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
esreveR
```

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: aaaaabbcddddd 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:
aaaaabbcddddd
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(containVowel(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:
Aabccdeeef
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(turnMatrixClockwi
se(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 anticlockwise Output:

1	2	3	3	6	9
4	5	6	2	5	8
7	8	9	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(turnMatr
ixAnticlockwise(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:

```java
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
```