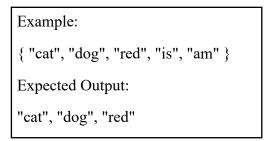


Lab 2

1. Write a program to find all of the longest word in a given dictionary.



2. Write a program that displays the number of occurrences of an element in the array.

Original Array:

[1,1,1,3,3,5]

Sample Output:

3 occurs 2 times

1 occurs 3 times

9 occurs 0 time

3. Write a program to find the k largest elements in a given array. Elements in the array can be in any order.

Original Array:

[1, 4, 17, 7, 25, 3, 100]

Expected Output:

3 largest elements of the said array are:

100 25 17

4. Create a method to reverse an array of integers. Implement the method without creating a new array.

5. Write a menu driven Java program with following option:

- 1. Accept elements of an array
- 2. Display elements of an array
- 3. Search the element within array
- 4. Sort the array
- 5. To Stop

the size of the array should be entered by the user.

6. Create a method that generates a random number within a given range. Allow the user to specify the range and call the method to display random numbers.

Hint: use Random class

Sample Output:

Enter the minimum value of the range: 10

Enter the maximum value of the range: 100

Enter the number of random numbers to generate: 5

Random numbers within the specified range:

71 - 98 - 96 - 71 - 71

- 7. Write a program that checks the strength of a password. Create a method that evaluates a password based on criteria like length, inclusion of special characters, and uppercase/lowercase letters.
 - We have three methods: checkLength, checkSpecialCharacters, and checkUpperCaseLowerCase, each of which assigns a score based on specific criteria.
 - The totalScore is calculated by adding the scores from these methods.
 - Classify the password as strong (8 or more), moderately strong (5 or more), or weak based on the totalScore.
 - The criteria for scoring:
 - Length: 0-5 characters (0 points), 6-7 characters (2 points), 8 or more characters (3 points).
 - Special characters: Absence (0 points), Presence (2 points).
 - Uppercase and lowercase letters: Absence of both (0 points), presence of both (3 points).

Example:

Enter a password: 3456

Expected Output:

Password is weak.

8. Create a method that generates the Fibonacci sequence up to a specified number of terms.

Hint: The Fibonacci sequence is a mathematical sequence of numbers that starts with 0 and 1, and each subsequent number in the sequence is the sum of the two preceding ones.

Example:

Enter the number of Fibonacci terms to generate: 10

Expected Output:

Fibonacci sequence with 10 terms:

0 1 1 2 3 5 8 13 21 34