PART-II Strings

No.	Aim of the Practical
7.	**AIM :** Given a string and a non-negative int n, we'll say that the front of the string is the first 3 chars, or whatever is there if the string is less than length 3. Return n copies of the front; front_times('Chocolate', 2) → 'ChoCho' front_times('Chocolate', 3) → 'ChoChoCho' front_times('Abc', 3) → 'AbcAbcAbc'

PROGRAM CODE :

```
import java.util.*;


public class Prac_07 {

   static void front_times(String s, int a){
      s=s.substring(0, 3);

      for(int i=0;i<a;i++){
         System.out.print(s);
      }

   }
   public static void main(String[] args) {
      Scanner ip = new Scanner(System.in);
      String s;
      System.out.print("Enter a String(Word containing more than 3 characters) : ");
      s=ip.next();
      System.out.print("How many times you want to repeat words? : ");
      int n =ip.nextInt();
      front_times(s,n);
      System.out.print("\nName : OM BARVALIYA \nID : 23DCS009 ");

   }
}
```

OUTPUT:

```
PS C:\Users\Om> cd "d:\0M\23DCS009\JAVA\sem3\_23dcs009_java\src\" ;
Enter a String(Word containing more than 3 characters) : Charusat
How many times you want to repeat words? : 3
ChaChaCha
Name : OM BARVALIYA
ID : 23DCS009
PS D:\0M\23DCS009\JAVA\sem3\_23dcs009_java\src>
```

OUTPUT: PRACTICAL-7

CONCLUSION:

This Java program demonstrates the use of strings, loops, and user input handling. It specifically showcases substring manipulation by repeating the first three characters of a given string a specified number of times. The concepts of Java used include string manipulation, for loops, and the Scanner class for reading user input. Additionally, it employs static methods and basic input/output operations.

8. **AIM :** Given an array of ints, return the number of 9's in the array.

array_count9([1, 2, 9]) → 1

array_count9([1, 9, 9]) → 2

array_count9([1, 9, 9, 3, 9]) → 3

PROGRAM CODE :

```
import java.util.*;

   public class Prac_08 {
      public static int array_count9(int[] nums) {

         String arrayAsString = Arrays.toString(nums);

         int count = arrayAsString.length() - arrayAsString.replace("9", "").length();
         return count;
      }

      public static void main(String[] args) {
         System.out.println(array_count9(new int[]{1, 2, 9}));
         System.out.println(array_count9(new int[]{1, 9, 9}));
         System.out.println(array_count9(new int[]{1, 9, 9, 3, 9}));
         System.out.print("\nName : OM BARVALIYA \nID : 23DCS009 ");
      }
   }
```

OUTPUT:

```
PS C:\Users\Om> cd "d:\0M\23DCS009\JAVA\sem3\_23dcs009_java\src\" ;
1
2
3

Name : OM BARVALIYA
ID : 23DCS009
PS D:\0M\23DCS009\JAVA\sem3\_23dcs009_java\src>
```

OUTPUT: PRACTICAL-8

CONCLUSION:

This Java program is designed to count the occurrences of the digit 9 within an array of integers. It utilizes the Arrays.toString() method for array-to-string conversion, string manipulation techniques to count occurrences, and the concept of array handling in Java. The program demonstrates the use of static methods, the main method for execution, and basic input/output operations. Key Java concepts include arrays, string manipulation, and the use of the replace method.

9.

AIM : Given a string, return a string where for every char in the

original, there are two chars.

double_char('The') → 'TThhee'

double_char('AAbb') → 'AAAAbbbb'

double_char('Hi-There') → 'HHii--TThheerree'

PROGRAM CODE :

```
import java.util.*;


public class Prac_09 {

    static String double_char(String s){
        int a=s.length();
        String str3="";

        for(int i=0;i<a;i++){
            char result = s.charAt(i);
            str3= str3+result+result;
        }
        return str3;
```

```
    }
    public static void main(String[] args) {
        Scanner ip = new Scanner(System.in);
        String s;
        System.out.print("Enter a String : ");
        s=ip.next();

        System.out.println(double_char(s));
        System.out.print("\nName : OM BARVALIYA \nID : 23DCS009 ");


    }
}
```

OUTPUT:

```
PS C:\Users\Om> cd "d:\0M\23DCS009\JAVA\sem3\_23dcs009_java\src\" ;
Enter a String : Om
OOmm

Name : OM BARVALIYA
ID : 23DCS009
PS D:\0M\23DCS009\JAVA\sem3\_23dcs009_java\src>
```

OUTPUT: PRACTICAL-9

CONCLUSION:

This Java program demonstrates the use of strings, loops, and the Scanner class for input handling. It features a method double_char that duplicates each character in a given string, showcasing string manipulation and concatenation techniques. Key Java concepts utilized include methods, loops (for loop), character manipulation (charAt method), and basic input/output operations. The program also exemplifies the use of the Scanner class for reading user input from the console.

10. **AIM :** Perform following functionalities of the string:

- Find Length of the String
- Lowercase of the String
- Uppercase of the String
- Reverse String
- Sort the string

PROGRAM CODE :

```
import java.util.*;

   public class Prac_10 {

      public static String reverse(String s){
         String str3="";
         for(int i=s.length()-1;i>=0;i--){
            str3=str3+s.charAt(i);
         }
         return str3;
      }

      public static String sort(String s){
         char[] ch = s.toCharArray();
         Arrays.sort(ch);
         return new String(ch);
      }

      public static void main(String[] args) {
         Scanner ip = new Scanner(System.in);
         String s;
         System.out.print("Enter a String : ");
         s=ip.next();
         System.out.print("Length  : "+s.length()+"\n");
         System.out.print("Upper case : "+s.toUpperCase()+"\n");
         System.out.print("Lower case : "+s.toLowerCase()+"\n");
         System.out.print("Reverse : "+reverse(s)+"\n");
         System.out.print("Sort : "+sort(s)+"\n");
         System.out.print("\nName : OM BARVALIYA \nID : 23DCS009 ");


      }
   }
```

OUTPUT:

```
PS C:\Users\Om> cd "d:\0M\23DCS009\JAVA\sem3\_23dcs009_java\src\" ;
Enter a String : Charusat
Length  : 8
Upper case : CHARUSAT
Lower case : charusat
Reverse : tasurahC
Sort : Caahrstu

Name : OM BARVALIYA
ID : 23DCS009
PS D:\0M\23DCS009\JAVA\sem3\_23dcs009_java\src>
```

OUTPUT: PRACTICAL-10

CONCLUSION:

This Java program demonstrates string manipulation techniques including reversing and sorting characters within a string. It utilizes loops for reversing the string, the Arrays.sort() method for sorting, and the Scanner class for reading user input. Key Java concepts employed are string manipulation, character arrays, and basic input/output operations. The program effectively showcases the use of control structures (loops) and array handling in Java.

11. **AIM :** Perform following Functionalities of the string:

"CHARUSAT UNIVERSITY"

- Find length
- Replace 'H' by 'FIRST LATTER OF YOUR NAME'
- Convert all character in lowercase

PROGRAM CODE :

```
import java.util.*;

   public class Prac_11 {


      public static void main(String[] args) {

         String s="CHARUSAT UNIVERSITY";
```

```
        System.out.print("Length  : "+s.length()+"\n");
        System.out.print("Lower case : "+s.toLowerCase()+"\n");
        System.out.println(s.replace('H', 'O'));
        System.out.print("\nName : OM BARVALIYA \nID : 23DCS009 ");


    }
}
```

OUTPUT:

```
PS C:\Users\Om> cd "d:\0M\23DCS009\JAVA\sem3\_23dcs009_java\src\" ;
Length  : 19
Lower case : charusat university
COARUSAT UNIVERSITY

Name : OM BARVALIYA
ID : 23DCS009
PS D:\0M\23DCS009\JAVA\sem3\_23dcs009_java\src>
```

OUTPUT: PRACTICAL-11

CONCLUSION:

This Java program, demonstrates basic string manipulation operations such as calculating string length, converting to lowercase, and replacing characters within a string. It utilizes the String class methods length(), toLowerCase(), and replace(). The program showcases fundamental Java concepts including string handling and the use of built-in methods for string manipulation. It also illustrates basic output operations with System.out.print and System.out.println for displaying results.