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## JAVA ASSIGNMENT-2

### Q1. Count no. of characters in a string

```
package A;
import java.util.Scanner;
class Str{
    public void str_len(String s)
    {int len=0;

    for(int i = 0; i < s.length(); i++) {
        if(s.charAt(i) != ' ')
            len++;
    }

    System.out.println("Total number of characters in a string: " +len); }}

public class Anonymous {
    public static void main(String[] args) {
        Scanner sc= new Scanner(System.in);
        String s=sc.nextLine();
        new Str().str_len(s);}}
```

This is to count the number of characters in a string.

Total number of characters in a string: 44

## Q2. Implement Binary Search

```
import java.util.Scanner;
class Search{
    public int binary_search(int arr[],int start,int end, int s)
    {if(start<=end)
        {int mid= start+(end-start)/2;

if(arr[mid]==s)
    return mid;
    else if(arr[mid]>s)
    return binary_search(arr,start,mid-1,s);
    else
    return binary_search(arr,mid+1,end,s);}
    return -1;}}

public class Anonymous {
public static void main(String[] args) {
    Scanner sc= new Scanner(System.in);
    int n=sc.nextInt();
    int a[] = new int[n];
    for(int i=0;i<n;i++)
    a[i] = sc.nextInt();
    int s=sc.nextInt();
    if(new Search().binary_search(a,0,n,s)==-1)
        System.out.println("Element not found");
    else
        System.out.println("Element found at index: "+new Search().binary_search(a,0,n,s));
    }}
```

```
7
1 3 5 6 7 8 9
7
Element found at index: 4
```

```
8
1 2 6 9 13 25 68 87
23
Element not found!!
```

### Q3. Triangle Pattern

```
import java.util.Scanner;
class Pattern{
    public void star_pattern(int n)
    {for(int i=0;i<n;i++)
        {for(int j=0;j<=i;j++)
            {System.out.print("* ");
            }
            System.out.println();
        }}}

public class Anonymous {
public static void main(String[] args) {
    Scanner sc= new Scanner(System.in);
    int n=sc.nextInt();
    new Pattern().star_pattern(n);
}}
```

```
7
*
* *
* * *
* * * *
* * * * *
* * * * *
* * * * *
```

## Q4 Reverse triangle Pattern

```
package A;
import java.util.Scanner;
class Pattern{
    public void star_pattern(int n)
    {for(int i=n;i>0;i--)
        {for(int j=0;j<i;j++)
            {System.out.print("* ");
            }
        System.out.println();
        }}}

public class Anonymous {
public static void main(String[] args) {
    Scanner sc= new Scanner(System.in);
    int n=sc.nextInt();
    new Pattern().star_pattern(n);
}}
```

```
7
* * * * *
* * * *
* * * *
* * *
* * *
* *
*
```