

BINARY SEARCH

```
    /*****      Program to Search an Array using Binary Search      *****/  
  
#include <stdio.h>  
  
void binary_search();  
  
int a[50], n, item, loc, beg, mid, end, i;  
  
main()  
{  
    printf("\nEnter size of an array: ");  
    scanf("%d", &n);  
  
    printf("\nEnter elements of an array in sorted form:\n");  
    for(i=0; i<n; i++)  
        scanf("%d", &a[i]);  
  
    printf("\nEnter ITEM to be searched: ");  
    scanf("%d", &item);  
  
    binary_search();  
    getch();  
}  
  
void binary_search()  
{  
    beg = 0; end = n-1;  
    mid = (beg+end)/2;  
  
    while ((beg<=end) && (a[mid]!=item))  
    {  
        if (item < a[mid])  
            end = mid-1;  
        else  
            beg = mid+1;  
  
        mid = (beg+end)/2;  
    }  
  
    if (a[mid] == item)  
        printf("\n\nITEM found at location %d", mid+1);  
    else  
        printf("\n\nITEM doesn't exist");  
}
```