



Object Oriented Programming using Java Laboratory (DJS23FLES201)
Academic Year 2023-24

EXPERIMENT NO. 3

AIM / OBJECTIVE:

To implement Strings

To implement Strings

a.WAP to find out number of uppercase & lowercase characters, blank spaces and digits from the string.

Code-

```
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 inputString = scanner.nextLine();

        int upperCaseCount = 0;

        int lowerCaseCount = 0;

        int digitCount = 0;

        int spaceCount = 0;

        for (int i = 0; i < inputString.length(); i++) {

            char ch = inputString.charAt(i);
```



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```
if (Character.isUpperCase(ch)) {  
  
    upperCaseCount++;  
  
} else if (Character.isLowerCase(ch)) {  
  
    lowerCaseCount++;  
  
} else if (Character.isDigit(ch)) {  
  
    digitCount++;  
  
} else if (Character.isWhitespace(ch)) {  
  
    spaceCount++;  
  
}  
  
}  
  
System.out.println("Number of uppercase characters: " + upperCaseCount);  
  
System.out.println("Number of lowercase characters: " + lowerCaseCount);  
  
System.out.println("Number of digits: " + digitCount);  
  
System.out.println("Number of blank spaces: " + spaceCount);  
  
}  
  
}
```

Output-

```
C:\Users\Arshad\Desktop\study\java>java Main.java  
Enter a string: My Roll no. is 7  
Number of uppercase characters: 2  
Number of lowercase characters: 8  
Number of digits: 1  
Number of blank spaces: 4  
  
C:\Users\Arshad\Desktop\study\java>
```



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- b. WAP to count the frequency of occurrence of a given character in a given line of text.

Code –

```
import java.util.Scanner;

public class CharacterFrequencyCounter {

    public static void main(String[] args) {

        Scanner scanner = new Scanner(System.in);

        System.out.print("Enter a line of text: ");

        String line = scanner.nextLine();

        System.out.print("Enter the character to count: ");

        char targetChar = scanner.next().charAt(0);

        int count = 0;

        for (int i = 0; i < line.length(); i++) {

            if (line.charAt(i) == targetChar) {

                count++;

            }

        }

        System.out.println("Frequency of '" + targetChar + "' in the given text: " + count);

    }

}
```



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Output-

```
C:\Users\Arshad\Desktop\study\java>java Main.java
Enter a line of text: Hello World
Enter the character to count: l
Frequency of 'l' in the given text: 3
C:\Users\Arshad\Desktop\study\java>
```

- c. WAP to check if a string is a palindrome or not using inbuilt functions.

Code-

```
import java.util.Scanner;

public class PalindromeChecker {

    public static void main(String[] args) {

        Scanner scanner = new Scanner(System.in);

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

        String input = scanner.nextLine();

        boolean isPalindrome = true;

        // Compare characters from start and end of the string
        for (int i = 0, j = input.length() - 1; i < j; i++, j--) {

            // If characters at the corresponding positions don't match, it's not a palindrome
            if (input.charAt(i) != input.charAt(j)) {

                isPalindrome = false;
```



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```
break;

}

}

if (isPalindrome) {

    System.out.println("The string is a palindrome.");

} else {

    System.out.println("The string is not a palindrome.");

}

}

}
```

Output-

```
C:\Users\Arshad\Desktop\study\java>java Main.java
Enter a string: WOW
The string is a palindrome.

C:\Users\Arshad\Desktop\study\java>java Main.java
Enter a string: hello
The string is not a palindrome.
```

CONCLUSION:

We created a program that counts the number of uppercase characters, lowercase characters, digits, and blank spaces in a given string. This program utilized a loop to iterate over each character of the string and checked its type using built-in Character class methods.



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Another program was developed to count the frequency of occurrence of a given character in a given line of text. It used a loop to iterate through each character of the input text and compared it with the target character to count its occurrences.

We made a program to determine whether a given string is a palindrome or not. This program employed a loop to compare characters from both ends of the string simultaneously, checking if it reads the same forwards and backwards.