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:

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))