Faculty of Engineering & Technology (ITER)



- Q1. Implement the following operations on an array wing user defined methods.
  - a) Insert
  - b) Detete

Ans

a) import java. util. \*;

public class Qla

[ public static void onain (String[] args)

§

Scanners scanners (System.in); System.out. println ("Enter the rize of the array: ");

int n = sc. nextInt();

int a[] = new int[n];

System. out. println ("Enter the elements of the array:");
-for (int i=0; i(a.length; o)++)
}

a[i] = sc. nextInt();

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System. out preint ("Flement to be inserted:")
  int x=sc·nex+In+();
  System. out. println ("Element to be positioned
  int p=sc.nextInt();
   ins (a,x,p);
public static void ins (int al), int x, int p)
  int t=0, s=0:
 for (int i=0; i<a.length; itt)
      if (i==p)
         t=ali]
      else if (i>p)
         s=ali]:
        ali]=ti
        t=s;
  System. out. printin ("Ineest done!");
  for (int i=0; i < a. length; i++)
```

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System.oud.println(a(i) + "");
Output: Enter the rize of the array: 4
          Element to be inserted: 3
          Element to be positioned: 2
          Insert done!
          43281.
b) impost java. util. x;
   public class Q16
      public static void main (String[] args)
         Scanner &c : se Scanner (System.in),
         System out println ("Enter the size of
         the array: ");
         ent n= senext Int().
         int all = new int[n];
         System. out println (" Enter the tize of
         the elements of the array: ");
         for (int i=0; i < a. length; i++)
             a [i] = sc. next Int():
```

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```
System out println ("Element to be deted");
   int x=sc.nextInt();
   del (a, x).
public static void del (inta[], int b)
   int +=0;
   int s = 0.
  for (int i=0; i < a. length; itt)
      if (a[i] == b && i < (a: length -1))
         f=a[i]:
          ali]= aliti];
          atitil= ti
      else if (i>= (a.length-1))
        a[i] =0;
 System. out. point In (" Deletion done ").
 for (int i=0, ica-length; itt)
    System.out.printen (a[i]);
```

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Q2. Rotate an array by K-position to left
 ex. R=2; a[]=10,20, 30,40,50,60, 70.
      0/P: 30,40,50,60,70,10,20
Ans. import gana. util. *;
    public class & 2
      public static void main (String [] arys)
          Scanner Scanner (System.in),
          System. out println ("Enter the SIZE of
          the array: ");
           int n= sc. next Int();
           int a[]= new int[n]:
          System.out. praintln (" Enter the amount
          elements of the array: "),
          for (int 120; ica. length; e++)
             a[i]=sc.nextInt();
           System. out printle (" Position where the
           restation to left starts: ').
           int k = sc.next Int().
          int +=0;
           int (int i=0; i<k; i++)
```

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for (int j=0; j<n; j++)
            t = atjJ;
            atj] = atj+1],
           · a[j+1] = t;
System. out. print In ("Rotation done: "),
for Cint 1=0; (< a. length; 1++)
    System.out.printha(a[i] +"");
     Enter the SIZE of the array: 8
     20
     30
      40
      50
      60
      position where position to left start: 2
      30 40 50 10 20 10 20
```

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Q3. Arrange the elements in an array
 men-may order.
     1/1:5,2,7,9,1,3,8,6
    0/4:9,1,8,,2,7,3,6,5.
Ans
 import gara. util. *;
public class Q3
   public static void main (String [] args)
      Scanner scanner (System.in);
      System. out. przintly ("Fater the size of the
      ent n= sc.next Int(),
       int at ] = new int [n];
       System. out. printin ("Enter the elements
      of the array: ");
      for (int i=0; ica.length; itt)
          a[i] = sc.nex+In+(),
       int min= ato];
       int max = ato];
       for (inti=0; i<n; i++)
```

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1

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· if (a[i) 7 max)
    if (ati) < min)
      min=a[i],
for (int i=0; i<n; itt)
¿ ef (: 102120)
       ont tonax=0;
      for (int j=0; j<n; j+t)

{

if (a[j]>tmax le tmax <max)

{

max = a[j),
       ent thin = 0:
       for (int j=0:jen; j++)
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.

1

7

1

3

9

1

3

```
if a[j] < thin 22 thin > min)
                 min=atj];
       System.out.pointln(" rotation done: ");
      for (int j=0; j < a. length; j++)
         System. out. porinth ("atj]f"),
Output: -
Enter the size of the array: 8
 Enter the elements of the array:
 5
 2
 91827365
```

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24. Find the duplicate elements in an array of size of where each element is on range 0, to n-1. import gara. util x; public class Qy public static vood main (String[] args) Scanner scanner (System.in); System.out. print ("Enter a no."), int n= sc.nextIn+(); int all = new int [n]: for (int i=0; i<a.length; itt) a[i] = sc. nex + Int(); System. out-prinkln ("Array is:"); for (int i=0; icarlength; i++) System. out. print (a[i]+""), System, out printin (); System. out. printin (" Duplicate elements are : ").

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```
for (int i=0; i< a. length; itt)

{
for (int j=i+1; j<a. length; j+t)
               if (ati) == atj])
                     System.out. println (a[j]),
2
2
Duplicate elements are:
3
```

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