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:

ABBCCCDDDD

Output:

A1B2C3D4

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

		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);
	}
}
```