```java
import java.io.*;
public class Main
    {
    public static void main(String[] args)throws IOException
        {
            BufferedReader br=new BufferedReader(new InputStreamReader(System.in));
            System.out.println("Author:B.Vishnu priya \nSAP ID:51834736");
            System.out.print("Enter a number : ");
            int n = Integer.parseInt(br.readLine());
            int copy = n, a = 0, sum = 0;
            String b = Integer.toString(n);
            int len = b.length();

            while(copy>0)
            {
                a = copy % 10;
                sum = sum + (int)Math.pow(a,len);
                len--;
                copy = copy / 10;
            }

            if(sum == n)
                System.out.println(n+" is a Disarium Number.");
            else
                System.out.println(n+" is not a Disarium Number.");
        }
    }
```

```
Author: B.Vishnu priya
SAP ID:51834736
Enter a number : 7
7 is a Disarium Number.

Process finished.
```

```java
import java.util.Arrays;

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

  System.out.println("Author:B.Vishnu priya\nSAP ID:51834736");
  System.out.println("Input Array 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("Input Array After Sorting : "+Arrays.toString(inputArray));
 }

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

```
Author:B.Vishnu priya
SAP ID:51834736
Input Array Before Sorting : [1, 0, 1, 1, 0, 1,
Input Array After Sorting : [0, 0, 0, 0, 1, 1,

Process finished.
```

```java
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 = 645, numbertobereplaced = 6,
replacingnumber = 5;
 System.out.println("Author:B.Vishnu priya\nSAP
ID:51834736");
 System.out.println(replaceDigit(a,
numbertobereplaced, replacingnumber));
}
}
```

```
Author:B.Vishnu priya
SAP ID:51834736
545

Process finished.
```

```java
public class Main
{
 public static int binarySearch(int[] M, int
left, int right, int n)
 {
  if (left > right) {
   return -1;
  }


  int mid = (left + right) / 2;

  if (n == M[mid]) {
   return mid;
  }

  else if (n < M[mid]) {
   return binarySearch(M, left, mid - 1, n);
  }

  else {
   return binarySearch(M, mid + 1, right, n);
  }
 }

 public static void main(String[] args)
 {
  int[] M = { 2, 5, 6, 8, 9, 10 };
  int key = 3;

  int left = 0;
  int right = M.length - 1;

  int index = binarySearch(M, left, right, key);

  System.out.println("Author:B.Vishnu priya
Varma\nSAP ID: 51834636");
  if (index != -1) {
   System.out.println("Element found at index " +
index);
  } else {
   System.out.println("Element not found in the
array");
  }
 }
}
```

```
Author:B.Vishnu priya
SAP ID: 51834736
Element not found in the array

Process finished.
```