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Batch 31

Class 3A

**loops statements:-**

- : Write a program that prints the multiplication table for a given number up to 10. Use a for loop to generate the table.
- : Write a program that takes a string as input and uses a for loop to print the string in reverse.
- Write a program that calculates the sum of the first 100 natural numbers using a for loop.
- For Share Market calculate Profit and Loss of share. Ask user to enter buying price and selling price for n share and calculate profit ,loss ,percentage of profit and loss.

Code:

```
import java.util.*;
```

```
public class prac_6 {
```

```
    public static void main(String[] args) {
```

```
        Scanner scanner = new Scanner(System.in);
```

```
        System.out.println("Choose an option:");
```

```
        System.out.println("1. Generate Multiplication Table");
```

```
        System.out.println("2. Reverse a String");
```

```
        System.out.println("3. Calculate Sum of first 100 natural numbers");
```

```
        System.out.println("4. Calculate Share Market Profit and Loss");
```

```
        System.out.println("5. Exit");
```

```
        System.out.print("Enter your choice: ");
```

```
        int choice = scanner.nextInt();
```

```

switch (choice) {

    case 1:

        // Multiplication Table

        System.out.print("Enter a number to generate its multiplication table: ");

        int num = scanner.nextInt();

        System.out.println("Multiplication table for " + num + " is:");

        for (int i = 1; i <= 10; i++) {

            System.out.println(num + " * " + i + " = " + (num * i));

        }

        break;

    case 2:

        // Reverse String

        System.out.print("Enter a string to reverse: ");

        String str = scanner.next();

        System.out.println("Reversed string is: ");

        for (int i = str.length() - 1; i >= 0; i--) {

            System.out.print(str.charAt(i));

        }

        break;

    case 3:

        // Sum of first 100 natural numbers

        int sum = 0;

        for (int i = 1; i <= 100; i++) {

            sum += i;

        }

        System.out.println("Sum of the first 100 natural numbers is: " + sum);

        break;

    case 4:

        // Share Market Profit and Loss

        System.out.print("Enter the buying price of the share: ");

        float buyingPrice = scanner.nextFloat();

```

```

        System.out.print("Enter the selling price of the share: ");

        float sellingPrice = scanner.nextFloat();

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

        int numShares = scanner.nextInt();


        float totalBuyingPrice = buyingPrice * numShares;

        float totalSellingPrice = sellingPrice * numShares;

        float profit = totalSellingPrice - totalBuyingPrice;

        float loss = totalBuyingPrice - totalSellingPrice;

        float profitPercentage = (profit / totalBuyingPrice) * 100;

        float lossPercentage = (loss / totalBuyingPrice) * 100;


        if (profit > 0) {

            System.out.println("Profit: " + profit);

            System.out.println("Percentage of Profit: " + profitPercentage + "%");

        } else if (loss > 0) {

            System.out.println("Loss: " + loss);

            System.out.println("Percentage of Loss: " + lossPercentage + "%");

        } else {

            System.out.println("No profit or loss.");

        }

        break;

    case 5:

        System.out.println("Exiting the program.");

        break;

    default:

        System.out.println("Invalid choice. Please choose a valid option.");

    }

}

}

}

```

Output:

```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS
2. Reverse a String
3. Calculate Sum of first 100 natural numbers
4. Calculate Share Market Profit and Loss
5. Exit
Enter your choice: 1
Enter a number to generate its multiplication table: 10
Multiplication table for 10 is:
10 * 1 = 10
10 * 2 = 20
10 * 3 = 30
10 * 4 = 40
10 * 5 = 50
10 * 6 = 60
10 * 7 = 70
10 * 8 = 80
10 * 9 = 90
10 * 10 = 100
PS D:\drive\Practicals\Sem 3\2024\OOP> java .\prac_6.java
Choose an option:
1. Generate Multiplication Table
2. Reverse a String
3. Calculate Sum of first 100 natural numbers
4. Calculate Share Market Profit and Loss
5. Exit
Enter your choice: 2
Enter a string to reverse: abcd
Reversed string is:
dcba
PS D:\drive\Practicals\Sem 3\2024\OOP> java .\prac_6.java
Choose an option:
1. Generate Multiplication Table
2. Reverse a String
3. Calculate Sum of first 100 natural numbers
4. Calculate Share Market Profit and Loss
5. Exit
Enter your choice: 3
Sum of the first 100 natural numbers is: 5050
PS D:\drive\Practicals\Sem 3\2024\OOP> java .\prac_6.java
Choose an option:
1. Generate Multiplication Table
2. Reverse a String
3. Calculate Sum of first 100 natural numbers

```