

```
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. Sowmya
   lahari \nSAP ID:51834670");
               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)
22
                   System.out.println(n+" is a
   Disarium Number.");
               else
                   System.out.println(n+" is not a
   Disarium Number.");
```

OUTPUT

Author:B. Sowmya lahari SAP ID:51834670 Enter a number : 4 is a Disarium Number.



```
import java.util.Arrays;
   public class Main
4
    private static void sortBinaryArray(int[]
   inputArray)
      int zeroCount = 0;
      System.out.println("Author:B. Sowmya
   lahari\nSAP ID:51834670");
      System.out.println("Input Array Before
   Sorting : "+Arrays.toString(inputArray));
11
      for (int n = 0; n < inputArray.length; n++)</pre>
        if (inputArray[n] == 0)
         zeroCount++;
      for (int n = 0; n < zeroCount; n++)
        inputArray[n] = 0;
      for (int n = zeroCount; n < inputArray.length;</pre>
   n++)
        inputArray[n] = 1;
      System.out.println("Input Array After Sorting :
   "+Arrays.toString(inputArray));
       plic static void main(String[] args)
      sortBinaryArray(new int[] {1, 0, 1, 1, 0, 1, 0,
   0});
 TAB
          {
                                               RUN >
```



```
import java.util.Arrays;
з public class Main
4 | {
    private static void sortBinaryArray(int[]
   inputArray)
      int zeroCount = 0;
      System.out.println("Author:B. Sowmya
   lahari\nSAP ID:51834670");
      System.out.println("Input Array Before
   Sorting : "+Arrays.toString(inputArray));
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      for (int n = 0; n < inputArray.length; n++)</pre>
       if (inputArray[n] == 0)
         zeroCount++;
      for (int n = 0; n < zeroCount; n++)
       inputArray[n] = 0;
      for (int n = zeroCount; n < inputArray.length;</pre>
   n++)
        inputArray[n] = 1;
      System.out.println("Input Array After Sorting :
   "+Arrays.toString(inputArray));
34
 OUTPUT
Author:B. Sowmya lahari
SAP ID:51834670
Input Array Before Sorting : [1, 0, 1, 1, 0,
1, 0, 0]
Input Array After Sorting : [0, 0, 0, 0, 1,
1, 1, 1]
```



```
public class Main
3 static int replaceDigit(int a, int
   numbertobereplaced,
              int replacing number)
    int result = 0, multiply = 1;
    while (a \% 10 > 0)
      int remainder = a % 10;
      if (remainder == numbertobereplaced)
        result = result + replacing number * multiply;
        result = result + remainder * multiply;
      multiply *= 10;
20
      a = a / 10;
    return result;
   public static void main(String[] args)
   int a = 645, numbertobereplaced = 6,
   replacingnumber = 5;
   System.out.println("Author:B. sowmya lahari \nSAP
28
   ID:51834670");
   System.out.println(replaceDigit(a,
   numbertobereplaced, replacingnumber));
   }
```

OUTPUT

Author:B. sowmya lahari SAP ID:51834670 545



```
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;
11
      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. Sowmya lahari
   \nSAP ID: 51834670");
      if (index != -1) {
        System.out.println("Element found at index " +
37
   index);
      } else {
38
        System.out.println("Element not found in the
   array");
   }
 TAB
          {
                  }
                                               RUN >
```



```
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. Sowmya lahari
  \nSAP ID: 51834670");
     if (index != -1) {
       System.out.println("Flement found at index " +
 OUTPUT
Author:B. Sowmya lahari
SAP ID: 51834670
Element not found in the array
```