

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:M.Sunayana\nSAP ID:51834790");

        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.");
```

```
}
```

```
}
```

```
← assgn.java Saved ↩ ⋮  
1 import java.io.*;  
2 public class Main  
3 {  
4     public static void main(String[] args) throws IOException  
5     {  
6         BufferedReader br=new BufferedReader (new InputS  
7         System.out.println("Author:M.Sunayana\nSAP ID:51  
8         System.out.print("Enter a number : ");  
9         int n = Integer.parseInt(br.readLine());  
10        int copy = n, a = 0, sum = 0;  
11        String b = Integer.toString(n);  
12        int len = b.length();  
13  
14        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 Num  
26    }  
27 }
```

```
× Terminal  
Author:M.Sunayana  
SAP ID:51834790  
Enter a number : 54  
54 is not a Disarium Number.  
Process finished.
```

2) import java.util.Arrays;

```
public class Main
```



```
{  
  
    private static void sortBinaryArray(int[] inputArray)  
    {  
  
        int zeroCount = 0;  
  
        System.out.println("Author:M.Sunayana\nSAP ID:51834790");  
        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});  
}  
}
```



```
1  sort java.util.Arrays;
2
3  public class Main
4  {
5      private static void sortBinaryArray(int[] inputArray)
6      {
7          int zeroCount = 0;
8
9          System.out.println("Author:M.Sunayana\nSAP ID:51834790");
10         System.out.println("Input Array Before Sorting : "+Arra
11
12
13         for (int n = 0; n < inputArray.length; n++)
14         {
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++)
29         {
30             inputArray[n] = 1;
31         }
32
33         System.out.println("Input Array After Sorting : "+Array
34     }
35
36     public static void main(String[] args)
37     {
38         sortBinaryArray(new int[] {1, 0, 1, 1, 0, 1, 0, 0});
39     }
40

```

Terminal

```
Author:M.Sunayana
SAP ID:51834790
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.
```

```
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 = 645, numbertobereplaced = 6, replacingnumber = 5;
    System.out.println("Author:M.Sunayana\nSAP ID:51834790");
    System.out.println(replaceDigit(a, numbertobereplaced, replacingnumber));
}
}

```



```
1 public class Main
2 {
3     static int replaceDigit(int a, int numbertobereplaced,
4                             int replacingnumber)
5     {
6         int result = 0, multiply = 1;
7         while (a % 10 > 0)
8         {
9             int remainder = a % 10;
10            if (remainder == numbertobereplaced)
11                result = result + replacingnumber * multiply;
12            else
13                result = result + remainder * multiply;
14            multiply *= 10;
15            a = a / 10;
16        }
17        return result;
18    }
19 }
20
21 public static void main(String[] args)
22 {
23     int a = 645, numbertobereplaced = 6, replacingnumber = 5;
24     System.out.println("Author:M.Sunayana\nSAP ID:51834790");
25     System.out.println(replaceDigit(a, numbertobereplaced, replacingnumber));
26 }
27 }
```

Terminal

```
Author:M.Sunayana
SAP ID:51834790
545

Process finished.
```

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 = { 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:M.Sunayana\nSAP ID: 51834790");
```

```
if (index != -1) {
```

```
    System.out.println("Element found at index " + index);
```

```
} else {
```

```
    System.out.println("Element not found in the array");
```

```
}
```

```
}
```

```
}
```



```
1  public class Main
2
3  public static int binarySearch(int[] M, int left, int right,
4  {
5      if (left > right) {
6          return -1;
7      }
8
9
10     int mid = (left + right) / 2;
11
12     if (n == M[mid]) {
13         return mid;
14     }
15
16     else if (n < M[mid]) {
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
33     int index = binarySearch(M, left, right, key);
34
35     System.out.println("Author:M.Sunayana\nSAP ID: 51834790"
36     if (index != -1) {
37         System.out.println("Element found at index " + index
38     } else {
39         System.out.println("Element not found in the array")
40     }
41 }
42
```

Terminal

```
Author:M.Sunayana
SAP ID: 51834790
Element not found in the array

Process finished.
```

