

String

1. Write a java program to display reverse of a string?

Input:

Hello

Output:

olleH

Approach1:

```
class ReverseStr
{
    public static void main(String[] args)
    {
        String str="Hello";
        char[] carr=str.toCharArray();
        String rev="";
        for(int i=carr.length-1;i>=0;i--)
        {
            rev+=carr[i];
        }
        System.out.println(rev);
    }
}
```

Approach2:

```
class ReverseStr
{
    public static void main(String[] args)
    {
        String str="Hello";
        StringBuffer sb=new StringBuffer(str);
        System.out.println(sb.reverse().toString());
    }
}
```

2. Write a java program to check given string is palindrome or not?

Input:

racar

Output:

It is a palindrome string

Approach1:

```
class PalindromeApp
{
    public static void main(String[] args)
    {
        String str="racar";
        char[] carr=str.toCharArray();
        String rev="";
        for(int i=carr.length-1;i>=0;i--)
        {
            rev+=carr[i];
        }
        if(str.equals(rev))
            System.out.println("It is a palindrome string");
        else
            System.out.println("It is not a palindrome string");
    }
}
```

Approach2:

```
class PalindromeApp
{
    public static void main(String[] args)
    {
        String str="racar";
        StringBuffer sb=new StringBuffer(str);
        String rev=sb.reverse().toString();
        if(str.equals(rev))
            System.out.println("It is a palindrome string");
        else
            System.out.println("It is not a palindrome string");
    }
}
```

3. Write a java program to display reverse of a sentence?

Input:

This is java class

Output:

class java is This

```
class ReverseSentence
{
    public static void main(String[] args)
    {
        String str="This is java class";
        String[] sarr=str.split(" ");
        String rev="";
        for(int i=sarr.length-1;i>=0;i--)
        {
            rev+=sarr[i]+" ";
        }
        System.out.println(rev);
    }
}
```

4. Write a java program to remove special characters from given string?

Input:

he@l#l_o\$

Output:

hello

```
class RemoveCharacter
{
    public static void main(String[] args)
    {
        String str="he@l#l_o$";

        str=str.replaceAll("[^a-zA-Z0-9]", "");

        System.out.println(str);
    }
}
```

5. Write a java program to display reverse of each word in a sentence?

Input:

This is java class

Output:

sihT si avaj sslac

```
class ReverseWord
{
    public static void main(String[] args)
    {
        String str="This Is Java Class";
        String[] sarr=str.split(" ");
        for(String s:sarr)
        {
            char[] carr=s.toCharArray(); // T h i s
            //reverse order
            for(int i=carr.length-1;i>=0;i--)
            {
                System.out.print(carr[i]);
            }
            //space
            System.out.print(" ");
        }
    }
}
```

6. Write a java program to remove spaces from given string?

Input:

I HUB Tal ent

Output:

IHUBTalent

```
class RemoveSpaces
{
    public static void main(String[] args)
    {
        String str="I HUB Tal ent";
        str=str.replaceAll("\\s","");
        System.out.println(str);
    }
}
```

7. Write a java program to display duplicate characters in a given string?

Input:

google

Output:

og

```
class DuplicateCharacters
{
    public static void main(String[] args)
    {
        String str="google";
        String characters="";
        String duplicates="";
        for(int i=0;i<str.length();i++)
        {
            //converting character to String
            String current=Character.toString(str.charAt(i));
            if(characters.contains(current))
            {
                if(!duplicates.contains(current))
                {
                    duplicates+=current;
                    continue;
                }
            }
            characters+=current;
        }
        System.out.println(duplicates);
    }
}
```

8. Write a java program to display unique characters in a given string?

Input:

google

Output:

gole

```
class UniqueCharacters
{
    public static void main(String[] args)
    {
        String str="google";

        String characters="";
        String duplicates="";

        for(int i=0;i<str.length();i++)
        {
            //converting character to String
            String current=Character.toString(str.charAt(i));

            if(characters.contains(current))
            {
                if(!duplicates.contains(current))
                {
                    duplicates+=current;
                    continue;
                }
            }
            characters+=current;
        }
        System.out.println(characters);
    }
}
```

9. Write a java program to check given string is anagram or not?

Input:

silent

listen

Output:

It is Anagram string

```
import java.util.Arrays;
class Test
{
    public static void main(String[] args)
    {
        String str1="silent";
        String str2="listen1";

        //convert string to char array
        char[] ch1=str1.toCharArray();
        char[] ch2=str2.toCharArray();

        //sorting the characters
        Arrays.sort(ch1);
        Arrays.sort(ch2);

        boolean flag=true;
        for(int i=0;i<ch1.length;i++)
        {
            if(ch1[i]!=ch2[i])
            {
                flag=false;
                break;
            }
        }
        if(flag)
            System.out.println("It is Anagram String");
        else
            System.out.println("It is not Anagram String");
    }
}
```

10. Write a java program to display the string in a given format?

Input:

A1B2C3D4

Output:

ABBCCCDDDD

```
class StringFormat
{
    public static void main(String[] args)
    {
        String str="A1B2C3D4";

        for(int i=0;i<str.length();i++)
        {
            if(Character.isAlphabetic(str.charAt(i)))
            {
                System.out.print(str.charAt(i));
            }
            else
            {
                int k=Character.getNumericValue(str.charAt(i));

                for(int j=1;j<k;j++)
                {
                    System.out.print(str.charAt(i-1));
                }
            }
        }
    }
}
```


11. Write a java program to display the string in a given format?

Input:

XYZ

Output:

XY

XZ

YX

YZ

ZX

ZY

```
class StringFormat
```

```
{
```

```
    public static void main(String[] args)
```

```
    {
```

```
        String str="XYZ";
```

```
        for(int i=0;i<str.length();i++)
```

```
        {
```

```
            for(int j=0;j<str.length();j++)
```

```
            {
```

```
                if(i!=j)
```

```
                {
```

```
                    System.out.println(str.charAt(i)+""+str.charAt(j));
```

```
                }
```

```
            }
```

```
        }
```

```
    }
```

```
}
```

12. Write a java program to permutation of a given string?

Input:

ABC

Output:

ABC

ACB

BAC

BCA

CBA

CAB

```
class PermutationString
{
    public static void main(String[] args)
    {
        String str="ABC";
        //caller method
        permutation(str.toCharArray(),0);
    }
    //callie method
    public static void permutation(char[] arr,int fi)
    {
        if(fi==arr.length-1)
        {
            System.out.println(arr);
            return;
        }
        for(int i=fi;i<arr.length;i++)
        {
            swap(arr,fi,i);
            permutation(arr,fi+1);
            swap(arr,fi,i);
        }
    }
    //callie method
    public static void swap(char[] arr,int fi,int i)
    {
        char temp=arr[fi];
        arr[fi]=arr[i];
        arr[i]=temp;
    }
}
```

13. Write a java program to display the string in a given format?

Input:

ABBCCDDDD

Output:

A1B2C3D4

```
class Test
{
    public static void main(String[] args)
    {
        String str="ABBCCDDDD";

        StringBuffer sb=new StringBuffer();

        int count=1;

        for(int i=0;i<str.length();i++)
        {
            if(i<str.length()-1 && str.charAt(i)==str.charAt(i+1))
            {
                count++;
            }
            else
            {
                sb.append(str.charAt(i)).append(count);
                count=1;
            }
        }
        System.out.println(sb.toString());
    }
}
```

14. Write a java program to concatenate two strings?

Input:

ihub23
talent24

Output:

ihubtalent47

```
class ConcatinateTwoStrings
{
    public static void main(String[] args)
    {
        String str1="ihub23";
        String str2="talent24";

        String word1=str1.replaceAll("[^A-Za-z]", "");
        int num1=Integer.parseInt(str1.replaceAll("[^0-9]", ""));

        String word2=str2.replaceAll("[^A-Za-z]", "");
        int num2=Integer.parseInt(str2.replaceAll("[^0-9]", ""));

        String word=word1+word2;
        int num=num1+num2;

        System.out.println(word+num);
    }
}
```

15. Write a java program to insert a given word using index number?

Input:

str = "ihubtalentIT"

index = 4

word = "for"

Output:

ihubfortalentIT

```
class WordInsertApp
{
    public static void main(String[] args)
    {
        String str="ihubtalentIT";

        int index=4;

        String word="for";

        String str1=str.substring(0,index);
        String str2=str.substring(index,str.length());

        String result=str1+word+str2;

        System.out.println(result);

    }
}
```

16. Write a java program to display the string starting with uppercase letters?

Input:

This is Java class For students

Output:

This Java For

```
class UpperCaseString
{
    public static void main(String[] args)
    {
        String str="This is Java class For students";

        String[] sarr=str.split(" ");

        for(String s:sarr)
        {
            if(s.charAt(0)>='A' && s.charAt(0)<='Z')
            {
                System.out.print(s+" ");
            }
        }
    }
}
```

17. Write a java program to display number of words present in String?

Input:

This is is java java class

Output:

This=1, is=2, java=2, class=1

```
import java.util.*;
class NumberOfWords
{
    public static void main(String[] args)
    {
        String str="This is is java java class";

        String[] sarr=str.split(" ");

        Map<String,Integer> map=new LinkedHashMap<String,Integer>();

        for(String s:sarr)
        {
            if(map.get(s)!=null)
            {
                map.put(s,map.get(s)+1);
            }
            else
            {
                map.put(s,1);
            }
        }
        map.forEach((key,value)-> System.out.println(key+"="+value));
    }
}
```

18. Write a java program to display number of characters present in string?

input:

java

output:

j=1,a=2,v=1

```
import java.util.*;
class NumberOfCharacters
{
    public static void main(String[] args)
    {
        String str="java";

        char[] carr=str.toCharArray();

        Map<Character,Integer> map=new LinkedHashMap<Character,Integer>();

        for(char c:carr)
        {
            if(map.get(c)!=null)
            {
                map.put(c,map.get(c)+1);
            }
            else
            {
                map.put(c,1);
            }
        }
        map.forEach((key,value)-> System.out.println(key+"="+value));
    }
}
```


19. Write a java program to check given string is balanced or not?

Input:

{{{}}}

Output:

It is balanced string

```
import java.util.*;
class BalancedString
{
    public static void main(String[] args)
    {
        String str="{{{}}}";
        if(isBalanced(str.toCharArray()))
            System.out.println("It is balanced string");
        else
            System.out.println("It is not balanced string");
    }
    public static boolean isBalanced(char[] carr)
    {
        Stack<Character> s=new Stack<Character>();
        for(char ch:carr)
        {
            if(ch=='[' || ch=='{' || ch=='('){
                s.push(ch);
            }
            else if(ch==']' && !s.isEmpty() && s.peek()=='['){
                s.pop();
            }
            else if(ch=='}' && !s.isEmpty() && s.peek()=='{'){
                s.pop();
            }
            else if(ch==')' && !s.isEmpty() && s.peek()=='('){
                s.pop();
            }
            else{
                return false;
            }
        }
        return s.isEmpty();
    }
}
```

20. Write a java program to count number of vowels present in a given string?

Input:

Umbrella

Output:

3

```
class VowelCounter
{
    public static void main(String[] args)
    {
        String str="umbrella";
        str=str.toLowerCase();
        int count = 0;
        for (int i = 0; i < str.length(); i++)
        {
            char ch = str.charAt(i);
            if (ch == 'a' || ch == 'e' || ch == 'i' || ch == 'o' || ch == 'u')
            {
                count++;
            }
        }
        System.out.println(count);
    }
}
```

21. Write a java program to perform right rotation of a given string?

Input:

str= "Ihubtalent"

position = 4

Output:

talentihub

class RightRotation

```
{
    public static void main(String[] args)
    {
        String str="ihubtalent";
        int position=4;

        String str1=str.substring(position,str.length());
        String str2=str.substring(0,position);

        System.out.println(str1+str2);
    }
}
```

22. Write a java program that takes list of string and display them in sorting order?

Input:

Hello World My Name Is

Output:

Hello Is My Name World

```
import java.util.*;
public class SortingOrder
{
    public static void main(String[] args)
    {
        String string="Hello World My Name Is";

        String[] sarr=string.split(" ");

        List<String> input = Arrays.asList(sarr);

        Collections.sort(input);

        for (String str: input)
        {
            System.out.print(str + " ");
        }
    }
}
```

23. Write a java program to remove the given string?

Input:

str = "This is java program"
remove = "is"

Output:

Th java program

```
public class Test
{
    public static void main(String[] args)
    {
        String str = "This is java program";
        String remove = "is";

        str=str.replaceAll(remove, "");

        System.out.println(str);
    }
}
```

24. Write a java program to perform encoding the string?

Input:

1106

Output:

AAJF

```
public class Test
{
    public static void main(String[] args)
    {
        String input = "1106";
        String encodedString = encodeString(input);
        System.out.println("Encoded String: " + encodedString);
    }

    public static String encodeString(String input)
    {
        StringBuilder sb = new StringBuilder();

        for(int i=0;i<input.length();i++) //1 1 0 6
        {
            String str=Character.toString(input.charAt(i));
            int n=Integer.parseInt(str);
            if(n!=0)
            {
                sb.append((char) ('A' + n - 1));
            }
            else
            {
                String substr=input.substring(i-1,i+1);
                int digit=Integer.parseInt(substr);
                sb.append((char) ('A' + digit - 1));
            }
        }
        return sb.toString();
    }
}
```

25. Write a java program to perform largest common subsequence in a given string?

Input:

ABCAB

AECB

Output:

3

```
class Test
{
    public static void main(String[] args)
    {
        String firstStr="ABCAB";
        String secondStr="AECB";

        //caller
        System.out.println(longestCommonSubsequence(firstStr,secondStr));
    }
    public static int longestCommonSubsequence(String s1,String s2)
    {
        return solve(s1,s2,0,0);
    }
    public static int solve(String str1,String str2,int i,int j)
    {
        if(i==str1.length())
            return 0;
        if(j==str2.length())
            return 0;

        int ans=0;
        if(str1.charAt(i)==str2.charAt(j))
        {
            ans=1+solve(str1,str2,i+1,j+1);
        }
        else
        {
            ans=Math.max(solve(str1,str2,i+1,j),solve(str1,str2,i,j+1));
        }

        return ans;
    }
}
```

26. Write a java program to display all palindrome strings?

Input:

racar is madam for dad

Output:

racar madam dad

```
import java.util.*;
public class Test
{
    public static void main(String[] args)
    {
        String str="racar is madam for dad";
        String[] sarr=str.split(" ");

        for(String s:sarr)
        {
            char[] carr=s.toCharArray();

            String rev="";

            for(int i=carr.length-1;i>=0;i--)
            {
                rev+=carr[i];
            }
            if(s.equals(rev))
                System.out.print(s+" ");
        }
    }
}
```


27. Write a java program to check number of uppercase letters, lowercase letters, digits and special symbols?

Input:

This Is Java Class32

Output:

Uppercase letters: 4

Lowercase letters: 11

Digits: 2

Words: 4

Spaces: 3

```
public class Test
{
    public static void main(String[] args)
    {
        String str="This Is Java Class32";

        int upper=0,lower=0,digit=0,word=1,space=0;

        for(int i=0;i<str.length();i++)
        {
            if(str.charAt(i)>='A' && str.charAt(i)<='Z')
                upper++;
            else if(str.charAt(i)>='a' && str.charAt(i)<='z')
                lower++;
            else if(str.charAt(i)>='0' && str.charAt(i)<='9')
                digit++;
            else if(str.charAt(i)==' ')
            {
                space++;
                word++;
            }
        }
        System.out.println("Uppercase letter :"+upper);
        System.out.println("Lowercase letter :"+lower);
        System.out.println("Digit :"+digit);
        System.out.println("Word :"+word);
        System.out.println("Spaces :"+space);
    }
}
```