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1. Write a Binary search program to search the elements of the integer Array.

```
import java.util.Scanner;
public class BinarySearch{
    static int binarySearch(int a[],int beg, int end, int val)
    {
        int mid;
        if(end>=beg)
        {
            mid = (beg + end)/2;
            if(a[mid] == val)
            {
                return mid+1;
            }
            else if(a[mid] < val)
            {
                return binarySearch(a,mid+1,end,val);
            }
            else
            {
                return binarySearch(a,beg,mid-1,val);
            }
        }
        return -1;
    }
    public static void main(String[] args)
    {
        Scanner sc =new Scanner(System.in);
        System.out.println("Enter the size of array: ");
        int n=sc.nextInt();
        int a[] = new int[n];
        System.out.println("Enter the sorted array: ");
        for(int i=0;i<n;i++)
        {
            a[i]= sc.nextInt();
        }
        System.out.println("Element to be searched is: ");
    }
}
```

```
int val = sc.nextInt();  
int res = binarySearch(a,0,n-1,val);  
if(res!=-1)  
    System.out.println("Element is not present in array");  
else  
    System.out.println("Element is present at "+res+" position of array");  
}  
}
```

OUTPUT

```
Enter the size of array:  
3  
Enter the sorted array:  
1  
2  
3  
Element to be searched is:  
3  
Element is present at 3 position of array
```