```java
//Question 1
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: P.laasya");
            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)
```

```
15              {
16                  a = copy % 10;
17                  sum = sum + (int)Math.pow(a,len);
18                  len--;
19                  copy = copy / 10;
20              }
21
22              if(sum == n)
23                  System.out.println(n+" is a Disarium Number.");
24              else
25                  System.out.println(n+" is not a Disarium Number.");
26          }
27      }
28
```

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```
Author: P.laasya
Enter a number : 7
7 is a Disarium Number.

Process finished.
```

```java
Question 2
import java.util.Arrays;
public class Main
{
  private static void sortBinaryArray(int[] inputArray)
   {
    int zeroCount = 0;

  System.out.println("Author:P.laasya");
  System.out.println("Input Array Before Sorting:"+Arrays.toString(inputArray));


    for (int n = 0; n < inputArray.length; n++)
    {
      putArray[n] == 0)
```

File info ⓘ

```
15          if (inputArray[n] == 0)
16          {
17              zeroCount++;
18          }
19      }
20
21
22      for (int n = 0; n < zeroCount; n++)
23      {
24          inputArray[n] = 0;
25      }
26
27
28      for (int n = zeroCount; n < inputArray.length; n++)
```

Try Dcoder's keyboard

```
28      for (int n = zeroCount; n < inputArray.length; n++)
29      {
30        inputArray[n] = 1;
31      }
32
33     System.out.println("Input Array After Sorting:"+Arrays.toString(inputArray));
34    }
35
36    public static void main(String[] args)
37    {
38      sortBinaryArray(new int[] {1, 0, 1, 1, 0, 1, 0, 0});
39    }
40  }
41
```

Try Dcoder's keyboard

```
Author:P.laasya
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
//question3
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)
                                replacingnumber * multiply;
```

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```
15            result = result + replacingnumber * multiply;
16
17        else
18            result = result + remainder * multiply;
19
20        multiply *= 10;
21        a = a / 10;
22    }
23    return result;
```

```
}

public static void main(String[] args)
{
    int a = 645, numbertobereplaced = 6, replacingnumber = 5;
    System.out.println("Author:P.laasya");
    System.out.println(replaceDigit(a, numbertobereplaced, replacingnumber));
}
}
```

Try Dcoder's keyboard

```
Author:P.laasya
545

Process finished.
```

```java
//Question 5
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;
```

File info ⓘ

```
        int key = 3;
        int left = 0;
        int right = M.length - 1;

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

        System.out.println("Author:P.laasya");
        if (index != -1) {
            System.out.println("Element found at index " + index);
        } else {
            System.out.println("Element not found in the array");
        }
    }
}
```

File info ⓘ

```
Author:P.laasya
Element not found in the array

Process finished.Author:P.laasya
Element not found in the array

Process finished.
```