BINARY SEARCH USING RECURSION

#include <stdio.h>

int binarySearchRecursive(int arr[], int low, int high, int target)

{

if (low > high)

{

return -1;

}

int mid = (low + high) / 2;

if (arr[mid] == target)

{

return mid;

} else if (arr[mid] > target)

{

return binarySearchRecursive(arr, low, mid - 1, target);

} else {

return binarySearchRecursive(arr, mid + 1, high, target);

}

}

int main() {

int arr[] = {2, 5, 8, 12, 16, 23, 38, 56, 72, 91};

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

int target;

printf("Enter the element to search: ");

scanf("%d", &target);

int index = binarySearchRecursive(arr, 0, size - 1, target);

if (index == -1)

{

printf("Element not found in the array.\n");

} else

{

printf("Element found at index %d.\n", index);

}

return 0;

}

OUTPUT:

Enter the element to search: 8

Element found at index 2.