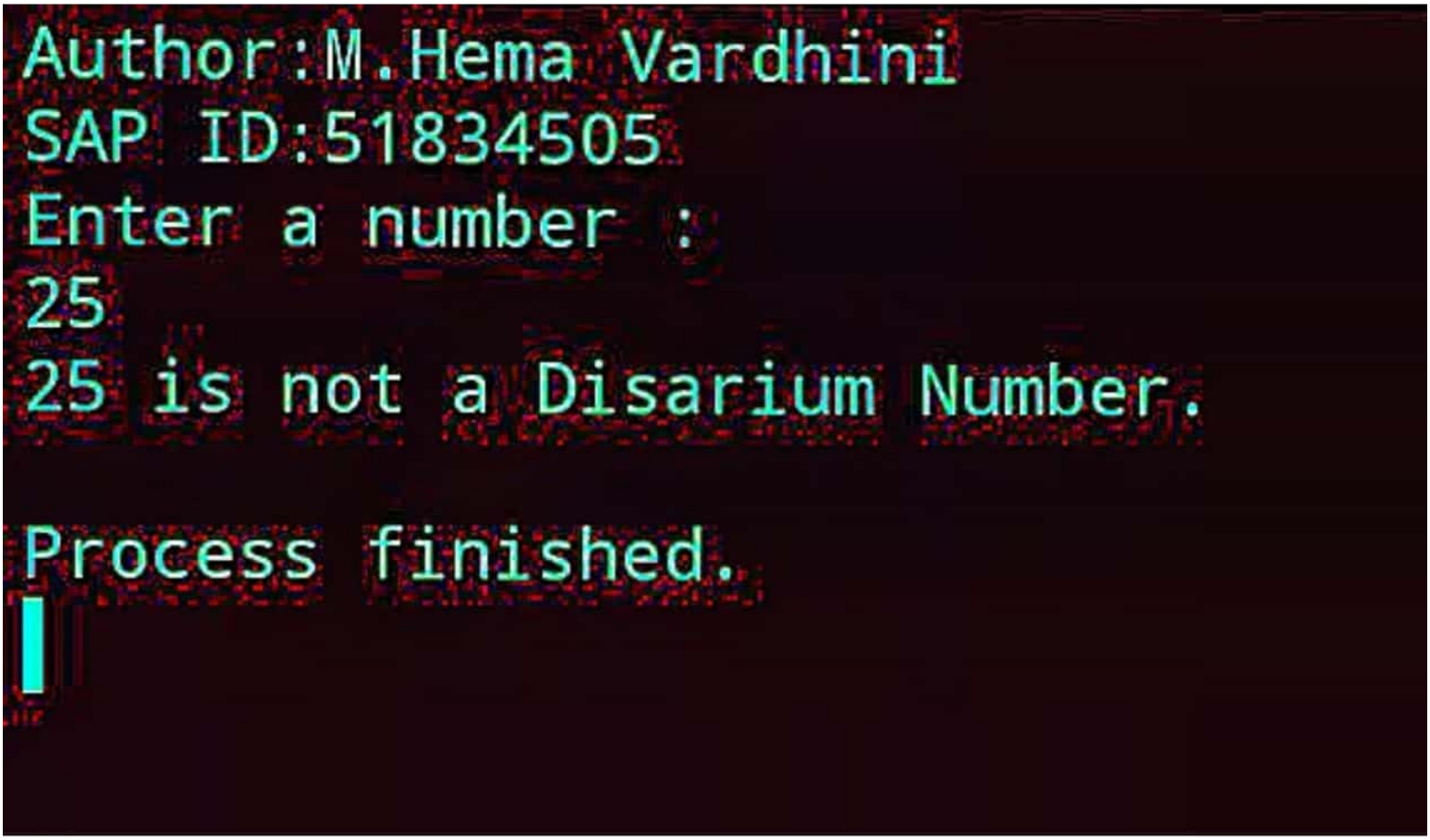
```java
import java.io.*;
public class Main
    {
    public static void main(String[] args)throws IOException
        {
            BufferedReader br=new BufferedReader (new InputStreamReader(System.in));
            System.out.println("Author:M.Hema Vardhini");
            System.out.println("SAP ID:51834505");
            System.out.println("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;
```

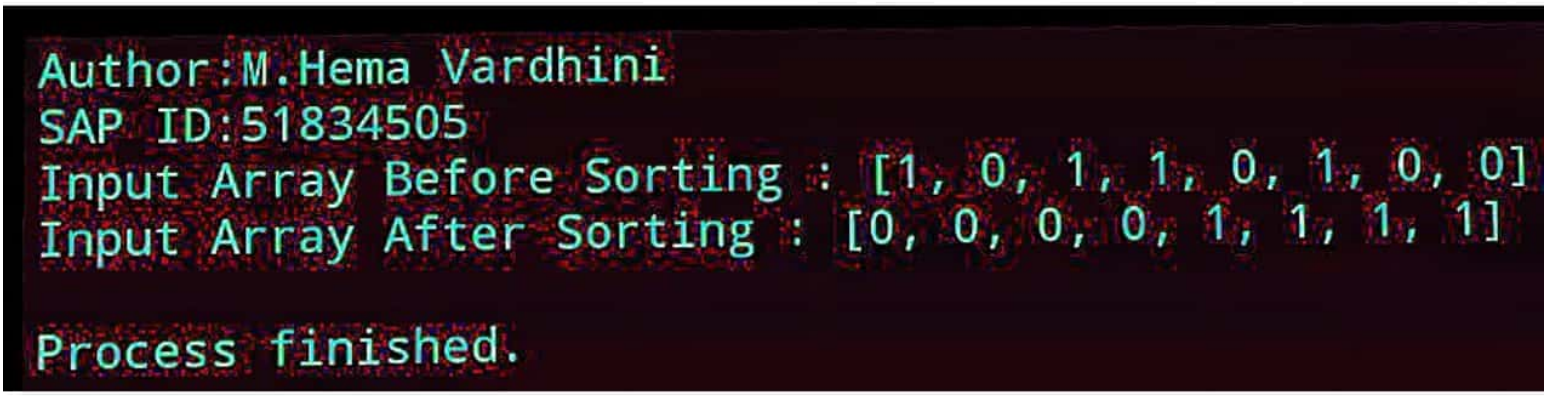
```
15              while(copy>0)
16              {
17                  a = copy % 10;
18                  sum = sum + (int)Math.pow(a,len);
19                  len--;
20                  copy = copy / 10;
21              }
22
23              if(sum == n)
24                  System.out.println(n+" is a Disarium Number.");
25              else
26                  System.out.println(n+" is not a Disarium Number.");
27          }
28      }
```



```java
import java.util.Arrays;

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

        System.out.println("Author:M.Hema Vardhini");
        System.out.println("SAP ID:51834505");
        System.out.println("Input Array Before Sorting : "+Arrays.toString(inputArray));


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

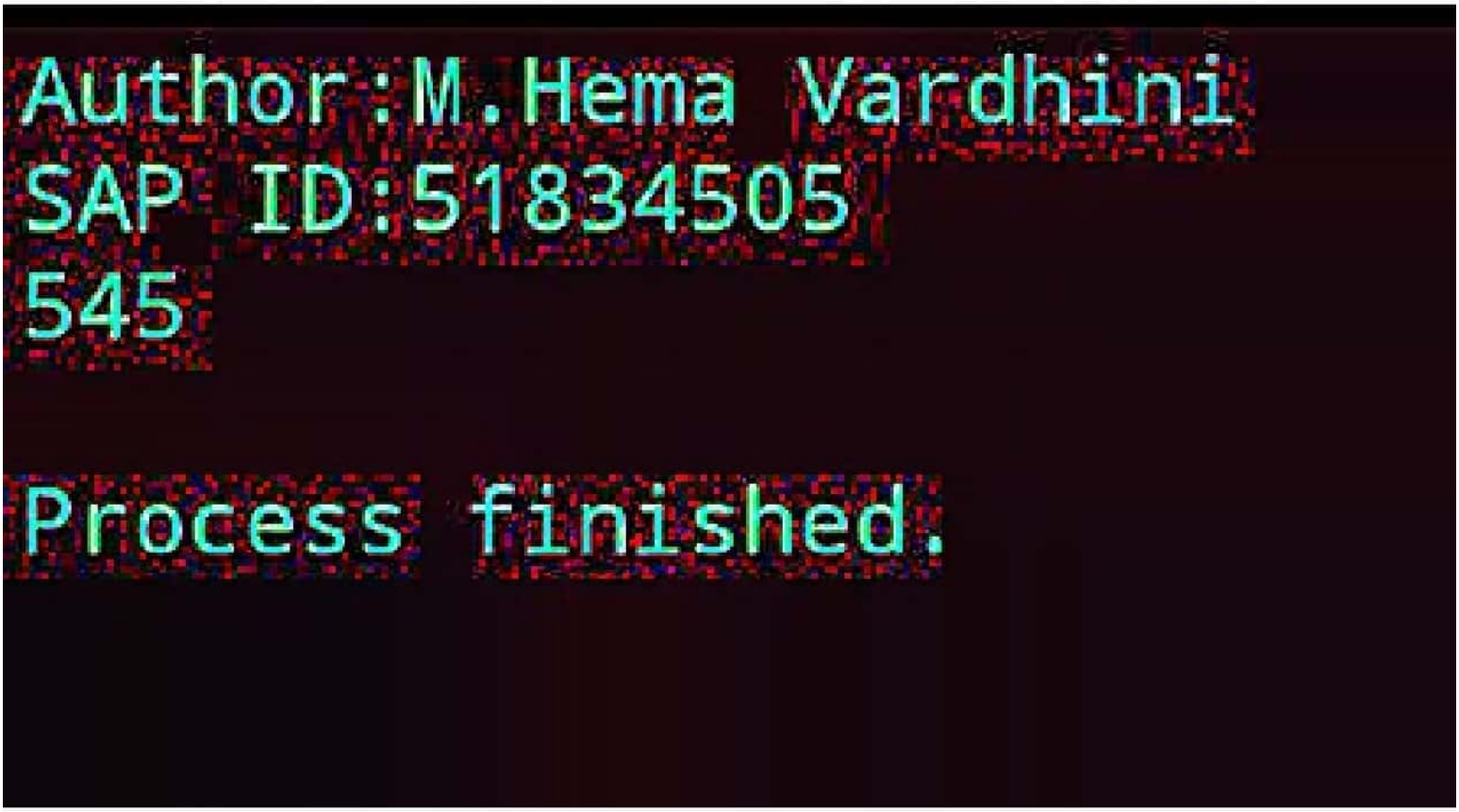
```
17              {
18                  zeroCount++;
19              }
20          }
21
22
23          for (int n = 0; n < zeroCount; n++)
24          {
25              inputArray[n] = 0;
26          }
27
28
29          for (int n = zeroCount; n < inputArray.length; n++)
30          {
31              inputArray[n] = 1;
32          }
```

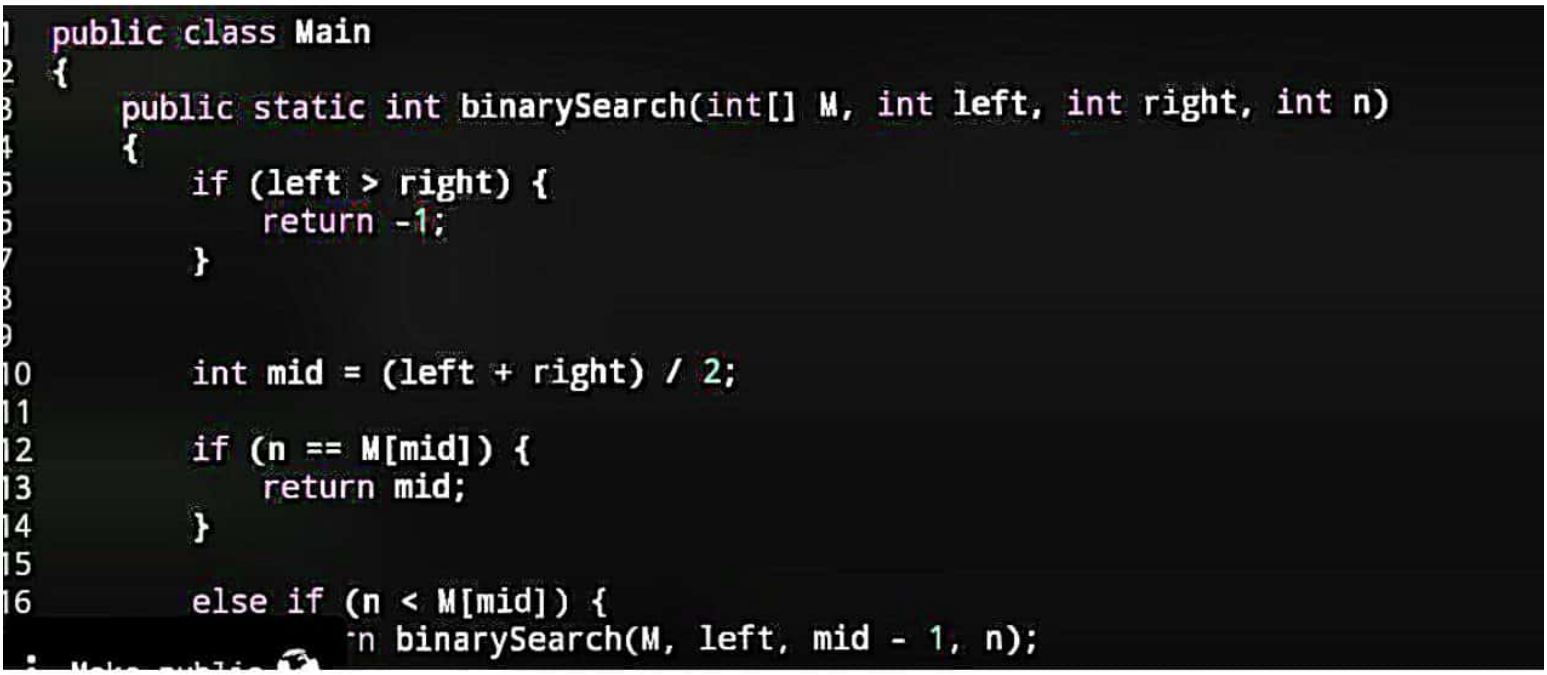
```
32          }
33
34          System.out.println("Input Array After Sorting : "+Arrays.toString(inputArray));
35      }
36
37      public static void main(String[] args)
38      {
39          sortBinaryArray(new int[] {1, 0, 1, 1, 0, 1, 0, 0});
40      }
41  }
```



```
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
            lt = result + remainder * multiply;
```

```
17              result = result + remainder * multiply;
18
19          multiply *= 10;
20          a = a / 10;
21      }
22      return result;
23  }
24
25  public static void main(String[] args)
26  {
27      int a = 645, numbertobereplaced = 6, replacingnumber = 5;
28      System.out.println("Author:M.Hema Vardhini");
29      System.out.println("SAP ID:51834505");
30      System.out.println(replaceDigit(a, numbertobereplaced, replacingnumber));
31  }
32  }
```





```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]) {
            n binarySearch(M, left, mid - 1, n);
```

```
17              return binarySearch(M, left, mid - 1, n);
18          }
19
20          else {
21              return binarySearch(M, mid + 1, right, n);
22          }
23      }
24
25      public static void main(String[] args)
26      {
27          int[] M = { 2, 5, 6, 8, 9, 10 };
28          int key = 3;
29
30          int left = 0;
31          int right = M.length - 1;
32
                x = binarySearch(M, left, right, key);
```

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

        System.out.println("Author:M.Hema Vardhini");
        System.out.println("SAP ID:51834505");
        if (index != -1) {
            System.out.println("Element found at index " + index);
        } else {
            System.out.println("Element not found in the array");
        }
    }
}
```