Main.java

Run

Output

Clear

```java
import java.util.Scanner;
public class UserNameValidator {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter a user name: ");
        String userName = scanner.nextLine();
        if (isValidUserName(userName)) {
            System.out.println("InValid user name!");
        } else {
            System.out.println("valid user name. Please check the
                criteria.");
        }
        scanner.close();
    }
    private static boolean isValidUserName(String userName) {

        int minLength = 3;
        int maxLength = 15;
        if (userName.isEmpty()) {
            return false;
        }
        if (userName.contains(" ")) {
            return false;
```

```
java -cp /tmp/OnoORuIOq5 UserNameValidator
Enter a user name: saveetha@789
InValid user name!
```

Main.java

Run

Output

Clear

```java
import java.util.Arrays;
public class MaxMinFinder {
    public static void main(String[] args) {
        int[] array = {14,16,87,36,25,89,34};
        int m = 1;
        int n = 3;
        int mthMax = findMthMaximum(array, m);
        int nthMin = findNthMinimum(array, n);
        System.out.println("mth Maximum: " + mthMax);
        System.out.println("nth Minimum: " + nthMin);
    }
    public static int findMthMaximum(int[] array, int m) {
        Arrays.sort(array);
        int index = array.length - m;
        return array[index];
    }
    public static int findNthMinimum(int[] array, int n) {
        Arrays.sort(array);
        return array[n - 1];
    }
}
```

```
java -cp /tmp/G526VESHis MaxMinFinder
mth Maximum: 89
nth Minimum: 25
```

Main.java

Run

Output

Clear

```java
public class MatrixMultiplication {
    public static void main(String[] args) {
        int[][] matrixA = {{1, 2}, { 5, 3}};
        int[][] matrixB = {{2, 3}, {4, 1}};
        int[][] resultMatrix = multiplyMatrices(matrixA, matrixB);
        System.out.println("Resultant Matrix:");
        printMatrix(resultMatrix);
    }
    public static int[][] multiplyMatrices(int[][] matrixA, int[][]
        matrixB) {
        int rowsA = matrixA.length;
        int colsA = matrixA[0].length;
        int colsB = matrixB[0].length;
        int[][] resultMatrix = new int[rowsA][colsB];
        for (int i = 0; i < rowsA; i++) {
            for (int j = 0; j < colsB; j++) {
                for (int k = 0; k < colsA; k++) {
                    resultMatrix[i][j] += matrixA[i][k] * matrixB[k][j];
                }
            }
        }
        return resultMatrix;
    }
```

```
java -cp /tmp/sgJvimrRdE MatrixMultiplication
Resultant Matrix:
10 5
22 18
```

Main.java

Run

Output

Clear

```java
import java.util.Scanner;
public class VoteEligibility {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.println("Enter your age: ");
        int age = scanner.nextInt();
        if (isEligibleToVote(age)) {
            System.out.println("You are eligible to vote!");
        } else {
            int yearsLeft = calculateYearsToEligibility(age);
            System.out.println("You are not eligible to vote. You will be
                eligible in " + yearsLeft + " years.");
        }
        scanner.close();
    }
    private static boolean isEligibleToVote(int age) {
        return age >= 18;
    }
    private static int calculateYearsToEligibility(int age) {
        return 18 - age;
    }
}
```

```
java -cp /tmp/LfjPa8RcAl VoteEligibility
Enter your age:
7
You are not eligible to vote. You will be eligible in 11 years.
```

Main.java

Run

```java
import java.util.Scanner;
public class PyramidNumberPattern {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter the number of rows for the pyramid: ");
        int rows = scanner.nextInt();
        for (int i = 1; i <= rows; i++) {
         for (int j = 1; j <= rows - i; j++) {
                System.out.print("  ");
            }
            for (int k = 1; k <= i; k++) {
                System.out.print(k + " ");
            }
            for (int l = i - 1; l >= 1; l--) {
                System.out.print(l + " ");
            }
            System.out.println();
        }
        scanner.close();
    }
}
```

Output

Clear

```
java -cp /tmp/dOXHEAWAOK PyramidNumberPattern
Enter the number of rows for the pyramid: 5
        1
      1 2 1
    1 2 3 2 1
  1 2 3 4 3 2 1
1 2 3 4 5 4 3 2 1
```

Main.java

Run

Output

Clear

```java
import java.util.Scanner;
public class SimpleInterestCalculator {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter the principal amount: ");
        double principal = scanner.nextDouble();
        System.out.print("Enter the rate of interest: ");
        double rate = scanner.nextDouble();
        System.out.print("Enter the time (in years): ");
        double time = scanner.nextDouble();
        double simpleInterest = (principal * rate * time) / 100;
        System.out.println("Simple Interest: " + simpleInterest);
        scanner.close();
    }
}
```

```
java -cp /tmp/OEXVaH4SSO SimpleInterestCalculator
Enter the principal amount: 20000
Enter the rate of interest: 6000
Enter the time (in years): 3
Simple Interest: 3600000.0
```