<u>PROGRAM</u>

quick sort

```java
import java.util.*;
class quicksort {
    String sortarr [];
    int length;
    void input()
    {
        int itr = 0;
        Scanner sc = new Scanner(System.in);
        System.out.println("\n Total Number Of String");
        length= sc.nextInt ();
        this.sortarr = new String [length];
        while (length> itr)
        {
            System.out.print("\n" +(itr+1)+" th String: \n");
            sortarr [itr] = sc. next();
            itr ++;
        }
        sort (0, length - 1);
    }
    void sort (int l, int h)
    {
        int higher = h;
        int lower = l;
        String pivot = sortarr [ lower +( higher-lower )/2];
        while (lower <= higher)
        {
            while (sortarr[lower].compareToIgnoreCase (pivot)< 0)
            {
```

```java
          lower++;
    }
    while (sortarr[higher].compareToIgnoreCase (pivot )>0)
    {
       higher--;
    }


    if (lower <= higher)
    {
    swap (higher, lower);
    lower++;
    higher--;
    }
  }
  if (l<higher)
  {
  sort (l, higher);
  }
  if (lower <h)
  {
     sort (lower, h);
  }
}
void swap (int higher, int lower)
{
   String temp = sortarr [ lower];
   sortarr [lower] = sortarr [higher];
   sortarr [higher] = temp;
}
void display()
```

```java
{
    quicksort sort1= new quicksort ();
    for (String c: sortarr)
    {
        System.out.println(" \n "+c);
    }
}
public static void main(String[] args)
{
    while (true)
    {
        Scanner s = new Scanner (System.in);
        quicksort st= new quicksort ();
        int op = 0;
        while(true)
        {
            System.out.println ("\n\n Menu \n\n 1-input \n 2-sort and display \n 3-EXIT");
            System.out.println("enter your choice :");
            op=s.nextInt ();
            switch (op)
            {
                case 1:
                st. input (); break;
                case 2: st. display();
                break;
                case 3: System.exit (0);
                default:
                System.out.println("error");
            }
        }
```

```
        }
    }
}
```

Menu

 1-input

 2-sort and display

 3-EXIT

enter your choice :

1

Total Number Of String

5

1 th String:

e

2 th String:

u

3 th String:

a

4 th String:

m

5 th String:

t

Menu

 1-input

 2-sort and display

 3-EXIT

enter your choice :

2

a e m t u

Menu

1-input

2-sort and display

3-EXITenter your choice :

3