

```
1 import java.util.Scanner;
2
3 public class CharacterSearch {
4     public static void main(String[] args) {
5         Scanner sc = new Scanner(System.in);
6         System.out.print("Enter the string: ");
7         String str = sc.nextLine();
8         System.out.print("Enter the character to be searched: ");
9         char searchChar = sc.next().charAt(0);
10        boolean found = false;
11
12        for (int i = 0; i < str.length(); i++) {
13            if (str.charAt(i) == searchChar) {
14                System.out.println(searchChar + " is found in string at index: " + i);
15                found = true;
16                break;
17            }
18        }
19
20        if (!found) {
21            System.out.println(searchChar + " is not found in the string.");
22        }
23    }
24 }
25
26
```

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alisha

ing: Enter the character to be searched: a is found in string at index: 6

```
1 import java.util.Scanner;
2
3 public class SpecialCharacters {
4     public static void main(String[] args) {
5         Scanner sc = new Scanner(System.in);
6         System.out.print("Enter a string: ");
7         String str = sc.nextLine();
8         int count = 0;
9
10        System.out.print("Special characters: ");
11        for (int i = 0; i < str.length(); i++) {
12            char ch = str.charAt(i);
13            if (!Character.isLetterOrDigit(ch) && !Character.isWhitespace(ch)) {
14                System.out.print(ch + " ");
15                count++;
16            }
17        }
18        System.out.println("\nNumber of Special characters = " + count);
19    }
20 }
21
```

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Output:

Enter a string: Special characters:
Number of Special characters = 0

```
1 import java.util.Scanner;
2
3 public class CountVowels {
4     public static void main(String[] args) {
5         Scanner sc = new Scanner(System.in);
6         System.out.print("Enter a statement: ");
7         String str = sc.nextLine();
8         int vowelCount = 0;
9
10        for (int i = 0; i < str.length(); i++) {
11            char ch = str.charAt(i);
12            if (ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u' ||
13                ch == 'A' || ch == 'E' || ch == 'I' || ch == 'O' || ch == 'U') {
14                vowelCount++;
15            }
16        }
17
18        System.out.println("Number of vowels = " + vowelCount);
19    }
20 }
21
```

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Output:

Enter a statement: Number of vowels = 5

```
1 import java.util.Scanner;
2
3 public class ConsonantsAndVowels {
4     public static void main(String[] args) {
5         Scanner sc = new Scanner(System.in);
6         System.out.print("Given Word: ");
7         String word = sc.next();
8
9         System.out.print("Consonants: ");
10        for (int i = 0; i < word.length(); i++) {
11            char ch = word.charAt(i);
12            if (!isVowel(ch)) {
13                System.out.print(ch + " ");
14            }
15        }
16
17        System.out.print("\nVowels: ");
18        for (int i = 0; i < word.length(); i++) {
19            char ch = word.charAt(i);
20            if (isVowel(ch)) {
21                System.out.print(ch + " ");
22            }
23        }
24    }
25
26    private static boolean isVowel(char ch) {
27        return (ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u' ||
28                ch == 'A' || ch == 'E' || ch == 'I' || ch == 'O' || ch == 'U');
29    }
30 }
31
```

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Output:

Given Word: Consonants: m r t s h m r l
Vowels: i a u a i


```
1 import java.util.Scanner;
2 import java.util.Arrays;
3
4 public class AlphabeticalOrder {
5     public static void main(String[] args) {
6         Scanner sc = new Scanner(System.in);
7         System.out.print("Enter the word: ");
8         String word = sc.next();
9         char[] chars = word.toCharArray();
10
11         Arrays.sort(chars);
12
13         System.out.print("Alphabetical Order: ");
14         for (int i = chars.length - 1; i >= 0; i--) {
15             System.out.print(chars[i] + " ");
16         }
17     }
18 }
19
20
21
```

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Output:

Enter the word: Alphabetical Order: u t s r r m m l i i h a a

```
1 import java.util.Scanner;
2
3 public class RemoveVowels {
4     public static void main(String[] args) {
5         Scanner sc = new Scanner(System.in);
6         System.out.print("Enter a string: ");
7         String str = sc.nextLine();
8         String result = "";
9
10        for (int i = 0; i < str.length(); i++) {
11            char ch = str.charAt(i);
12            if (!isVowel(ch)) {
13                result += ch;
14            }
15        }
16
17        System.out.println("The string without vowels is: " + result);
18    }
19
20    private static boolean isVowel(char ch) {
21        return (ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u' ||
22                ch == 'A' || ch == 'E' || ch == 'I' || ch == 'O' || ch == 'U');
23    }
24 }
25
```

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Output:

Enter a string: The string without vowels is: mrtshmr1

```
11 * for (int i = 0; i < 2; i++) {
12 *     for (int j = 0; j < 2; j++) {
13 *         mat1[i][j] = sc.nextInt();
14 *     }
15 * }
16
17 System.out.println("Enter elements for Matrix 2:");
18 * for (int i = 0; i < 2; i++) {
19 *     for (int j = 0; j < 2; j++) {
20 *         mat2[i][j] = sc.nextInt();
21 *     }
22 * }
23
24 * for (int i = 0; i < 2; i++) {
25 *     for (int j = 0; j < 2; j++) {
26 *         result[i][j] = 0;
27 *         for (int k = 0; k < 2; k++) {
28 *             result[i][j] += mat1[i][k] * mat2[k][j];
29 *         }
30 *     }
31 * }
32
33 System.out.println("Mat Sum = ");
34 * for (int i = 0; i < 2; i++) {
35 *     for (int j = 0; j < 2; j++) {
36 *         System.out.print(result[i][j] + " ");
37 *     }
38 *     System.out.println();
39 * }
40
41 }
42 }
```

```
13 24
4 5 6 7
```

Output:

```
Enter elements for Matrix 1:
Enter elements for Matrix 2:
Mat Sum =
22 26
32 38
```

```
8 int[][] result = new int[2][2];
9
10 System.out.println("Enter elements for Matrix 1:");
11 for (int i = 0; i < 2; i++) {
12     for (int j = 0; j < 2; j++) {
13         mat1[i][j] = sc.nextInt();
14     }
15 }
16
17 System.out.println("Enter elements for Matrix 2:");
18 for (int i = 0; i < 2; i++) {
19     for (int j = 0; j < 2; j++) {
20         mat2[i][j] = sc.nextInt();
21     }
22 }
23
24 for (int i = 0; i < 2; i++) {
25     for (int j = 0; j < 2; j++) {
26         result[i][j] = mat1[i][j] + mat2[i][j];
27     }
28 }
29
30 System.out.println("Mat Sum = ");
31 for (int i = 0; i < 2; i++) {
32     for (int j = 0; j < 2; j++) {
33         System.out.print(result[i][j] + " ");
34     }
35     System.out.println();
36 }
37 }
38 }
39 }
```

```
13 24
45 67
```

Output:

```
Enter elements for Matrix 1:
Enter elements for Matrix 2:
Mat Sum =
5 8
8 11
```



```
17 }
18 return (double) sum / arr.length;
19 }
20
21 private static double median(int[] arr) {
22     Arrays.sort(arr);
23     if (arr.length % 2 == 0) {
24         return (arr[arr.length / 2 - 1] + arr[arr.length / 2]) / 2.0;
25     } else {
26         return arr[arr.length / 2];
27     }
28 }
29
30 private static int mode(int[] arr) {
31     HashMap<Integer, Integer> frequencyMap = new HashMap<>();
32     for (int num : arr) {
33         frequencyMap.put(num, frequencyMap.getOrDefault(num, 0) + 1);
34     }
35
36     int mode = arr[0];
37     int maxCount = 0;
38     for (int key : frequencyMap.keySet()) {
39         if (frequencyMap.get(key) > maxCount) {
40             maxCount = frequencyMap.get(key);
41             mode = key;
42         }
43     }
44
45     return mode;
46 }
47 }
48 }
```

13	24
4 5	6 7

Output:

Mean = 20.0
Median = 19.0
Mode = 16

```
1 import java.util.Scanner;
2
3 public class InvertedPyramid {
4     public static void main(String[] args) {
5         Scanner sc = new Scanner(System.in);
6         System.out.print("Enter the number of rows: ");
7         int rows = sc.nextInt();
8
9         for (int i = rows; i >= 1; i--) {
10             for (int j = rows; j > i; j--) {
11                 System.out.print(" ");
12             }
13             for (int k = 1; k <= (2 * i - 1); k++) {
14                 System.out.print("*");
15             }
16             System.out.println();
17         }
18     }
19 }
20
```

STDIN

9

Output:

Enter the number of rows: *****

```
*****
*****
*****
*****
****
***
*
```