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Batch 31

OOP

Practical 3

**Q – 1 Arithmetic operator:-**

- : Implement a simple financial calculator that performs basic arithmetic operations (addition, subtraction, multiplication, division) to calculate interest, loan payments, and savings.
- : +, -, \*, /

Code:

```
import java.util.Scanner;

public class prac_3 {

    public static void main(String[] args) {

        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter first number: ");

        double num1 = scanner.nextDouble();

        System.out.print("Enter second number: ");

        double num2 = scanner.nextDouble();

        System.out.println("Addition: " + (num1 + num2));

        System.out.println("Subtraction: " + (num1 - num2));

        System.out.println("Multiplication: " + (num1 * num2));

        if (num2 != 0) {

            System.out.println("Division: " + (num1 / num2));

        } else {

            System.out.println("Division: Cannot divide by zero");

        }

        System.out.print("Enter principal amount: ");

        double principal = scanner.nextDouble();

        System.out.print("Enter interest rate (as decimal): ");
```

```

double rate = scanner.nextDouble();

System.out.print("Enter number of years: ");

int years = scanner.nextInt();

double interest = principal * rate * years;

System.out.println("Simple Interest: " + interest);

scanner.close();

}

}

```

The screenshot shows an IDE with a Java file named 'prac\_3.java'. The code defines a class 'prac\_3' with a 'main' method. It initializes three variables: 'sheelaPens' (8), 'leelaPens' (3), and 'malaPens' (0). It then performs a series of arithmetic operations using the assignment operator '=' to update these values. Finally, it prints the counts for each person. The terminal output shows the execution of the program, displaying the final pen counts: Sheela: 7 pens, Leela: 1 pens, and Mala: 0 pens.

```

// 
// }
D:\d_drive\Practicals\Sem 3\2024\OOP\prac_3.java • Untracked

public class prac_3 {
    public static void main(String[] args) {
        int sheelaPens = 8;
        int leelaPens = 3;
        int malaPens = 0;

        sheelaPens -= 2;
        malaPens += 2;

        leelaPens -= 2;
        malaPens += 2;

        malaPens -= 3;

        malaPens -= 1;
        sheelaPens += 1;
    }
}

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
PS D:\d_drive\Practicals\Sem 3\2024\OOP> java .\prac_3.java
Final pen counts:
Sheela: 7 pens
Leela: 1 pens
Mala: 0 pens
PS D:\d_drive\Practicals\Sem 3\2024\OOP>

```

## Q – 2 Assignment operator:-

- imagine sheela ,leela and mala are 3 good friends sheela have 8 pens, leela have 3 pens and mala have nothing . sheela gave 2 pens to mala, leela gave 2 pens to mala , mala lost 3 pens and one pen gave to sheela , how many pens they have each in their bags, write a java programm using assignment operator

Code:

```

public class prac_3 {

    public static void main(String[] args) {

```

```

int sheelaPens = 8;

int leelaPens = 3;

int malaPens = 0;

sheelaPens -= 2;

malaPens += 2;

leelaPens -= 2;

malaPens += 2;

malaPens -= 3;

malaPens -= 1;

sheelaPens += 1;

System.out.println("Final pen counts:");

System.out.println("Sheela: " + sheelaPens + " pens");

System.out.println("Leela: " + leelaPens + " pens");

System.out.println("Mala: " + malaPens + " pens");

}

}

```

The screenshot shows an IDE with two tabs: 'prac\_3.java 1.0' and 'prac\_2.java 1.0'. The active tab is 'prac\_3.java', which contains the following Java code:

```

1  import java.util.Scanner;
2
3  public class prac_3 {
4      public static void main(String[] args) {
5          Scanner scanner = new Scanner(System.in);
6
7          System.out.print("Enter first number: ");
8          double num1 = scanner.nextDouble();
9
10         System.out.print("Enter second number: ");
11         double num2 = scanner.nextDouble();
12
13         System.out.println("Addition: " + (num1 + num2));
14         System.out.println("Subtraction: " + (num1 - num2));
15         System.out.println("Multiplication: " + (num1 * num2));
16
17         if (num2 != 0) {
18             System.out.println("Division: " + (num1 / num2));
19         } else {
20             System.out.println("Division: Cannot divide by zero");
21         }
22     }
23 }

```

The bottom panel shows the 'TERMINAL' output for the command 'java .\prac\_3.java':

```

PS D:\d_drive\Practicals\Sem 3\[2024]OOP> java .\prac_3.java
Enter first number: 10
Enter second number: 20
Addition: 30.0
Subtraction: -10.0
Multiplication: 200.0
Division: 0.5
Enter principal amount: 100
Enter interest rate (as decimal): 20
Enter number of years: 5
Simple Interest: $10000.0
PS D:\d_drive\Practicals\Sem 3\[2024]OOP>

```