#include <stdio.h>

int binarySearch(int a[], int beg, int end, int val)

{

int mid;

if(end >= beg)

{ mid = (beg + end)/2;

/\* if the item to be searched is present at middle \*/

if(a[mid] == val)

{

return mid+1;

}

/\* if the item to be searched is smaller than middle, then it can only be in left subarray \*/

else if(a[mid] < val)

{

return binarySearch(a, mid+1, end, val);

}

/\* if the item to be searched is greater than middle, then it can only be in right subarray \*/

else

{

return binarySearch(a, beg, mid-1, val);

}

}

return -1;

}

int main() {

int a[] = {11, 14, 25, 30, 40, 41, 52, 57, 70}; // given array

int val = 40; // value to be searched

int n = sizeof(a) / sizeof(a[0]); // size of array

int res = binarySearch(a, 0, n-1, val); // Store result

printf("The elements of the array are - ");

for (int i = 0; i < n; i++)

printf("%d ", a[i]);

printf("\nElement to be searched is - %d", val);

if (res == -1)

printf("\nElement is not present in the array");

else

printf("\nElement is present at %d position of array", res);

return 0;

}