OOPS PRACTICAL 7

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Course Code: 2CS302

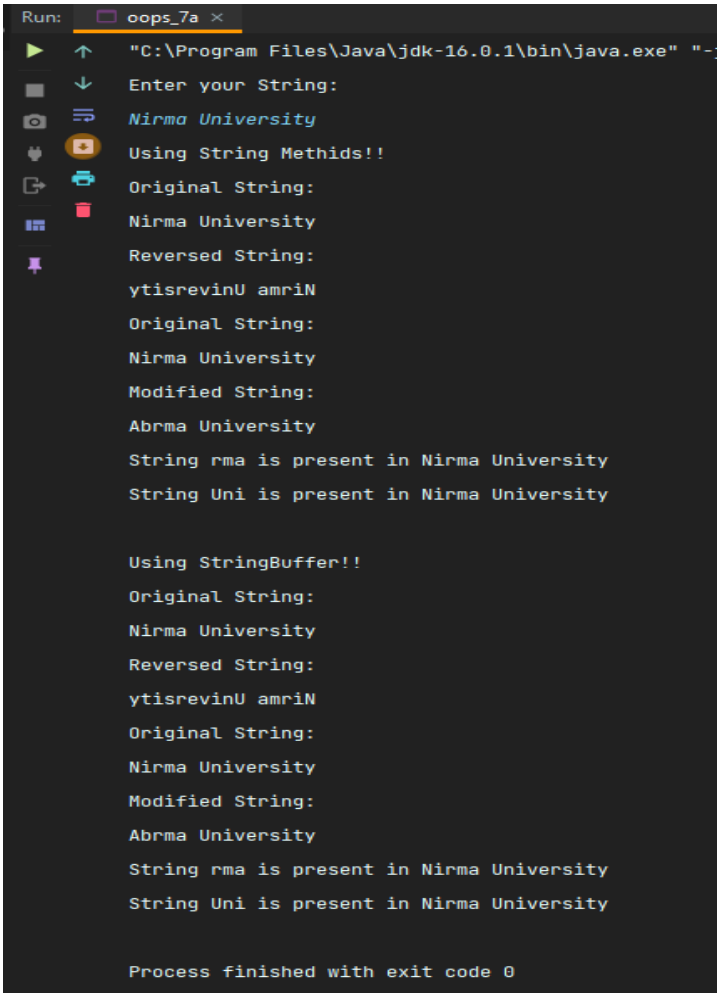
Course Name: Object Oriented Programming

Practical 7A

```
package com.company;
import javax.sound.midi.Soundbank;
import java.util.*;
public class oops_7a {
    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter your String:");
        String str=sc.nextLine();
        System.out.println("Using String Methids!!");
        //Reverse String
        char c[]= str.toCharArray();
        String reverse=new String();
        for(int i=c.length-1;i>=0;i--){
            reverse+=c[i];
        }
        System.out.println("Original String:"+"\n"+str);
        System.out.println("Reversed String:"+"\n"+reverse);
        String repl_str=str.replace("Ni","Ab");
        System.out.println("Original String:"+"\n"+str);
        System.out.println("Modified String:"+"\n"+repl_str);
        int in=str.indexOf("rma");
        int id=str.indexOf("Uni");
        if(in==-1){
            System.out.println("String rma is not present in "+str);
        }
        else{
            System.out.println("String rma is present in "+str);
        }
        if(id==-1){
            System.out.println("String Uni is not present in "+str);
        }
        else{
            System.out.println("String Uni is present in "+str);
        }

        System.out.println("\nUsing StringBuffer!!");
        StringBuffer srt=new StringBuffer("Nirma University");
        StringBuffer temp=new StringBuffer(srt);
        StringBuffer t=new StringBuffer(temp);
        //Reverse
        System.out.println("Original String:"+"\n"+temp);
        srt.reverse();
        System.out.println("Reversed String:"+"\n"+srt);
        //Replace NI with Ab
        temp.replace(0,2,"Ab");//End index is excluled
        System.out.println("Original String:"+"\n"+t);
        System.out.println("Modified String:"+"\n"+temp);

        //Checking for rma and Uni
        int r=t.indexOf("rma");
```

```
        int u=t.indexOf("Uni");
        if(r==-1){
            System.out.println("String rma is not present in "+t);
        }
        else{
            System.out.println("String rma is present in "+t);
        }
        if(u==-1){
            System.out.println("String Uni is not present in "+t);
        }
        else{
            System.out.println("String Uni is present in "+t);
        }



    }
}
```

OUTPUT



THEORETICAL PRINCIPLES USED:

In this practical we apply differents String and StringBuffer methods on String “Nirma University”.

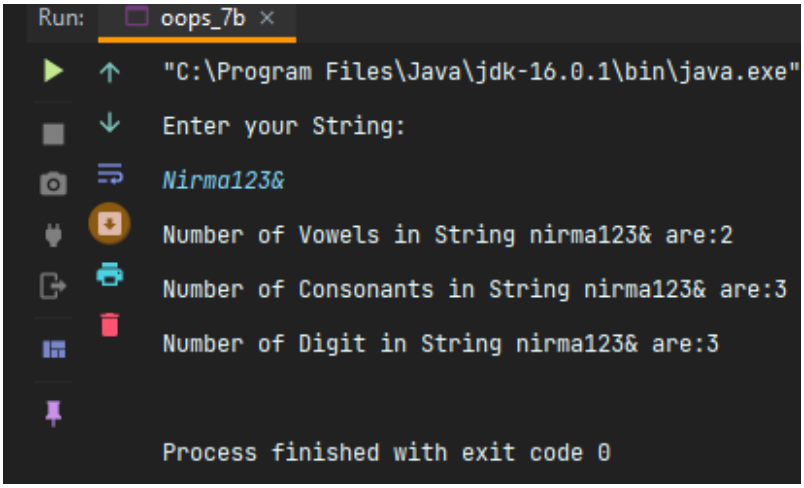
First we reverse the String ,then replace “Ni” with “Ab” and then we check whether the String “rma” and “Uni” are present in “University”.

While using String methods the original Strings doesn’t get affected whereas in StringBuffer methods the original String gets modified.

Practical 7B

```java
package com.company;
import java.util.*;
public class oops_7b {
    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter your String:");
        String str=sc.nextLine();
        str=str.toLowerCase(Locale.ROOT);
        int vow=0,con=0,dig=0;
        char c[]=str.toCharArray();
        for(int i=0;i<c.length;i++){
            if((c[i]>='a' && c[i]<='z') ||(c[i]>='0' && c[i]<='9')) {//Special
characters are not included in the default case
                switch (c[i]) {
                    case 'a':
                    case 'e':
                    case 'i':
                    case 'o':
                    case 'u':
                        vow++;
                        break;
                    case '0':
                    case '1':
                    case '2':
                    case '3':
                    case '4':
                    case '5':
                    case '6':
                    case '7':
                    case '8':
                    case '9':
                        dig++;
                        break;
                    default:
                        con++;
                        break;
                }
            }
        }
        System.out.println("Number of Vowels in String " +str+" are:"+vow);
        System.out.println("Number of Consonants in String "+ str+" are:"+con);
        System.out.println("Number of Digit in String "+ str+" are:"+dig);
    }
}
```

OUTPUT



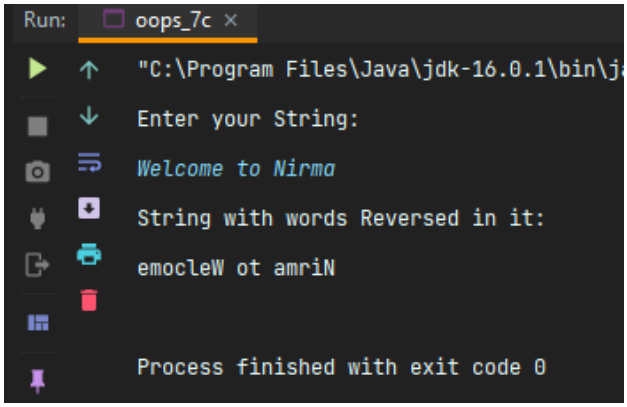
THEORETICAL PRINCIPLES USED:

In this practical we take String by user and using String methods we calculate the no of vowels, consonants and digits in the input String using Switch case after converting the string in lowercase. In switch default case acts for consonants and no special characters are included in the consonants since before switch an if condition is there which is for only lower case characters and digits.

Practical 7C

```java
public class oops_7c {
    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        System.out.println("Enter your String:");
        String str=sc.nextLine();
        String s[]=str.split("\\s");
        String final_string=new String();
        for(int i=0;i<s.length;i++){
            for(int j=s[i].length()-1;j>=0;j--){
                final_string+=s[i].charAt(j);
            }
            final_string+=" ";
        }
        System.out.println("String with words Reversed in it:");
        System.out.println(final_string);
    }
}
```

OUTPUT



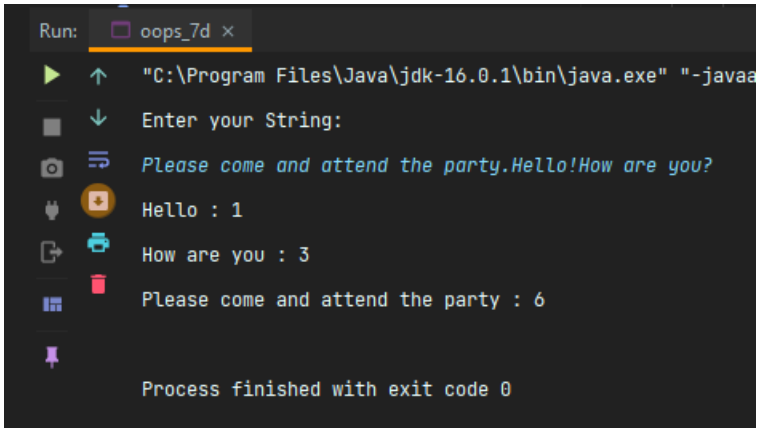
THEORETICAL PRINCIPLES USED:

In this practical we take a String by user and then the words in the Strings are reversed and then changed string is printed which contains reversed words.

Practical 7D

```java
package com.company;
import java.util.*;
public class oops_7d {
    public static void main(String[] args) {
        Scanner sc=new Scanner(System.in);
        String str=sc.nextLine();
        String S[]=str.split("[.?!]");
        int ar[]=new int[S.length];
        for(int i=0;i<S.length;i++) {
            String temp[]=S[i].split("\\s");
            ar[i]=temp.length;
        }
        for(int i=0;i<S.length;i++){
            for(int j=i+1;j<S.length;j++){
                if(ar[i]>ar[j]){
                    int tem=ar[i];
                    ar[i]=ar[j];
                    ar[j]=tem;

                    String tep=S[i];
                    S[i]=S[j];
                    S[j]=tep;
                }
            }
        }
for(int i=0;i<S.length;i++){
    System.out.println(S[i]+" : "+ar[i]);
}
    }
}
```

OUTPUT



THEORETICAL PRINCIPLES USED:

In this practical we write a paragraph which contain “. ! ?” on which it is spilt and then the word per statement is count and then according to the ascending count the result is printed.