QUICK SORT

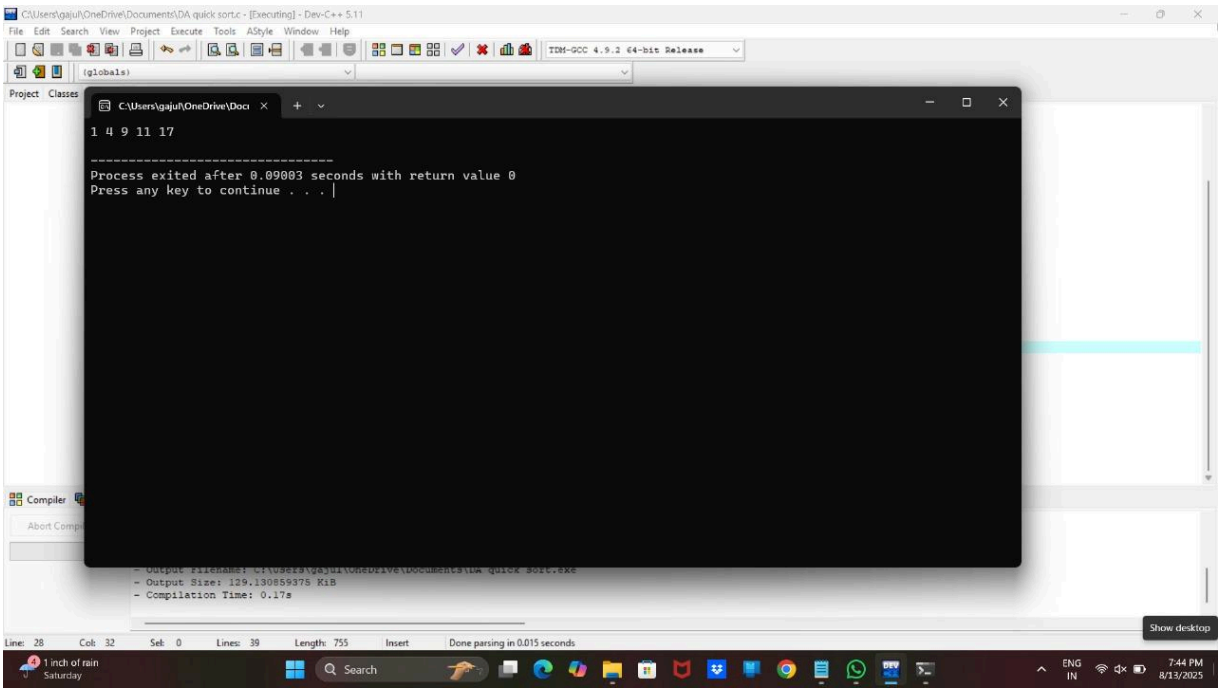
```
#include <stdio.h>

void swap(int *a, int *b) { int t = *a; *a = *b; *b = t; }

int part(int a[], int l, int h) {
    int p = a[h], i = l - 1;
    for (int j = l; j < h; j++) if (a[j] < p) swap(&a[++i], &a[j]);
    swap(&a[i + 1], &a[h]);
    return i + 1;
}

void qsort(int a[], int l, int h) {
    if (l < h) {
        int pi = part(a, l, h);
        qsort(a, l, pi - 1);
        qsort(a, pi + 1, h);
    }
}

int main() {
    int arr[ ] = {9, 17, 11, 4, 1}, n = 5;
    qsort(a, 0, n - 1);
    for (int i = 0; i < n; i++) printf("%d ", a[i]);
}
```



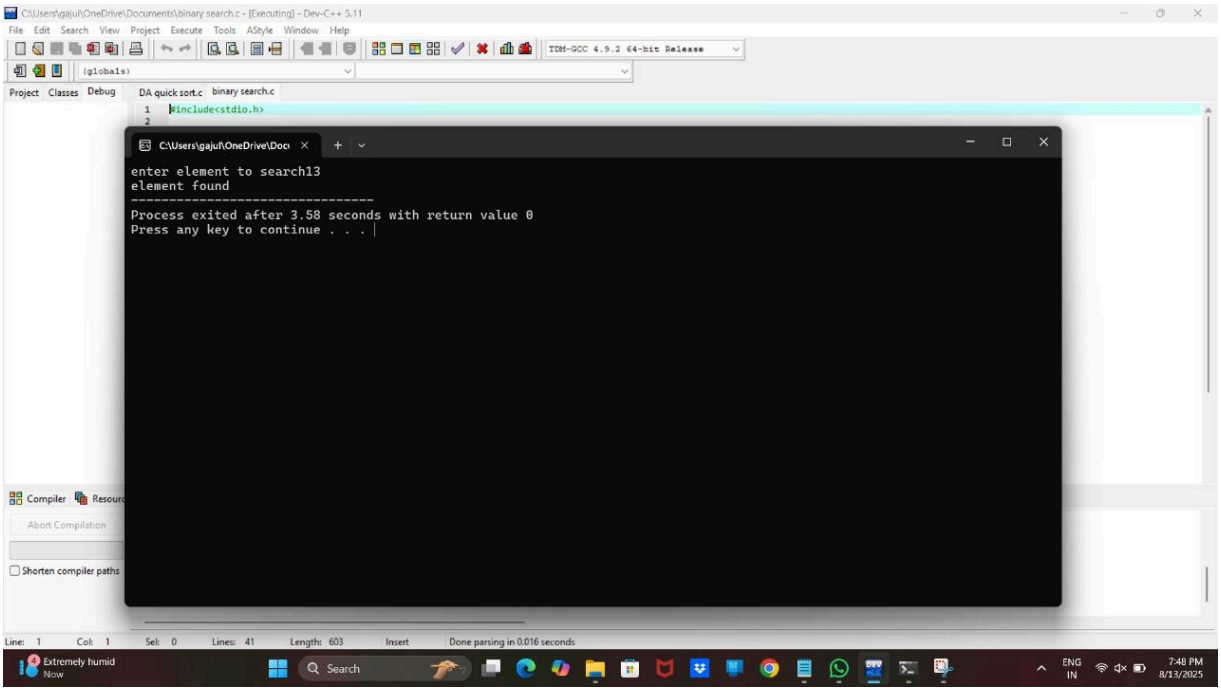
BINARY SEARCH

```
#include<stdio.h>

int binarysearch(int arr[],int size,int key)
{
	int low=0,high =size-1;
	while(low<=high){
		int mid=(low+high)/2;
		if(arr[mid]==key)
		{
			return mid;
		}
		else if(arr[mid]<key)
		{
			low=mid+1;
		}
		else
		{
			high=mid-1;
		}
	}
	return 1;
}

int main()
{
	int arr[]={1,5,6,9,10,13,18};
	int size=sizeof(arr)/sizeof(arr[0]);
	int key;
	printf ("enter element to search");
	scanf("%d",&key);
	int result=binarysearch(arr,size,key);
	if(result!=1)
	{
		printf("element found");
	}
	else
	{
		printf("element not found");
	}
	return 0;
```

}


C:\Users\gajul\OneDrive\Documents\binary search.c - [Executing] - Dev-C++ 5.11
File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 4.9.2 64-bit Release
(globals)
Project Classes Debug
DA quick sort.c
binary search.c
1 #include<stdio.h>
2
C:\Users\gajul\OneDrive\Doc
enter element to search13
element found

Process exited after 3.58 seconds with return value 0
Press any key to continue . . .
Compiler
Abort Compilation
Shorten compiler paths
Line: 1 Col: 1 Sel: 0 Lines: 41 Length: 603 Insert Done parsing in 0.016 seconds
Extremely humid
Now
Search
ENG
IN
7:48 PM
8/13/2025