#include <stdio.h>

int binary\_search(int arr[], int low, int high, int target) {

if (high >= low) {

int mid = low + (high - low) / 2;

// If the element is present at the middle itself

if (arr[mid] == target)

return mid;

// If the element is smaller than mid, then it can only be present in the left subarray

if (arr[mid] > target)

return binary\_search(arr, low, mid - 1, target);

// Else the element can only be present in the right subarray

return binary\_search(arr, mid + 1, high, target);

}

// Element is not present in the array

return -1;

}

void analyze\_binary\_search(int arr[], int n, int target) {

int index = binary\_search(arr, 0, n - 1, target);

if (index != -1)

printf("Element %d is present at index %d\n", target, index);

else

printf("Element %d is not present in the array\n", target);

}

int main() {

int arr[] = {2, 3, 4, 10, 40};

int n = sizeof(arr) / sizeof(arr[0]);

int target = 10;

analyze\_binary\_search(arr, n, target);

return 0;

}