ASSIGNMENT 24

Q1)Check for the package, related to Array,where Array related in-built methods are present? =>create Simple code using those package in-built functionality. =>whenever required use the "for-each" loop to iterate.

Allow Naming conventions and indentation while coding.(spaces, tab

```
package Day3;

import java.util.Arrays;
public class LeftTriangleWithAlphabet {
   public static void main(String args[])
   {
      int arr[] = {1, 2, 3, 4, 5, 6};
      //converting arrays into list
      System.out.println("The Integer Array as a List = "+Arrays.asList(arr));

      //sorting of arrays in Ascending Order
      Arrays.sort(arr);
      int arr_element = 5;
      //sorting of the array i.e,Binary Search
      System.out.println(arr_element+" is found at index = " +Arrays.binarySearch(arr,arr_element));
      // static <T> int binarySearch(T[] an int fromIndex, int toIndex, T key, Comparator<T> c): This method would
      // search the range of mentioned array for a specified object making use of binary search algorithm.
      Arrays.sort(arr);
      int ele=6;
      System.out.println ( ele
            + " is found at index = "
            + Arrays.binarySearch(arr, 1, 3, ele));
      // this is to showcase compareUnsigned() method


      //copy method copies the mentioned array, truncates it or pads it with a default value but only if necessary so
      // that copy has got the mentioned length.
      System.out.println("Integer Array is: "
            + Arrays.toString(Arrays.copyOf(arr, 10)));


   }
}
```

```
The Integer Array as a List = [[I@1b6d3586]
5 is found at index = 4
6 is found at index = -4
Integer Array is: [1, 2, 3, 4, 5, 6, 0, 0, 0, 0]

Process finished with exit code 0
```

Q2 Print array in asscending and decending order using in-build functionality

```
package SaticDemo;
import java.util.*;
class StudentClass {

    public void getArrayInAsc(Integer arr[]) {
        Arrays.sort(arr);
    }
    public void getArrayInDes(Integer arr[])
    {
        Arrays.sort(arr, Collections.reverseOrder());
    }
}
public class OverloadStatic {

    public static void main(String[] args) {
        Integer arr[]={3,2,1,5,4};
        StudentClass studentClass = new StudentClass();
        studentClass.getArrayInAsc(arr);
        System.out.println("================================Ascending
Order================================");
        for(int a: arr)
        {
            System.out.println(a);
        }
        studentClass.getArrayInDes(arr);
        System.out.println("================================Descending
Order================================");
        for(int a: arr)
        {
            System.out.println(a);
        }
    }
}
```

```
====================================Ascending Order=================================
1
2
3
4
5
====================================Descending Order=================================
5
4
3
2
1
```

Q3)Copy One array in another array using built in function

```
package SaticDemo;
import java.lang.reflect.Array;
import java.util.*;
class StudentClass {

  public int[] CopyArray(int From[] , int To[])
  {
     To=Arrays.copyOf(From,From.length);
     return To;
  }
}
public class OverloadStatic {

   public static void main(String[] args) {
      int arr[]={3,2,1,5,4};
      int To[] = new int[arr.length];
      StudentClass s =new StudentClass();
      To=s.CopyArray(arr,To);
      System.out.println("====================Copy  Array Value==================");
      for (int a : To)
         System.out.println(a);
   }
}
```

```
======================Copy Array Value==================
3
2
1
5
4

Process finished with exit code 0
```

Q4)using Equals method find the duplicate element of array.print the duplicate element

try to remove the second occurance of Duplicate element

```
package Day3;

import java.util.*;

class PrintLeftTriangle
{
   public String[] MakeTriangle(String[] first) {
      String second[];
      int count = 0;
      for (int i = 0; i < first.length; i++) {
         for (int j = i + 1; j < first.length; j++) {
            if (first[i].equals(first[j])) {
               System.out.println(first[i]);
               first[j] = "";
               count++;

            }
         }
      }
      int c = 0;

      second = new String[first.length - count];
      for (int i = 0; i < first.length; i++) {
         if (first[i].length()>1) {
            second[c++] = first[i];

         }
      }

      return second;
   }
}
public class LeftTriangleWithAlphabet {
   public static void main(String[] args) {
     String s[]={"Anuj","Akash","Anuj","Rejul","Ankush","Rejul"};
```

```
        System.out.println("===========Duplicate  Iteam=============");
      String p[]=new PrintLeftTriangle().MakeTriangle(s);
        System.out.println("====================After  remove Duplicate=================");
      for(String q : p)
          System.out.println(q);
    }
}
```

```
===========Duplicate Iteam==============
Anuj
Rejul
======================After remove Duplicate====================
Anuj
Akash
Rejul
Ankush

Process finished with exit code 0
```

Q5 Try to add 2 jagged array

```
package Day3;
class PrintLeftTriangle
{
    public void MakeTriangle(int[][] first,int[][] second) {
        for(int i=0;i<first.length;i++)
        {
            for(int j=0;j<first[i].length;j++)
            {
                first[i][j]= first[i][j]+ second[i][j];
            }
        }
        for(int i=0;i<first.length;i++)
        {
            for(int j=0;j<first[i].length;j++)
            {
                System.out.print(first[i][j]+"  ");
            }
            System.out.println();
        }
    }

}
public class LeftTriangleWithAlphabet {
    public static void main(String[] args) {
        int First[][]=new int[2][];
        int second[][]=new int[2][];
        First[0]= new int[]{1,2,3};
```

```
        First[1]  = new int[]{4,5};
        second[0] = new int[]{5,6,8};
        second[1]= new int[]{7,8};
        new PrintLeftTriangle().MakeTriangle(First,second);
    }
}
```

```
6 8 11
11 13

Process finished with exit code 0
```

Q6 Try to get the nth largest element of array

```
package Day3;

import java.util.*;

class PrintLeftTriangle
{
    public void MakeTriangle(int[] first ,int index) {
        int largest=0;
        Arrays.sort(first);
        System.out.println(first[first.length-index]);



    }

}
public class LeftTriangleWithAlphabet {
    public static void main(String[] args) {
      int arr[]={1,2,5,2,8,43,90};
      Scanner s= new Scanner(System.in);
        System.out.println("Enter index for value");
        int index = s.nextInt();
       new PrintLeftTriangle().MakeTriangle(arr,index);

    }
}
```

```
Enter index for value
3
8

Process finished with exit code 0
```

Q7Consider "Bank System"

```
package Day3;

import java.util.Arrays;
class Bank
{
  static float rateOfInterest=7.5F;
   int money;


    private String name,Address;
    private long moneydeposit, MoneyWithdrawal;
    private long AccountNumber;
    public static float getRateOfInterest() {
        return rateOfInterest;
    }

    public static void setRateOfInterest(float rateOfInterest) {
        Bank.rateOfInterest = rateOfInterest;
    }

    public String getName() {
        return name;
    }

    public void setName(String name) {
        this.name = name;
    }

    public String getAddress(){
        return Address;
    }
```

```
    public void setAddress(String address) {
        Address = address;
    }

    public long getMoneydeposit() {
        money+=moneydeposit;
        return moneydeposit;
    }

    public void setMoneydeposit(long moneydeposit) {
        this.moneydeposit = moneydeposit;
    }

    public long getMoneyWithdrawal() {
        money-=MoneyWithdrawal;
        return MoneyWithdrawal;
    }

    public void setMoneyWithdrawal(long moneyWithdrawal) {
        MoneyWithdrawal = moneyWithdrawal;
    }

    public long getAccountNumber() {
        return AccountNumber;
    }

    public void setAccountNumber(long accountNumber) {
        AccountNumber = accountNumber;
    }
    @Override
    public String toString() {
        return "Bank{" +
                "name='" + name + '\'' +
                ", Address='" + Address + '\'' +
                ", moneydeposit=" + moneydeposit +
                ", MoneyWithdrawal=" + MoneyWithdrawal +
                ", AccountNumber=" + AccountNumber +
                '}';
    }


}
public class LeftTriangleWithAlphabet {
    public static void main(String  args[]) {
     Bank bank = new Bank();
     bank.setAccountNumber(1231432l);
     bank.setAddress("Upper Nathanpur");
     bank.setMoneydeposit(1000);
     bank.setMoneyWithdrawal(100);
     bank.setName("Anuj Sundriyal");
        System.out.println(bank);
    }
}
```

```
Bank{name='Anuj Sundriyal', Address='Upper Nathanpur', moneydeposit=1000, MoneyWithdrawal=100, AccountNumber=1231432}

Process finished with exit code 0
```

Q8 Calculate Area of Triangle

```
package Day3;

import java.util.*;

class AreaFind
{
    private double length;
    private double width;
    private double area;
    public double getLength() {
        return length;
    }

    public void setLength(double length) {
        this.length = length;
    }

    public double getWidth() {
        return width;
    }

    public void setWidth(double width) {
        this.width = width;
    }

    public double getArea() {
        area=length*width;
        return area;
    }

    public void setArea(double area) {
```

```
        this.area = area;
    }



}
public class LeftTriangleWithAlphabet {
    public static void main(String[]  args) {
      AreaFind a =new AreaFind();
      a.setLength(10.0);
      a.setWidth(20.2);
        System.out.println(a.getArea());
    }
}
```