

1. Write a program to print the reverse of the String?

Ex: Nacre

Output: ercaN

CODE 1:

```
import java.util.Scanner;
public class Reverse {

    public static void main(String[] args) {

        Scanner sc = new Scanner(System.in);
        System.out.println("Enter String to reverse: ");

        String str = sc.nextLine();
        for(int i=str.length()-1;i>=0;i--) {
            System.out.print(str.charAt(i));
        }
        sc.close();

    }

}
```

OUTPUT:

```
Enter String to reverse:
Nacre
ercaN
```

CODE 2:

```
import java.util.*;
public class Reverse2 {

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter string to reverse: ");
        String str=sc.nextLine();
        StringBuilder sb= new StringBuilder();
        sb.append(str);
        sb.reverse();
        System.out.println(sb);
        sc.close();

    }

}
```

OTUPUT 2:

```
Enter string to reverse:
Reverse
esreverR
```

2. Write a program to print First non-repeated character from given String?

Ex: Software Services Output: o

CODE :

```
import java.util.Scanner;

public class FirstNoRepeat {

    public static String firstNonRepeatingNumber(String str) {
        String result="";

        for(int i=0;i<str.length();i++) {
            int count=0;
            if(str.charAt(i)!=' ') {

                for(int j=0;j<str.length();j++) {
                    if(str.charAt(i)==str.charAt(j) && i!=j) {
                        count++;
                        break;
                    }
                }

                if(count==0) {
                    result += str.charAt(i);
                    break;
                }
            }
        }

        return result;
    }

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter String: ");
        String str=sc.nextLine();

        System.out.println("Answer is:
"+firstNonRepeatingNumber(str));
    }
}
```

```
        sc.close();  
    }  
}
```

OUTPUT:

```
Enter String:  
Software Services  
Answer is: o
```

3. Write a program to print last non-repeated character from given String?

Ex: Software Services Output: c

CODE :

```
import java.util.Scanner;  
  
public class LastNoRepeat {  
    public static String lastNonRepeatingNumber(String str) {  
        String result="";  
  
        for(int i=str.length()-1;i>0;i--) {  
            int count=0;  
            if(str.charAt(i)!=' ') {  
  
                for(int j=0;j<str.length();j++) {  
                    if(str.charAt(i)==str.charAt(j) && i!=j) {  
                        count++;  
                        break;  
                    }  
                }  
            }  
        }  
    }  
}
```

```

        }

        if(count==0) {
            result += str.charAt(i);
            break;
        }
    }

    return result;
}

public static void main(String[] args) {
    Scanner sc = new Scanner(System.in);
    System.out.println("Enter String: ");
    String str=sc.nextLine();

    System.out.println("Answer is:
"+LastNonRepeatingNumber(str));
    sc.close();
}
}

```

OUTPUT:

```

Enter String:
Software services
Answer is: c

```

4. Write a program to remove the duplicate characters from the given String?

Ex: banaans

Output: bans

CODE :

```
import java.util.Scanner;

public class RemoveDuplicate {

    public static String removeDuplicateChar(String str) {
        String result="";

        for(int i=0;i<str.length();i++) {
            int count=0;
            if(str.charAt(i)!=' ') {
                for(int j=i+1;j<str.length();j++) {
                    if(str.charAt(i)==str.charAt(j) &&(i!=j)) {
                        count++;
                    }
                }
                if(count==0) {
                    result += str.charAt(i);
                }
            }
        }
        return result;
    }

    public static void main(String[] args) {

        Scanner sc = new Scanner(System.in);
        System.out.println("Enter String: ");
        String str=sc.nextLine();

        System.out.println(removeDuplicateChar(str));
        sc.close();
    }
}
```

OUTPUT:

Enter String:

banaans

bans

5. Write a program to count the number of occurrences of each character in a string?

Ex: apple

Output: a-1 p-2 l-1 e-1

CODE :

```
import java.util.Scanner;

public class CountOccurance {

    public static String countOccuranceOfChar(String str) {
        String result="";
        char[] arr=new char[str.length()];
        int c=0;

        for(int i=0;i<str.length();i++) {
            int count = 1;
            if(str.charAt(i)!=' ') {

                for(int j=i+1;j<str.length();j++) {
                    if(str.charAt(i)==str.charAt(j) && i!=j) {
                        count++;
                    }
                }

                if(count==1) {
                    arr[c++]=str.charAt(i);
                }
            }
        }
    }
}
```

```

    }

    for(int i=0;i<arr.length;i++) {
        int count2=0;
        if((arr[i]>='a' && arr[i]<='z') || (arr[i]>='A' &&
arr[i]<='Z')) {
            for(int j=0;j<str.length();j++) {
                if(arr[i]==str.charAt(j)) {
                    count2++;
                }
            }
            result += arr[i]+" : "+count2+"\n";
        }
    }

    return result;
}

```

OUTPUT:

Enter String:

apple

a : 1

p : 2

l : 1

e : 1

6. Write a program to print duplicate characters from the given String?

Ex: Programming

Output: r, g, m

CODE :

```
import java.util.Scanner;

public class PrintDuplicate {

    public static String printDuplicateChar(String str) {
        String result="";

        for(int i=0;i<str.length();i++) {
            int count=0;
            if(str.charAt(i)!=' ') {
                for(int j=i+1;j<str.length();j++) {
                    if(str.charAt(i)==str.charAt(j) &&(i!=j)) {
                        count++;
                    }
                }
                if(count==1) {
                    result += str.charAt(i)+" ";
                }
            }
        }
        return result;
    }

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter String: ");
        String str=sc.nextLine();

        System.out.println(printDuplicateChar(str));
        sc.close();
    }
}
```

OUTPUT :

```
Enter String:
Programming
r g m
```

7. write a program to print all duplicate character and their count form the given String?

Ex: Programming

Output: g: 2

r: 2

m: 2

CODE :

```
import java.util.Scanner;

public class PrintDupAndCount {

    public static String printDuplicateCharAndCount(String str) {
        String result="";

        for(int i=0;i<str.length();i++) {
            int count=1;
            if(str.charAt(i)!=' ') {
                for(int j=i+1;j<str.length();j++) {
                    if(str.charAt(i)==str.charAt(j) &&(i!=j)) {
                        count++;
                    }
                }
                if(count>1) {
                    result += str.charAt(i)+" : "+count+"\n";
                }
            }
        }
        return result;
    }

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter String: ");
        String str=sc.nextLine();

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

```
        sc.close();  
    }  
}
```

OUTPUT:

```
Enter String:  
Programming  
r : 2  
g : 2  
m : 2
```

8. Write a program to print Highest occurred character from given String?

Ex: aaaaabbbcdddd Output: a

CODE :

```
import java.util.Scanner;  
  
public class MaxCharOccurance {  
  
    public static String countMaxOccuranceOfChar(String str)  
{  
        String result="";  
  
        int c=0;  
        int max=0;  
        for(int i=0;i<str.length();i++) {  
            int count = 1;  
            if(str.charAt(i)!=' ') {  
  
                for(int j=i+1;j<str.length();j++) {
```

```
                if(str.charAt(i)==str.charAt(j) && i!=j) {
                    count++;
                }
            }

            if(max<count) {
                max=count;
                result+=str.charAt(i);
            }
        }
        return result;
    }

    public static void main(String[] args) {
        Scanner sc =new Scanner (System.in);
        System.out.println("Enter String: ");
        String str = sc.nextLine();

        System.out.println(countMaxOccuranceOfChar(str));
        sc.close();
    }
}
```

OUTPUT:

```
Enter String:
aaaaabbcddeeee
a
```

9. Write a program to remove the given Character from the given String?

Ex: nacre Software

Remove character: a

Output: ncre Softwre

CODE :

```
import java.util.Scanner;

public class RemoveGivenChar {

    public static String removeChar(String str, char ch) {
        String result="";
        for(int i=0;i<str.length();i++) {
            if(str.charAt(i)!=ch) {
                result += str.charAt(i);
            }
        }
        return result;
    }

    public static void main(String[] args) {

        Scanner sc = new Scanner(System.in);

        System.out.println("Enter String: ");
        String str = sc.nextLine();
        System.out.println("Enter char to remove: ");
        char ch = sc.next().charAt(0);

        System.out.println(removeChar(str,ch));
        sc.close();
    }
}
```

OUTPUT :

Enter String:
nacre Software
Enter char to remove:
a
ncre Softwre

10. Write a program to whether check given string contains digits or not?

Ex: nacre123

nacre#\$

Output: Given String Contains Digits Given
String not contain Digits

CODE :

```
import java.util.Scanner;

public class CheckDigit {

    public static String checkDigit(String str) {
        for(int i=0;i<str.length();i++) {
            if(str.charAt(i)>='0' && str.charAt(i)<='9') {
                return "Given String Contains Digits";
            }
        }

        return "Given String not Contains Digits ";
    }

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter String: ");
        String str = sc.nextLine();

        System.out.println(checkDigit(str));
        sc.close();
    }
}
```

```
}  
  
}
```

OUTPUT:

```
Enter String:  
nacre123  
Given String Contains Digits
```

11. Write a program to whether check given string contains Special Characters or not?

Ex: nacre123@#

nacre123

CODE :

```
import java.util.Scanner;  
  
public class CheckSpecial {  
  
    public static String checkSpecial(String str) {  
        String ans="";  
        for(int i=0;i<str.length();i++) {  
            if((str.charAt(i)>='0' && str.charAt(i)<='9') ||  
                (str.charAt(i)>='a' && str.charAt(i)<='z') ||  
                (str.charAt(i)>='A' && str.charAt(i)<='Z')) {  
                ans+=str.charAt(i);  
            }  
        }  
        return ans;  
    }  
  
    public static void main(String[] args) {  
        Scanner sc = new Scanner(System.in);  
        System.out.println("Enter String: ");  
        String str = sc.nextLine();  
    }  
}
```

```
        System.out.println(checkSpecial(str));
        sc.close();
    }
}
```

OUTPUT:

```
Enter String:
nacre123@#
nacre123
```

12. Write a program to whether check given string contains vowels or not?

Ex: nacre123

Output: Given String Contains vowels

CODE :

```
import java.util.*;
public class CheckVowel {

    public static String containVowel(String str) {
        for(int i=0;i<str.length();i++) {
            if(str.charAt(i)=='a' || str.charAt(i)=='e' ||
str.charAt(i)=='i' || str.charAt(i)=='o' || str.charAt(i)=='u' ||
            str.charAt(i)=='A' ||str.charAt(i)=='E'
||str.charAt(i)=='I' ||str.charAt(i)=='O' ||str.charAt(i)=='U' ) {
                return "It Contains Vowels";
            }
        }
    }
}
```



```

        return "It doesn't have vowels";
    }

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter String: ");
        String str=sc.nextLine();
        System.out.println(containsVowel(str));
        sc.close();
    }
}

```

OUTPUT:

```

Enter String:
nacre123
It Contains Vowels

```

13. Write a program to count the characters, digits and Special Characters from the given String?

Ex: Nacre@123%

Output: Characters are 5

Special Characters are 2

Digits are 3

CODE :

```

import java.util.Scanner;

public class PrintDiffTypesOfChar {

```

```

    public static String numberOfCharDigitAndSpecial(String str)
    {
        int special=0,number=0,character=0;

        for(int i=0;i<str.length();i++) {
            if(str.charAt(i)!=' ') {
                if((str.charAt(i)>= 'A' && str.charAt(i)<='Z') ||
(str.charAt(i)>= 'a' && str.charAt(i)<='z')) {
                    character++;
                }
                else if(str.charAt(i)>='0' && str.charAt(i)<='9'){
                    number++;
                }
                else {
                    special++;
                }
            }
        }

        return "Character : "+character + "\nDigit : "+number +
"\nSpecial : "+ special;
    }

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter String: ");
        String str=sc.nextLine();

        System.out.println(numberOfCharDigitAndSpecial(str));
        sc.close();
    }
}

```

OUTPUT:

```

Enter String:
Nacre@123%
Character : 5
Digit : 3
Special : 2

```

14. Write a program to count the Capital letters and Small letters from the given String?

Ex: Nacre Software

Output: Capital Characters are 2

Small Characters are 11

CODE :

```
import java.util.Scanner;

public class CapAndSmall {

    public static String numberOfCapAndSmall(String str) {
        int cap=0,small=0;
        for(int i=0;i<str.length();i++) {
            if(str.charAt(i)!=' ') {
                if(str.charAt(i)>= 'A' && str.charAt(i)<='Z') {
                    cap++;
                }
                else {
                    small++;
                }
            }
        }
        return "Capital: "+cap + "\nSmall: "+small;
    }

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter String: ");
        String str=sc.nextLine();

        System.out.println(numberOfCapAndSmall(str));
        sc.close();
    }
}
```

OUTPUT :

Enter String:
Nacre Software
Capital: 2
Small: 11

15. Write a program to count the consonants and vowels from the given String?

Ex: Nacre

Output: Vowels are 2
Consonants are 3

CODE :

```
import java.util.*;
public class CountConsAndVowel {

    public static String countVowelsAndConsonent(String str)
    {
        int cons=0,vowel=0;
        for(int i=0;i<str.length();i++) {
            if(str.charAt(i)=='a' || str.charAt(i)=='e' ||
str.charAt(i)=='i' || str.charAt(i)=='o' || str.charAt(i)=='u' ||
            str.charAt(i)=='A'
||str.charAt(i)=='E' ||str.charAt(i)=='I' ||str.charAt(i)=='O'
||str.charAt(i)=='U' ) {
                vowel++;
            }
            else {
                cons++;
            }
        }
        return "Vowels : "+vowel +"\\nConsonent: "+cons;
    }
}
```

```

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter String: ");
        String str=sc.nextLine();
        System.out.println(countVowelsAndConsonent(str));
        sc.close();
    }
}

```

OUTPUT:

```

Enter String:
Nacre
Vowels : 2
Consonent: 3

```

16. Write a program to find the percentages of characters, Digits and Special characters from the given String?

CODE :

```

import java.util.Scanner;

public class PerOfCharDigitSpec {

    public static String
percentageOfCharDigitAndSpecial(String str) {
        int special=0,number=0,character=0;
        float len=str.length();

        for(int i=0;i<len;i++) {
            if(str.charAt(i)!=' ') {

```

```

        if((str.charAt(i)>= 'A' && str.charAt(i)<='Z')
|| (str.charAt(i)>= 'a' && str.charAt(i)<='z')) {
            character++;
        }
        else if(str.charAt(i)>='0' &&
str.charAt(i)<='9'){
            number++;
        }
        else {
            special++;
        }
    }
}
float c=(character/len)*100;
float d=(number/len)*100;
float s=(special/len)*100;

return "Character : "+String.format("%.2f", c)+"%" +
"\nDigit : "+String.format("%.2f", d)+"%" + "\nSpecial : "+
String.format("%.2f", s)+"%";
}

public static void main(String[] args) {
    Scanner sc = new Scanner(System.in);
    System.out.println("Enter String: ");
    String str=sc.nextLine();

    System.out.println(percentageOfCharDigitAndSpecial(str));
    sc.close();
}
}

```

OUTPUT:

```

Enter String:
Nacre@123%
Character : 50.00%
Digit : 30.00%
Special : 20.00%

```

17. Write a program to find the percentages of the Consonants and vowels from the given String?

CODE :

```
import java.util.*;

public class PerOfConsAndVowel {

    public static String
percentageOfVowelsAndConsonent(String str) {

        int cons=0,vowel=0;
        float len = str.length();

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

            if(str.charAt(i)!=' ')

{
                if(str.charAt(i)=='a' || str.charAt(i)=='e' ||
str.charAt(i)=='i' || str.charAt(i)=='o' || str.charAt(i)=='u' ||
                str.charAt(i)=='A'
||str.charAt(i)=='E' ||str.charAt(i)=='I' ||str.charAt(i)=='O'
||str.charAt(i)=='U' )
                {
                    vowel++;
                }
                else {
                    cons++;
                }
            }
        }
        float v=(vowel/len)*100;
        float c=(cons/len)*100;

        return "Vowels : "+
                String.format("%.2f", v)+" % "
+"\\nConsonent: "+String.format("%.2f", c)+" %";

    }
}
```

```

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter String: ");
        String str=sc.nextLine();

        System.out.println(percentageOfVowelsAndConsonent(str));
        sc.close();
    }
}

```

OUTPUT:

```

Enter String:
Consonents
Vowels : 30.00 %
Consonent: 70.00 %

```

18. Write a program to find the percentages of the Capital Characters , Small characters, Special Characters and Digits from the given String?

CODE :

```

import java.util.Scanner;

    public class PerOfSmallCapSpecialDigit {

        public static String
percentageOfSmallCapDigitSpecial(String str) {
            int special=0,number=0,small=0,cap=0;
            float len=str.length();

            for(int i=0;i<len;i++) {

```



```

        if(str.charAt(i)!=' ') {
            if((str.charAt(i)>= 'A' && str.charAt(i)<='Z'))
        ) {
            cap++;
        }
        else if((str.charAt(i)>= 'a' &&
str.charAt(i)<='z')) {
            small++;
        }
        else if(str.charAt(i)>='0' &&
str.charAt(i)<='9'){
            number++;
        }
        else {
            special++;
        }
    }
}

float c=(cap/len)*100;
float sm=(small/len)*100;
float d=(number/len)*100;
float s=(special/len)*100;

return "Capital : "+String.format("%.2f", c)+"%" +
"\nSmall : "+String.format("%.2f", sm)+"%"+"\nDigit : 
"+String.format("%.2f", d)+"%" + "\nSpecial : "+
String.format("%.2f", s)+"%";
}

public static void main(String[] args) {
    Scanner sc = new Scanner(System.in);
    System.out.println("Enter String: ");
    String str=sc.nextLine();

    System.out.println(percentageOfSmallCapDigitSpecial(str));
    sc.close();
}
}

```

OUTPUT:

```
Enter String:
Nacre@123%
Capital : 10.00%
Small : 40.00%
Digit : 30.00%
Special : 20.00%
```

19. Write a program to sort the given String?

Ex: nacre

Output: acenr

CODE:

```
import java.util.*;
public class SortStr3 {

    public static String stringSorting(String s) {

        String str="";
        char[] arr = new char[s.length()];
        int p=0;
        for(int i=0;i<s.length();i++){
            char ch=s.charAt(i);
            if(ch!=' ') {
                arr[p++]=s.charAt(i);
            }
        }

        for(int i=0;i<s.length();i++) {
            for(int j=i+1;j<s.length();j++){

                if((arr[i]>arr[j])&& i!=j) {
```

```

        char c=arr[i];
        arr[i]=arr[j];
        arr[j]=c;
    }

    }
    str += arr[i];
}

return str;
}

public static void main(String[] args) {
    Scanner sc = new Scanner(System.in);
    System.out.println("Enter String to sort: ");
    String str=sc.nextLine();
    System.out.println(stringSorting(str));
    sc.close();
}
}

```

OUTPUT:

```

Enter String to sort:
avinash
aahinsv

```

20. Write a program to Check whether two given Strings are anagram or not?

Ex: Str1= reaction Str2: creation

Output: Two Strings are anagrams

CODE :

```
import java.util.Scanner;

public class Anagram {

    public static String checkAnagram(String str,String str2) {

        char[] arr = new char[str.length()]; //char[] arr =
str.toCharArray();
        char[] arr2 = new char[str.length()];

        for(int i=0;i<str.length();i++) {
            arr[i]=str.charAt(i);
        }

        for(int i=0;i<str2.length();i++) {
            arr2[i]=str2.charAt(i);
        }

        if(str.length()!=str2.length()) {
            return "They have different size can't be Anagram";
        }
        else {
            for(int i=0;i<str.length();i++) {
                for(int j=0;j<str.length();j++) {
                    if(i!=j && arr[i]>arr[j]) {
                        char ch = arr[i];
                        arr[i]=arr[j];
                        arr[j]=ch;
                    }
                    if(i!=j && arr2[i]>arr2[j]) {
                        char ch = arr2[i];
                        arr2[i]=arr2[j];
                        arr2[j]=ch;
                    }
                }
            }

            for(int i=0;i<str.length();i++) {
                if(arr[i]!=arr2[i]) {
                    return "Not Anagram";
                }
            }
        }
    }
}
```

```
        return "They are Anagram.";
    }

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter First String: ");
        String str = sc.nextLine();
        System.out.println("Enter Second String: ");
        String str2 = sc.nextLine();

        System.out.println(checkAnagram(str, str2));

        sc.close();
    }
}
```

OUTPUT:

```
Enter First String:
reaction
Enter Second String:
creation
They are Anagram.
```

21. Write a program to count occurrence of a given character from the String?

Ex: Today is Monday

Given Character a

Output: given character a occurrence is 2 times

CODE :

```
import java.util.Scanner;

public class CountGivenChar {

    public static int countChar(String str,char ch) {
        int count=0;
        for(int i=0;i<str.length();i++) {
            if(str.charAt(i)==ch) {
                count++;
            }
        }
        return count;
    }

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter String: ");
        String str = sc.nextLine();
        System.out.println("Enter char to search: ");
        char ch = sc.next().charAt(0);

        System.out.println("given character "+ ch +" occurrence is
"+ countChar(str,ch) +" times");
        sc.close();
    }
}
```

OUTPUT :

```
Enter String:
Today is Monday
Enter char to search:
a
given character a occurrence is 2 times
```

22. Write a program to replace given character to other given Character in the string?

CODE :

```
import java.util.Scanner;

public class ReplaceChar {

    public static String replaceCharacter(String str, char ch ,
String re) {
        String ans="";
        for(int i=0;i<str.length();i++) {
            if(str.charAt(i)!=ch) {
                ans = ans + str.charAt(i);
            }
            else {
                ans = ans +re;
            }
        }
        return ans;
    }

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter String: ");
        String str = sc.nextLine();
        System.out.println("Enter char to replace: ");
        char ch = sc.next().charAt(0);
        System.out.println("Enter string to replace with: ");
        String re = sc.next();

        System.out.println(replaceCharacter(str,ch,re));
        sc.close();
    }
}
```

OUTPUT:

```
Enter String:
This is giil
Enter char to replace:
i
Enter string to replace with:
#
Th#s #s g##l
```

23. Write a program to Whether Given String is palindrome String or not?

Ex: madam

Output: Given String is Palindrome

CODE:

```
import java.util.Scanner;

public class Palindrome {

    public static String checkPalindrome(String str) {
        int j=str.length()-1;
        for(int i=0;i<str.length();i++) {

            if(str.charAt(i)!=str.charAt(j)) {

                return "It's not Palindrome!";
            }
            j--;
        }
    }
}
```



```

        return "It's Palindrome!";
    }

    public static void main(String[] args) {
        Scanner sc= new Scanner(System.in);
        System.out.println("Enter string to check: ");
        String str=sc.nextLine();

        System.out.println(checkPalindrome(str));
        sc.close();
    }
}

```

OUTPUT:

```

Enter string to check:
madam
It's Palindrome!

```

24. Write a Program to reverse words in a given String?

Ex: "Java is best programming language"

Output "language programming best is Java".

CODE :

```

import java.util.Scanner;
public class ReverseSentence {

    public static String reverseSentenseWithoutReverseWord(String
str){
        String result="";
        int countSpace=0;

```

```

        for(int i=0;i<str.length();i++) {
            if(str.charAt(i)==' ') {
                countSpace++;
            }
        }

String[] arr = new String[countSpace+1];
int k=0;
for(int i=0;i<countSpace+1;i++) {
    String temp="";

    for(int j=k;j<str.length();j++) {
        if(str.charAt(j)!=' ') {
            temp += str.charAt(j);
            k++;
        }
        else {
            k++;
            break;
        }
    }
    arr[i] = temp;
}

for(int i=arr.length-1;i>=0;i--) {
    result += arr[i]+" ";
}

return result;
}

public static void main(String[] args) {

    Scanner sc = new Scanner(System.in);
    System.out.println("Enter String to reverse: ");

    String str = sc.nextLine();

    System.out.println(reverseSentenseWithoutReverseWord(str));
    sc.close();
}
}

```

OUTPUT:

```
Enter String to reverse:  
Java is best programming language  
language programming best is Java
```

25. Write a program to reverse Words of the Given String?

Ex: "Today is Monday"

Output: yadoT si yadnoM

CODE:

```
import java.util.Scanner;  
public class ReverseWords {  
  
    public static String reverseWordInString(String str) {  
        String result="";  
        int countSpace=0;  
  
        for(int i=0;i<str.length();i++) {  
            if(str.charAt(i)==' ') {  
                countSpace++;  
            }  
        }  
  
        String[] arr = new String[countSpace+1];  
        int k=0;  
  
        for(int i=0;i<countSpace+1;i++) {  
            String temp="";  
            int len=0;  
            for(int j=k;j<str.length();j++) {
```

```

        if(str.charAt(j)!=' ') {
            k++;
            len++;
        }
        else {
            len++;
            k++;
            break;
        }
    }

    if(i==countSpace) {
        k++;
        len++;
    }

    for(int j=k-2;j>=k-len;j--) {
        temp += str.charAt(j);
    }

    arr[i] = temp;
}

for(int i=0;i<arr.length;i++) {
    result += arr[i]+" ";
}

return result;
}

public static void main(String[] args) {

    Scanner sc = new Scanner(System.in);
    System.out.println("Enter String to reverse: ");

    String str = sc.nextLine();
    System.out.println(reverseWordInString(str));

    sc.close();

}
}

```

OUTPUT:

```
Enter String to reverse:  
Today is Monday  
yadoT si yadnoM
```

26. Write a program to copy one String to another String?

Ex: Str1=" nacre", str2;

Output: sop(str2); //nacre

CODE:

```
import java.util.*;  
  
public class CopyString {  
  
    public static void main(String[] args) {  
        Scanner sc = new Scanner(System.in);  
        System.out.println("Enter String: ");  
  
        String first=sc.nextLine();  
        String second=first;  
        System.out.println(second);  
  
        sc.close();  
    }  
}
```

OUTPUT:

```
Enter String:  
nacre  
nacre
```

27. Write a program to concat two Strings?

Ex: str1=" nacre" str2=" software";

Output: nacre software

CODE :

```
import java.util.*;
public class Concat {

    public static String concatString(String str1, String str2) {
        String ans="";
        ans=str1+" "+ str2;
        return ans;
    }

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter first string: ");
        String str1=sc.next();
        System.out.println("Enter second string: ");
        String str2=sc.next();
        System.out.println(concatString(str1,str2));

        sc.close();
    }
}
```

OUTPUT:

```
Enter first string:
Avinash
Enter second string:
Kumar
Avinash Kumar
```

28. Write a Program to print short name of given string

Ex: Sanjeeva Reddy Nagar Output: SR Nagar

CODE :

```
import java.util.Scanner;

public class ShortName {

    public static String printShortName(String str) {
        String ans="";
        int countSpace=0;

        for(int i=0;i<str.length();i++) {
            if(str.charAt(i)==' ') {
                countSpace++;
            }
        }

        if(countSpace==0) {
            ans=str;
        }

        else {

            int j=0,k=0,i;

            for(int h=0;h<countSpace;h++) {
                ans=ans+str.charAt(j);
            }
            for(i=k;i<str.length();i++) {
                if(str.charAt(i)!=' ') {
                    j++;
                    k++;
                }
            }
            else {
                break;
            }
        }
    }
}
```

```

        }
    }
    j++;
    ans += " ";

    k++;
}

for(int n=k;n<str.length();n++) {
    ans += str.charAt(n);
}

}

return ans;
}

public static void main(String[] args) {
    Scanner sc = new Scanner(System.in);
    System.out.println("Enter name to short: ");
    String str = sc.nextLine();

    System.out.println(printShortName(str));
    sc.close();
}
}

```

OUTPUT:

```

Enter name to short:
Sanjeeva Reddy Nagar
S R Nagar

```


29. Swap first and last charecter of a given String

input:- NacrE Output:-EacrN

CODE :

```
import java.util.*;
public class SwapFirstToLast extends SortArray {

    public static String swapFirstLast(String str) {

        String ans="";
        for(int i=0;i<str.length();i++) {
            if(i==0) {
                ans += str.charAt(str.length()-1);
            }
            else if(i==str.length()-1) {
                ans += str.charAt(0);
            }
            else {
                ans += str.charAt(i);
            }
        }

        return ans;
    }

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);

        System.out.println("Enter String: ");
        String str = sc.nextLine();

        System.out.println(swapFirstLast(str));

        sc.close();
    }
}
```

OUTPUT:

Enter String:

NacrE

EacrN

30. remove duplicate elements/character from array/String(dont use predefine logic)

CODE :

```
import java.util.Scanner;

public class RemoveDuplicate {

    public static String removeDuplicateChar(String str) {
        String result="";

        for(int i=0;i<str.length();i++) {
            int count=0;
            if(str.charAt(i)!=' ') {
                for(int j=i+1;j<str.length();j++) {
                    if(str.charAt(i)==str.charAt(j) &&(i!=j)) {
                        count++;
                    }
                }
                if(count==0) {
                    result += str.charAt(i);
                }
            }
        }
        return result;
    }

    public static void main(String[] args) {

        Scanner sc = new Scanner(System.in);
        System.out.println("Enter String: ");
        String str=sc.nextLine();
    }
}
```

```
        System.out.println(removeDuplicateChar(str));
        sc.close();
    }
}
```

OUTPUT:

```
Enter String:
Aabccdeeeef
Aabcdef
```

31. Display 2nd highest number from array.

CODE:

```
import java.util.*;
public class SecHighest {

    public static int secondHighest(int[] arr , int n) {

        for(int i=0;i<n-1;i++) {
            for(int j=i+1;j<n;j++) {
                if(arr[i]>arr[j]) {
                    int temp=arr[i];
                    arr[i]=arr[j];
                    arr[j]=temp;
                }
            }
        }

        return arr[n-2];
    }

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

```

Scanner sc = new Scanner(System.in);
System.out.println("Enter size of array: ");
int size=sc.nextInt();
int[] arr = new int[size];
System.out.println("Enter Element: ");
for(int i=0;i<size;i++) {
    arr[i]=sc.nextInt();
}
System.out.println(secondHighest(arr,size));
sc.close();
}
}

```

OUTPUT:

```

Enter size of array:
10
Enter Element:
1 8 7 6 9 4 3 2 5 6
8

```

32. write a program of permutation.

input:- "abc"

output:- abc, acb, bac, bca, cab, cba

CODE:

```

import java.util.Scanner;

public class StringPermutation {

    public static String stringPermutation(String str,int i,int
j) {

```

```

        char[] arr=str.toCharArray();
        char ch;
        ch=arr[i];
        arr[i]=arr[j];
        arr[j]=ch;

        return String.valueOf(arr);
    }

    public static void calculatePermutation(String str,int i,int
j) {

        if(i==j-1) {
            System.out.println(str);
        }
        else {
            for(int k=i;k<j;k++) {
                str = stringPermutation(str,i,k);
                calculatePermutation(str,i+1,j);
                str = stringPermutation(str,i,k);
            }
        }
    }

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter String: ");
        String str=sc.nextLine();
        int size=str.length();
        calculatePermutation(str,0,size);

        sc.close();
    }
}

```

OUTPUT:

Enter String:

abc

abc

acb

bac
bca
cba
cab

33. program of clockwise and anticlockwise

Input			clockwise	Output:	
1	2	3	7	4	1
4	5	6	8	5	2
7	8	9	9	6	3

CODE :

```
import java.util.Arrays;
import java.util.Scanner;

public class MatrixClockwise {

    public static int[][] turnMatrixClockwise(int[][]arr,int r,int c){

        int[][] array=new int[r][c];

        int m=0,n;

        for(int i=0;i<r;i++) {

            n=0;

            for(int j=c-1;j>=0;j--) {

                array[m][n]=arr[j][i];

                n++;

            }

            m++;

        }

        return array;

    }

    public static void main(String[] args) {

        Scanner sc = new Scanner(System.in);

        System.out.println("Enter no of row: ");

        int r=sc.nextInt();

        System.out.println("Enter no of column: ");

        int c= sc.nextInt();

        int[][] arr = new int[r][c];
```

```
        for(int i=0;i<r;i++) {
            System.out.println("Enter row element: ");
            for(int j=0;j<c;j++) {
                arr[i][j]=sc.nextInt();
            }
        }
        System.out.println(Arrays.deepToString(turnMatrixClockwise(arr,r,c)));
        sc.close();    }
    }
```

OUTPUT:

```
Enter no of row:
3
Enter no of column:
3
Enter row element:
1 2 3
Enter row element:
4 5 6
Enter row element:
7 8 9
[[7, 4, 1], [8, 5, 2], [9, 6, 3]]
```

34. program of anticlockwise

Input

1	2	3
4	5	6
7	8	9

anticlockwise Output:

3	6	9
2	5	8
1	4	7

CODE :

```
import java.util.Arrays;
import java.util.Scanner;
public class MatrixAntiClockwise {
    public static int[][]
turnMatrixAnticlockwise(int[][]arr,int r,int c){
        int[][] array=new int[r][c];
        int m=0,n;
        for(int i=r-1;i>=0;i--) {
            n=0;
            for(int j=0;j<c;j++) {
                array[m][n]=arr[j][i];
                n++;
            }
            m++;
        }
    }
}
```

```

        }
        return array;
    }

    public static void main(String[] args) {
        Scanner sc = new Scanner(System.in);
        System.out.println("Enter no of row: ");
        int r=sc.nextInt();
        System.out.println("Enter no of column: ");
        int c= sc.nextInt();
        int[][] arr = new int[r][c];

        for(int i=0;i<r;i++) {
            System.out.println("Enter row element:
");
            for(int j=0;j<c;j++) {
                arr[i][j]=sc.nextInt();
            }
        }

        System.out.println(Arrays.deepToString(turnMatrixAnticlockwise(arr,r,c)));
        sc.close();
    }
}

```

OUTPUT:

```
Enter no of row:
3
Enter no of column:
3
Enter row element:
1 2 3
Enter row element:
4 5 6
Enter row element:
7 8 9

[[3, 6, 9], [2, 5, 8], [1, 4, 7]]
```

35. write a program to sort array like

input :- int array [] = {1,2,3,4,5,6,7,8,9,10}

output:- 1, 10, 2, 9, 3, 8, 4, 7, 5, 6

CODE :

```
import java.util.Scanner;
public class SortArray {

    public int[] sortArrayInGivenOrder(int[] arr,int n) {
        int temp=0;

        for(int i=1;i<n;i=i+2) {
            temp=arr[n-1];
            for(int j=n-1;j>i;j--) {
                arr[j]=arr[j-1];
            }
            arr[i]=temp;
        }

        return arr;
    }
}
```

```
public static void main(String[] args) {
    Scanner sc = new Scanner(System.in);

    System.out.println("Enter Array Size: ");
    int n = sc.nextInt();

    int[] arr = new int[n];
    System.out.println("Enter Array Element: ");
    for(int i=0;i<n;i++) {
        arr[i]=sc.nextInt();
    }

    int[] ans=new SortArray().sortArrayInGivenOrder(arr,n);
    for(int i:ans) {
        System.out.print(i+" ");
    }

    sc.close();
}
}
```

OUTPUT:

```
Enter Array Size:
10
Enter Array Element:
1 2 3 4 5 6 7 8 9 10
1 10 2 9 3 8 4 7 5 6
```
