```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:A.swathi \nSAP ID:51834629");
    System.out.println("question no.3");
    System.out.println(replaceDigit(a, numbertobereplaced, repl
}
}

```

Terminal

```
Author:A.swathi
SAP ID:51834629
question no.3
545
Process finished.
```

```java
public class Main
{
    public static int binarySearch(int[] M, int left, int right
    {
        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:A.swathi \nSAP ID: 51834629")
        System.out.println("question no.5");
        if (index != -1) {
            System.out.println("Element found at index " + index)
        } else {
            System.out.println("Element not found in the array");
```

Terminal

```
Author:A.swathi
SAP ID: 51834629
question no.5
Element not found in the array
Process finished.
```

```java
import java.util.Arrays;

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

        System.out.println("Author:A.swathi \nSAP ID:51834629");
        System.out.println("question no.2");
        System.out.println("Input Array Before Sorting : "+Array


        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
    }

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

Terminal

```
Author:A.swathi
SAP ID:51834629
question no.2
Input Array Before Sorting : [1, 0, 1, 1, 0, 1, 0, 0]
Input Array After Sorting : [0, 0, 0, 0, 1, 1, 1, 1]
Process finished.
```

```java
import java.io.*;
public class Main
    {
    public static void main(String[] args)throws IOException
        {
            BufferedReader br=new BufferedReader (new InputStr
            System.out.println("Author:A.swathi\nSAP ID:518346
            System.out.println("question no.1.1");
            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 Numbe
        }
    }
```

Terminal

```
Author:A.swathi
SAP ID:51834629
question no.1.1
Enter a number : 89
89 is a Disarium Number.
Process finished.
```