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Q? Given an already sorted array of positive integers, design an algorithm and implement it using a program to find whether given key element is present in the array or not. Also, find total number of comparisons for each input case. (time complexity = O(nlogn), where n is the size of input).

Soln:-

Psuedo code:-

```
int n, i, l, r, k, m, comp=0, flag=0;
    input (n);
    int a[n];
for (i=0 ; i<n ; i++)
        input (a[i])
    input (k);          // 'k' is for key
                           to search

    l= 0;
    r=n-1;
    while (l<=r)
{
        comp++;
    m= l + (r-l)/2;
    if (a[m] == k)
    {
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```
pxint ("key found at index", m);
        flag=1;
        break;
    }
else if (a[m] >k)
        x= m-1;
    else
        l=m+1;
}
    if (flag==0)
    pxint ("key not found");
pxint ("In total comparisons made:", com);
```