Ex. No. 3	Text Processing Using Java String
Date of Exercise	27-07-2023

1.**Aim:**

To write a JAVA program that asks the user to input 5 sequences of characters. Then it will ask the user for a character to search for and will output the maximum number of times that it occurred between the 5 sequences.

Procedure:

Step1:start the program
Step2: Create an array to store 5 sequences of characters.
Step3: Input 5 sequences of characters and store them in the array.
Step4: Input the character to search for.
Step5:stop the program

Program:

```
import java.util.Scanner;
public class CharacterSearch {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);

        String[] sequences = new String[5];
        for (int i = 0; i < 5; i++) {
            System.out.print("Sequence " + (i + 1) + ": ");
            sequences[i] = scanner.nextLine();
        }
        System.out.print("Enter a character to search for: ");
        char searchChar = scanner.next().charAt(0);

        int maxOccurrences = 0;
        for (String sequence : sequences) {
            int occurrences = countOccurrences(sequence, searchChar);
            if (occurrences > maxOccurrences) {
                maxOccurrences = occurrences;
            }
        }
        System.out.println("Character " + searchChar + " occurred a maximum of " + maxOccurrences
+ " times");
```

```
    }

    private static int countOccurrences(String sequence, char searchChar) {
        int count = 0;
        for (char c : sequence.toCharArray()) {
            if (c == searchChar) {
                count++;
            }
        }
        return count;
    }
}
```

Output:

```
Sequence 1: aabb
Sequence 2: bbcc
Sequence 3: ccdd
Sequence 4: aacc
Sequence 5: aaad
Enter a character to search for: a
Character a occurred a maximum of 3 times


...Program finished with exit code 0
Press ENTER to exit console.
```

Result:

The above program has been successfully executed and verified.

2.**Aim:**

To write a program that replaces two or more consecutive blanks in a string by a single blank.

Procedure:

Step1:start the program
Step2: Read the input string.
Step3: Use the **replaceAll** method
Step4: Print the modified string
Step5:stop the program

Program:

```
import java.util.Scanner;
public class Main{
   public static void main(String[] args) {
      Scanner scanner = new Scanner(System.in);
      System.out.print("Enter a string: ");
      String input = scanner.nextLine();
      String result = replaceConsecutiveBlanks(input);

      System.out.println("Modified string: " + result);
   }
   private static String replaceConsecutiveBlanks(String input) {
      return input.replaceAll("\\s{2,}", " ");
   }
}
```

Output:

```
Enter a string: hellow              world
Modified string: hellow world


...Program finished with exit code 0
Press ENTER to exit console.
```

Result:

The above program has been successfully executed and verified.

3.**Aim:**

To write a program that converts all lowercase characters in a given string to its equivalent uppercase character.

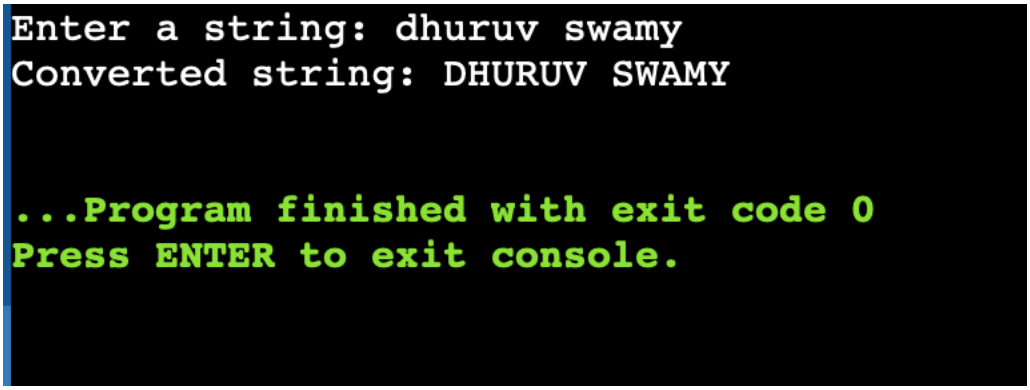
Procedure:

Step1:start the program
Step2: Read the input string.
Step3: Create a StringBuilder to store the modified string.
Step4:Loop through each character in the input string.
Step5:stop the program

Program:

```
import java.util.Scanner;
public class Main {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter a string: ");
        String input = scanner.nextLine();
        String result = convertToLowerToUpper(input);
        System.out.println("Converted string: " + result);
    }
    private static String convertToLowerToUpper(String input) {
        StringBuilder sb = new StringBuilder();
        for (int i = 0; i < input.length(); i++) {
            char ch = input.charAt(i);
            if (ch >= 'a' && ch <= 'z') {
                sb.append((char) (ch - 32));
            } else {
                sb.append(ch);
            }
        }
        return sb.toString();
    }
}
```

Output:



Result:

The above program has been successfully executed and verified.

4.**Aim:**

To write a program to delete all vowels from a given sentence.

Procedure:

Step1:start the program
Step2:Read the input sentence.
Step3: Use the **replaceAll** method
Step4: Print the modified sentence without vowels.
Step5:stop the program

Program:

```
import java.util.Scanner;
public class DeleteVowels {
    public static void main(String[] args) {
        Scanner scanner = new Scanner(System.in);
        System.out.print("Enter a sentence (not more than 80 characters): ");
        String input = scanner.nextLine();
        String result = deleteVowels(input);
        System.out.println("Modified sentence: " + result);
    }
    private static String deleteVowels(String sentence) {
        return sentence.replaceAll("[aeiouAEIOU]", "");
    }
}
```

Output:

```
Enter a sentence (not more than 80 characters): dhuruv swammy
Modified sentence: dhrv swmmy


...Program finished with exit code 0
Press ENTER to exit console.
```

Result:

The above program has been successfully executed and verified.

5.**Aim:**

To write a program to count the number of occurrences of any two vowels in succession in a line of text.

Procedure:

Step1:start the program
Step2: Read the input sentence.
Step3: get input from user
Step4: use for loop condition
Step5:stop the program

Program:

```
import java.util.Scanner;
public class Main {
   public static void main(String[] args) {
      Scanner scanner = new Scanner(System.in);
      System.out.println("Enter a line of text:");
      String text = scanner.nextLine().toLowerCase();
      System.out.println("Occurrences of any two vowels in succession:");
      for (int i = 0; i < text.length() - 1; i++) {
         char currentChar = text.charAt(i);
         char nextChar = text.charAt(i + 1);
         if (isVowel(currentChar) && isVowel(nextChar)) {
            System.out.print(currentChar + "" + nextChar + ", ");
         }
      }
   }
   public static boolean isVowel(char ch) {
      return "aeiou".indexOf(ch) != -1;
   }
}
```

Output:

```
Enter a line of text:
oops dhuruvv
Occurrences of any two vowels in succession:
oo,

...Program finished with exit code 0
Press ENTER to exit console.
```

Result:

The above program has been successfully executed and verified.