```
def partition(arr, low, high):
    i = (low - 1)
    pivot = arr[high]

    for j in range(low, high):
        if arr[j] <= pivot:
            i = i + 1
            arr[i], arr[j] = arr[j], arr[i]

    arr[i + 1], arr[high] = arr[high], arr[i + 1]
    return (i + 1)

def quick_sort(arr, low, high):
    if low < high:
        pi = partition(arr, low, high)

        quick_sort(arr, low, pi - 1)
        quick_sort(arr, pi + 1, high)

arr = [10, 7, 8, 9, 1, 5]
n = len(arr)
quick_sort(arr, 0, n - 1)
print("Sorted array is:", arr)

def binary_search(arr, key):
    low = 0
    high = len(arr) - 1

    while low <= high:
        mid = (low + high) // 2
        if arr[mid] < key:
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            low = mid + 1
        elif arr[mid] > key:
            high = mid - 1
        else:
            return mid

    return -1
arr=[1,2,3,4,5,6]
key=5
print(binary_search(arr, key))
```