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1<sup>st</sup> answer

```
1  import java.io.*;
2  public class Main
3  {
4      public static void main(String[] args)
5          throws IOException
6      {
7          BufferedReader br=new BufferedReader
8              (new InputStreamReader(System.in));
9          System.out.println
10             ("Author:S.Nithin \nSAP ID:51834789")
11          System.out.print
12             ("Enter a number : ");
13          int n = Integer.parseInt
14              (br.readLine());
15          int copy = n, a = 0, sum = 0;
16          String b = Integer.toString(n);
17          int len = b.length();
18
19          while(copy>0)
20          {
21              a = copy % 10;
22              sum = sum + (int)Math.pow(a,len)
23              len--;
24              copy = copy / 10;
25          }
26
27          if(sum == n)
28              System.out.println
29                  (n+" is a Disarium Number.");
30          else
31              System.out.println
32                  (n+" is not a Disarium Number.")
33
34      }
```

× Terminal



```
Author:S.Nithin
SAP ID:51834789
Enter a number : 2
2 is a Disarium Number.
```

```
Process finished.
```

3<sup>rd</sup> Answer

```
1  import java.util.*;
2  import java.lang.*;
3  class main
4  {
5  static int replaceDigit(int x, int d1,
6                          int d2)
7  {
8      int result = 0, multiply = 1;
9
10     while (x % 10 > 0)
11     {
12         int remainder = x % 10;
13         if (remainder == d1){
14             result = result + d2 * multiply;
15         }
16         else {
17             result =
18                 result + remainder * multiply;
19         }
20         multiply *= 10;
21         x = x / 10;
22     }
23     return result;
24 }
25 // Driver code
26 public static void main(String[] args)
27 {
28     Scanner sc=new Scanner(System.in);
29     System.out.println("Enter a number:");
30     int x =sc.nextInt();
31     System.out.println
32     ("enter which no you replace:");
33     int d1 =sc.nextInt();
34     System.out.println
35     ("enter the number which number you want:");
36     int d2 =sc.nextInt();
37     System.out.println
38     (replaceDigit( x, d1, d2));
39 }
40 }
```

Enter a number:

2

enter which no you replace:

5

enter the number which number you want:

7

2

Process finished.

5<sup>th</sup> answer

```
1 public class Main
2 {
3     public static int binarySearch
4     (int[] M, int left, int right, int n)
5     {
6         if (left > right) {
7             return -1;
8         }
9
10
11         int mid = (left + right) / 2;
12
13         if (n == M[mid]) {
14             return mid;
15         }
16
17         else if (n < M[mid]) {
18             return binarySearch(M, left, mid - 1, n);
19         }
20
21         else {
22             return binarySearch
23             (M, mid + 1, right, n);
24         }
25     }
26 }
```

```

27 public static void main(String[] args)
28 {
29     int[] M = { 2, 5, 6, 8, 9, 10 };
30     int key = 3;
31
32     int left = 0;
33     int right = M.length - 1;
34
35     int index = binarySearch
36     (M, left, right, key);
37
38     System.out.println
39     ("Author:S.Nithin\nSAP ID: 51834789");
40     if (index != -1) {
41         System.out.println
42         ("Element found at index " + index);
43     } else {
44         System.out.println
45         ("Element not found in the array");
46     }
47 }
48 }

```

```

Author:S.Nithin
SAP ID: 51834789
Element not found in the array

Process finished.

```