ASSIGNMENT:

```
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: T Vyjayanthi\nSAP ID:51834774");
      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.");
        }
    }
```

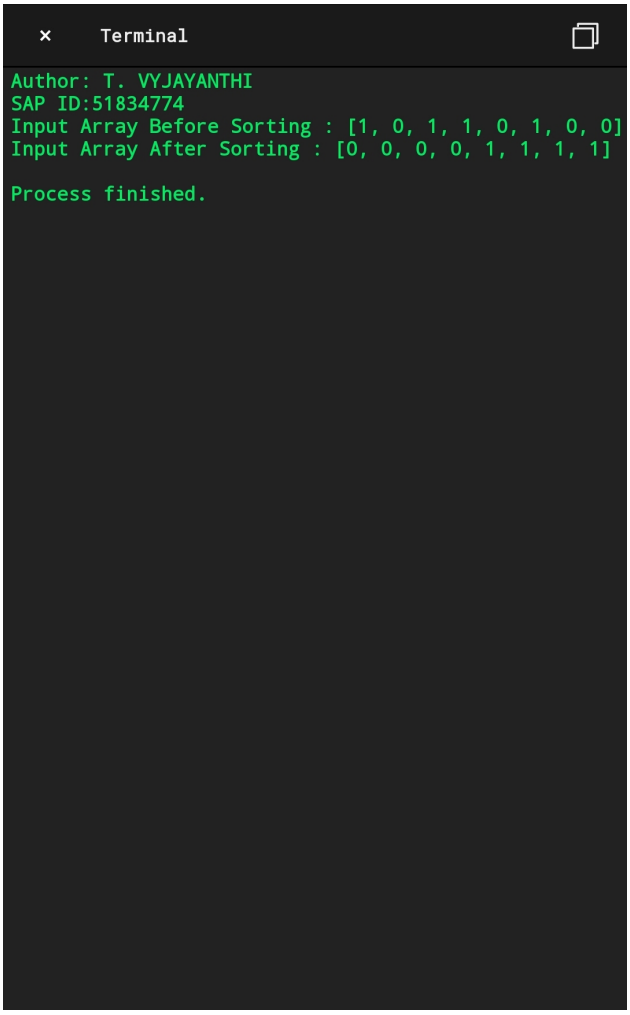
OUTPUT :

2. import java.util.Arrays;

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

  System.out.println("Author: T. VYJAYANTHI\nSAP ID:51834774");
  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});
  }
}
```

OUTPUT:



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 = 125, numbertobereplaced = 1, replacingnumber = 5;
 System.out.println("Author:T Vyjayanthi \nSAP ID:51834774");
 System.out.println(replaceDigit(a, numbertobereplaced, replacingnumber));
}
}
```

OUTPUT :

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;
  }

  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 = { 6, 5, 18, 21, 23, 25 };
  int key = 18;

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

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


    System.out.println("Author:T. VYJAYANTHI\nSAP ID: 51834774");
    if (index != -1) {
      System.out.println("Element found at index " + index);
    } else {
      System.out.println("Element not found in the array");
    }
  }
}
```

OUTPUT :


Terminal
Author:T. VYJAYANTHI
SAP ID: 51834774
Element found at index 2
Process finished.