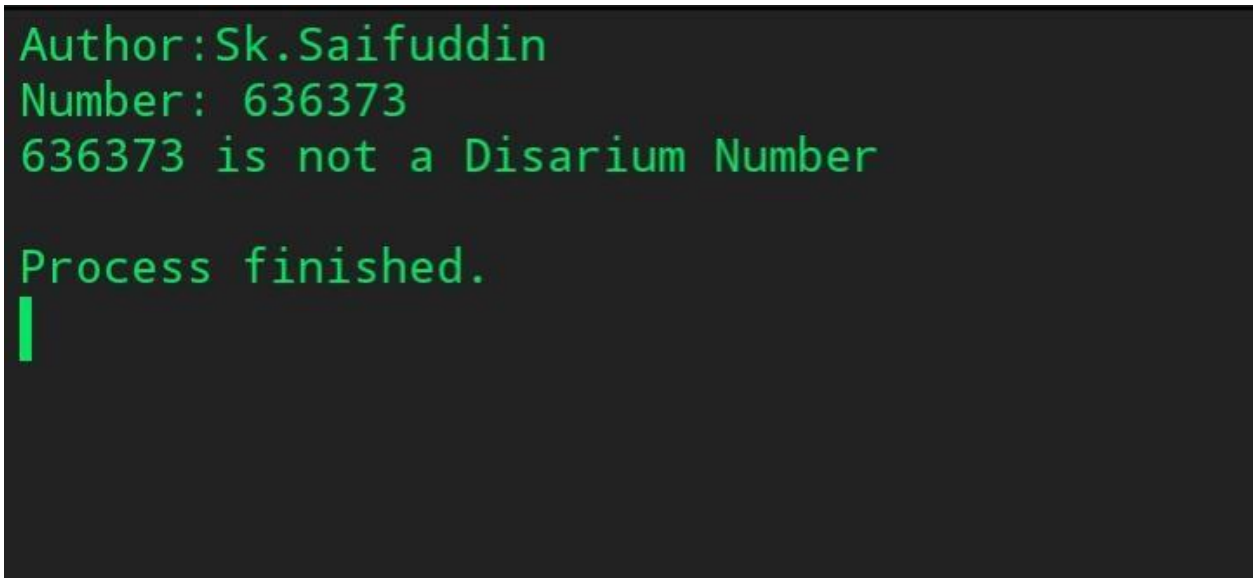
1)

```
import java.io.*;
public class Main{
   private int num;
   private int size;
   public Main(int x){
      num = x;
      size = 0;
   }
   void countDigit(){
      for(int m = num; m != 0; m /= 10)
         size++;
   }
   public int sumOfDigits(int x, int p){
      if(x < 10)
         return (int)Math.pow(x, p);
      else{
         int t = (int)Math.pow(x % 10, p);
         return t + sumOfDigits(x / 10, --p);
      }
   }
  public void check(){
   if(num == sumOfDigits(num, size))
  System.out.println(num+ " is a Disarium Number");
   else
  System.out.println(num+ " is not a Disarium Number");
   }
  public static void main(String args[])
  throws IOException{
```

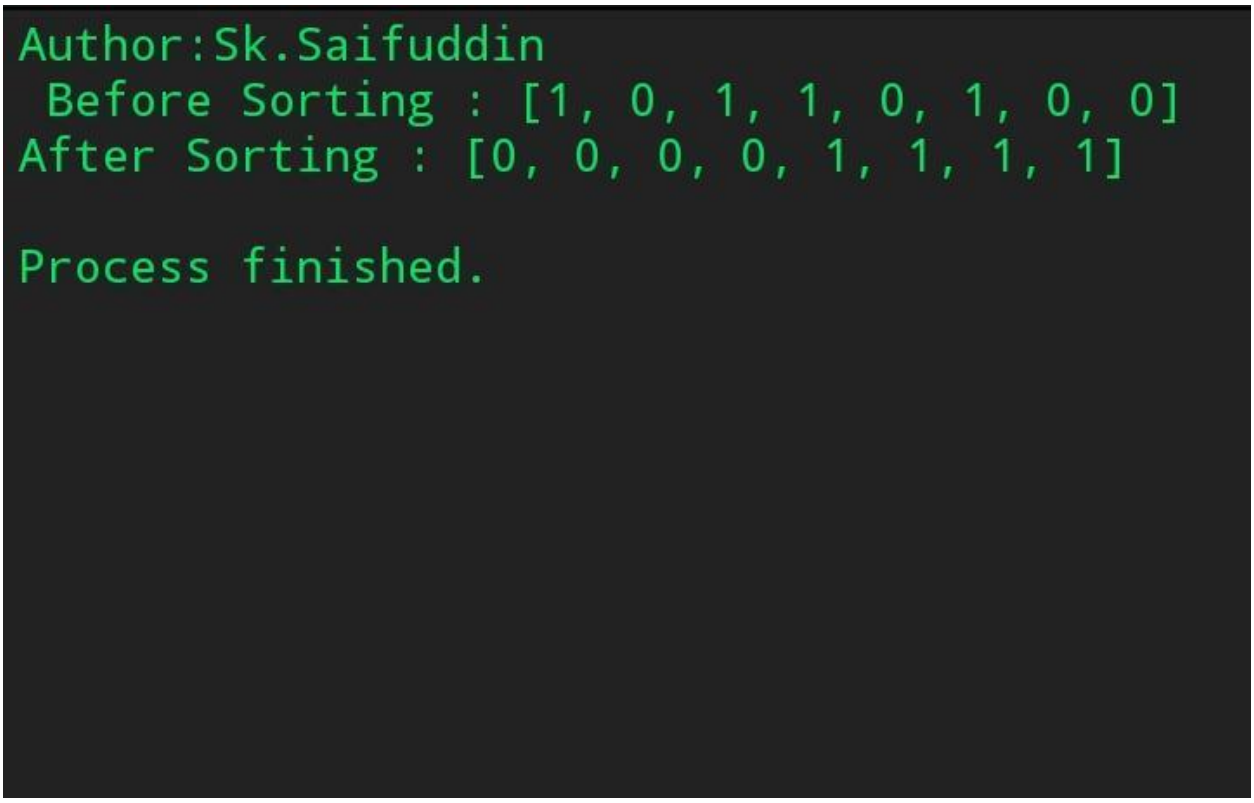
```
    InputStreamReader in = new InputStreamReader(System.in);
    BufferedReader br = new BufferedReader(in);
    System.out.println("Author:Sk.Saifuddin");
    System.out.print("Number: ");
    int x = Integer.parseInt(br.readLine());
    Main obj = new Main(x);
    obj.countDigit();
    obj.check();
     }
}
```



2)

```
import java.util.Arrays;

public class Main
{
  private static void sortBinaryArray(int[] inputArray)
  {
    int zeroCount = 0;

    System.out.println("Author:Sk.Saifuddin");
    System.out.println(" Before Sorting : "+Arrays.toString(inputArray));


    for (int n = 0; n < inputArray.length; n++)
    {
      if (inputArray[n] == 0)
      {
        zeroCount++;
      }
    }


    for (int n = 0; n < zeroCount; n++)
    {
      inputArray[n] = 0;
    }


    for (int n = zeroCount; n < inputArray.length; n++)
```

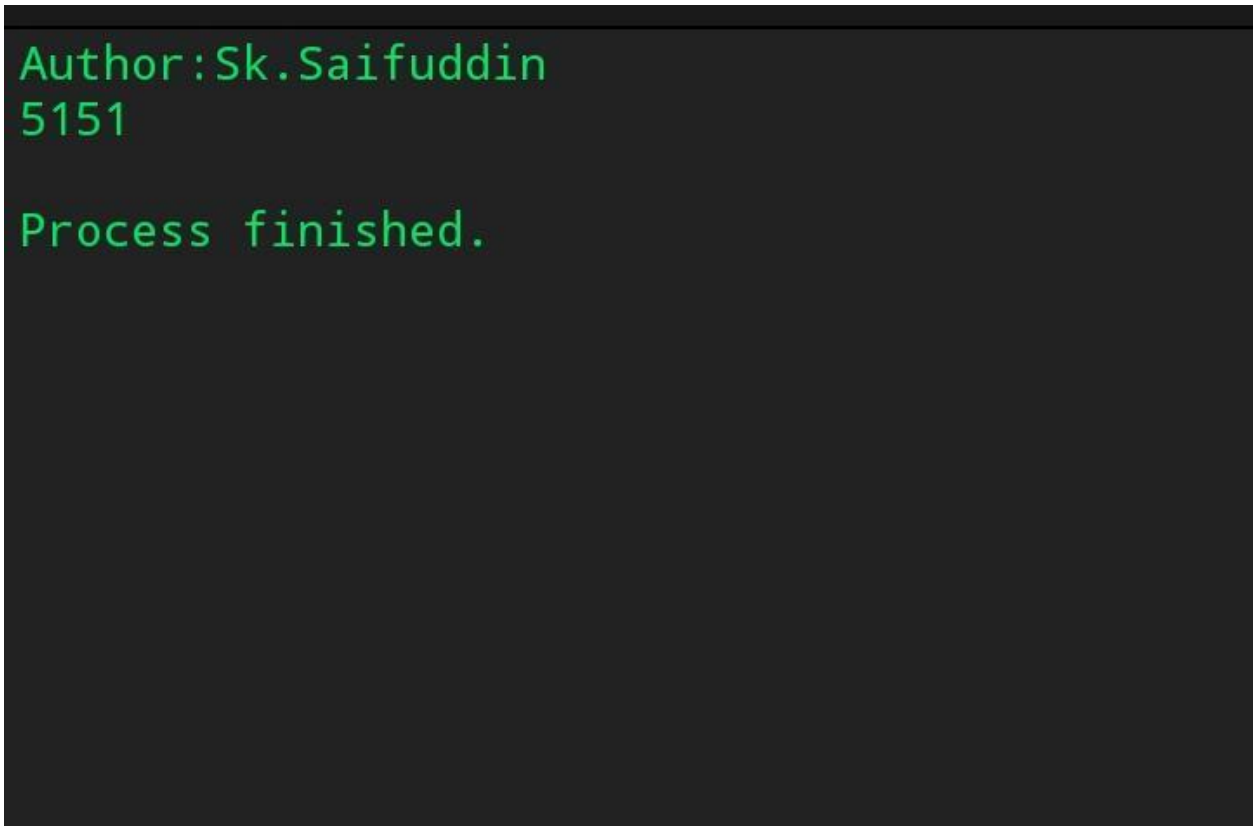
```
    {
      inputArray[n] = 1;
    }

    System.out.println("After Sorting : "+Arrays.toString(inputArray));
  }

  public static void main(String[] args)
  {
    sortBinaryArray(new int[] {1, 0, 1, 1, 0, 1, 0, 0});
  }
}
```



3)

```
public class Main
{
static int replaceDigit(int a, int numbertobereplaced,
                                                        int replacingnumber)
{
        int result = 0, multiply = 1;

        while (a % 10 > 0)
        {

                int remainder = a % 10;

                if (remainder == numbertobereplaced)
                        result = result + replacingnumber * multiply;

                else
                        result = result + remainder * multiply;

                multiply *= 10;
                a = a / 10;
        }
        return result;
}

public static void main(String[] args)
{
        int a = 6151, numbertobereplaced = 6, replacingnumber = 5;
```

```
        System.out.println("Author:Sk.Saifuddin");
        System.out.println(replaceDigit(a, numbertobereplaced, replacingnumber));
}
}
```



5)

```
class Binary{
 public static void binarySearch(int arr[], int first, int last, int key){
   int mid = (first + last)/2;
   while( first <= last ){
```

```
    if ( arr[mid] < key ){
      first = mid + 1;
    }else if ( arr[mid] == key ){
      System.out.println("Element is found at index: " + mid);
      break;
    }else{
       last = mid - 1;
    }
    mid = (first + last)/2;
  }
  if ( first > last ){
    System.out.println("Element is not found!");
  }
}
public static void main(String args[]){
  System.out.println("Author:Sk.Saifuddin");
      int arr[] = {14,20,31,41,56,9};
      int key = 41;
      int last=arr.length-1;
      binarySearch(arr,0,last,key);
}
```

}

```
Author:Sk.Saifuddin
Element is found at index: 3

Process finished.
```