EXPERIMENT 13

Name: Priyansh Salian

Batch-C31

Roll No: 2003148

Program Statement:

a) WAP to check if a string is a palindrome

b) WAP to accept a string from user and display the number of uppercase, lowercase, special characters, blank spaces & digits present in the accepted string.

Theory:

Strings, which are widely used in Java programming, are a sequence of characters. In Java programming language, strings are treated as objects.

The Java platform provides the String class to create and manipulate strings. The most direct way to create a string is to write −

```
String greeting = "Hello world!";
```

Whenever it encounters a string literal in your code, the compiler creates a String object with its value in this case, "Hello world!'.

As with any other object, you can create String objects by using the new keyword and a constructor. The String class has 11 constructors that allow you to provide the initial value of the string using different sources, such as an array of characters.

String Length

Methods used to obtain information about an object are known as **accessor methods**. One accessor method that you can use with strings is the length() method, which returns the number of characters contained in the string object.

The following program is an example of **length()**, method String class.

The String class includes a method for concatenating two strings −

```
string1.concat(string2);
```

This returns a new string that is string1 with string2 added to it at the end. You can also use the concat() method with string literals, as in −

```
"My name is ".concat("Zara");
```

Strings are more commonly concatenated with the + operator, as in −

```
"Hello," + " world" + "!"
```

which results in −

```
"Hello, world!"
```

Program 1:

Palindrome - Notepad

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```
import java.util.Scanner;
class Palindrome
{
public static void main(String args[])
{
String str, rev = "";
Scanner sc = new Scanner(System.in);
System.out.println("Enter a string:");
str = sc.nextLine();
int length = str.length();
for ( int i = length - 1; i >= 0; i-- )
rev = rev + str.charAt(i);
if (str.equals(rev))
System.out.println(str+" is a palindrome");
else
System.out.println(str+" is not a palindrome");
}
}
```

Output:

```
C:\Users\Puru\Desktop>javac Palindrome.java

C:\Users\Puru\Desktop>java Palindrome.java
Enter a string:
Priyansh
Priyansh is not a palindrome

C:\Users\Puru\Desktop>
```

Program 2:

StringCount - Notepad

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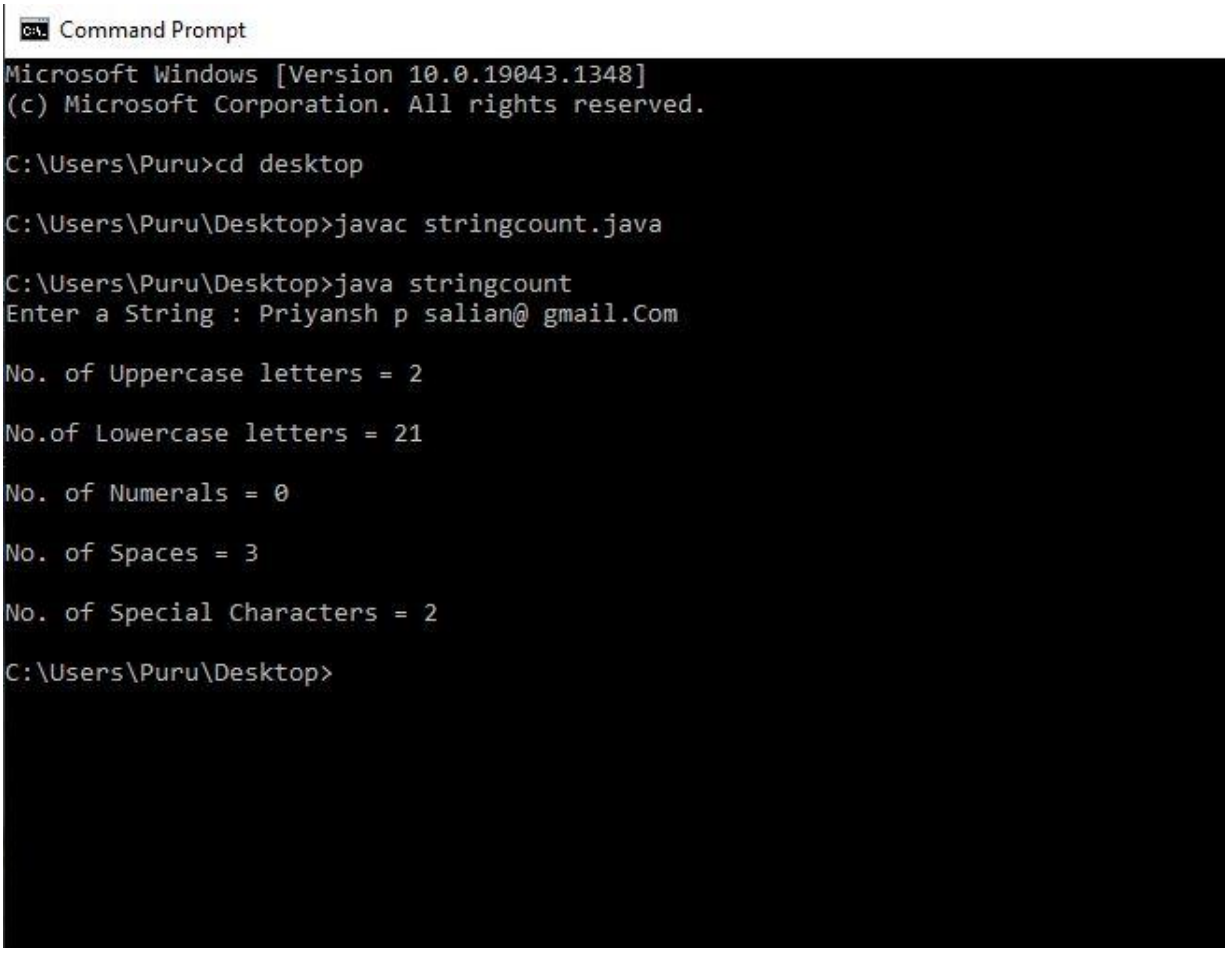
```
import java.io.*;
class StringCount
{
static String n;
static int l;
public static void main(String args[]) throws IOException
{
BufferedReader br = new BufferedReader(new InputStreamReader(System.in));
 // Read the string
System.out.print("Enter a String : ");
n = br.readLine();
l = n.length();
find();
}
public static void find()
{
int a=0,b=0,c=0,d=0;
char ch;
for(int i=0;i<l;i++)
{
ch = n.charAt(i);
if(ch>='A' && ch<='Z') // Condition for Uppercase letters
a++;
if(ch>='a' && ch <='z')// Condition for Lowercase letters
b++;
if(ch>='0' && ch<='9')// Condition for Numbers
c++;
if(ch==' ') // Condition for spaces
d++;
}
System.out.println("\nNo. of Uppercase letters = " +a);
System.out.println("\nNo.of Lowercase letters = " +b);
System.out.println("\nNo. of Numerals = " +c);
System.out.println("\nNo. of Spaces = " +d);
System.out.println("\nNo. of Special Characters = "+(l-(a+b+c+d)));
}
}
```

Output:


Command Prompt
Microsoft Windows [Version 10.0.19043.1348]
(c) Microsoft Corporation. All rights reserved.
C:\Users\Puru>cd desktop
C:\Users\Puru\Desktop>javac stringcount.java
C:\Users\Puru\Desktop>java stringcount
Enter a String : Priyansh p salian@ gmail.Com
No. of Uppercase letters = 2
No.of Lowercase letters = 21
No. of Numerals = 0
No. of Spaces = 3
No. of Special Characters = 2
C:\Users\Puru\Desktop>