Scanner(System.in);
        System.out.print("\nEnter ROI : ");
        float roi = sc.nextFloat();
        System.out.print("Enter Principal : ");
        int principle = sc.nextInt();
        System.out.print("Enter No. of Years : ");
        float no = sc.nextFloat();
```

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```
try
{
    if(no == 2.12f)
    {
        throw new ArithmeticException();
    }

    float amount = (float) ((float)principle * (Math.pow((1
+ roi / 100), no))));

    System.out.print("\n\tROI = "+roi);
    System.out.print("\n\tPrincipal = "+principle);
    System.out.print("\n\tn = "+no);
    System.out.print("\n\tAmount = "+amount);
    System.out.println();
}
catch (Exception exc)
{
    roi = 3;

    float amount = (float) ((float)principle * (Math.pow((1
+

        roi / 100), no))));

    System.out.print("\n\tROI = "+roi);
```

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```
        System.out.print("\n\tPrincipal = "+principle);

        System.out.print("\n\tn = "+no);

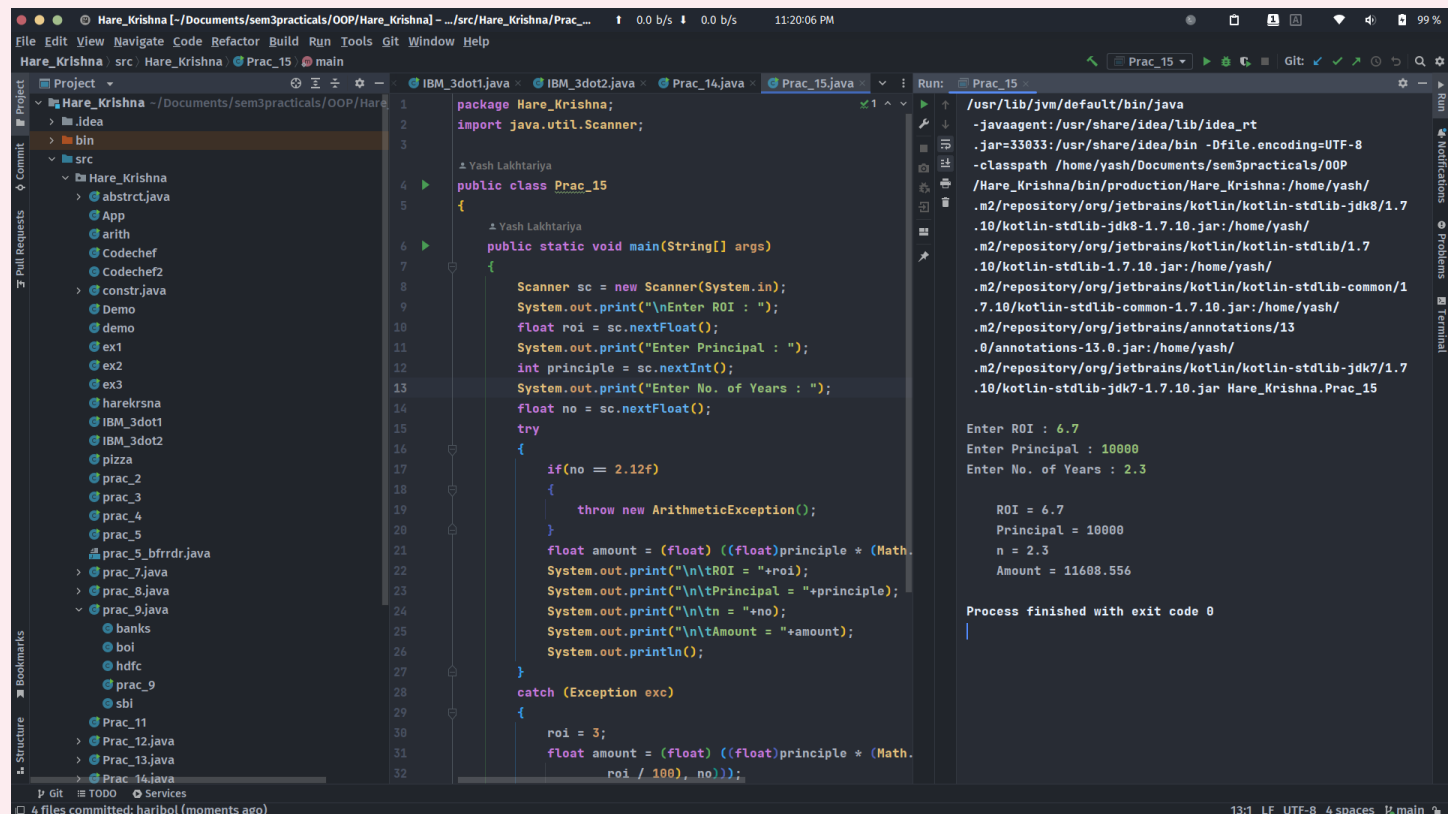
        System.out.print("\n\tAmount = "+amount);

        System.out.println();

    }

}
```

Output :



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

// Yash Lakhtariya
public class Prac_15
{
    // Yash Lakhtariya
    public static void main(String[] args)
    {
        Scanner sc = new Scanner(System.in);
        System.out.print("\nEnter ROI : ");
        float roi = sc.nextFloat();
        System.out.print("Enter Principal : ");
        int principle = sc.nextInt();
        System.out.print("Enter No. of Years : ");
        float no = sc.nextFloat();
        try
        {
            if(no == 2.12f)
            {
                throw new ArithmeticException();
            }
            float amount = (float) ((float)principle * (Math.
            System.out.print("\n\tROI = "+roi);
            System.out.print("\n\tPrincipal = "+principle);
            System.out.print("\n\tn = "+no);
            System.out.print("\n\tAmount = "+amount);
            System.out.println();
        }
        catch (Exception exc)
        {
            roi = 3;
            float amount = (float) ((float)principle * (Math.
                roi / 100, no));
        }
    }
}
```

Run: Prac_15

```
/usr/lib/jvm/default/bin/java
-javaagent:/usr/share/idea/lib/idea_rt
.jar=33933:/usr/share/idea/bin -Dfile.encoding=UTF-8
-classpath /home/yash/Documents/sem3practicals/OOP
/Hare_Krishna/bin/production/Hare_Krishna:/home/yash/
.m2/repository/org/jetbrains/kotlin/kotlin-stdlib-jdk8/1.7
.10/kotlin-stdlib-jdk8-1.7.10.jar:/home/yash/
.m2/repository/org/jetbrains/kotlin/kotlin-stdlib/1.7
.10/kotlin-stdlib-1.7.10.jar:/home/yash/
.m2/repository/org/jetbrains/kotlin/kotlin-stdlib-common/1
.7.10/kotlin-stdlib-common-1.7.10.jar:/home/yash/
.m2/repository/org/jetbrains/annotations/13
.0/annotations-13.0.jar:/home/yash/
.m2/repository/org/jetbrains/kotlin/kotlin-stdlib-jdk7/1.7
.10/kotlin-stdlib-jdk7-1.7.10.jar Hare_Krishna.Prac_15

Enter ROI : 6.7
Enter Principal : 10000
Enter No. of Years : 2.3

ROI = 6.7
Principal = 10000
n = 2.3
Amount = 11608.556

Process finished with exit code 0
```

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The screenshot displays an IDE interface for a Java project named "Hare_Krishna".

- Left Panel (File Explorer):** Shows the project structure. The "src" directory contains several files, including "Prac_15.java" which is currently selected.
- Center Panel (Code Editor):** Displays the code for "Prac_15.java". The code defines a package "Hare_Krishna", imports "java.util.Scanner", and contains a class "Prac_15" with a "main" method. The "main" method uses a "Scanner" to take input for ROI, Principal, and Number of Years (n), and then calculates the Amount using the formula: $\text{Amount} = \left(\frac{\text{Principal} \times \text{ROI} \times n}{100} \right) + \text{Principal}$.
- Right Panel (Terminal):** Shows the output of running the program. The user has entered the following values:
 - Enter ROI : 6
 - Enter Principal : 10000
 - Enter No. of Years : 2.3The terminal output shows:
 - ROI = 6.0
 - Principal = 10000
 - n = 2.3
 - Amount = 11434.138The terminal also indicates "Process finished with exit code 0".