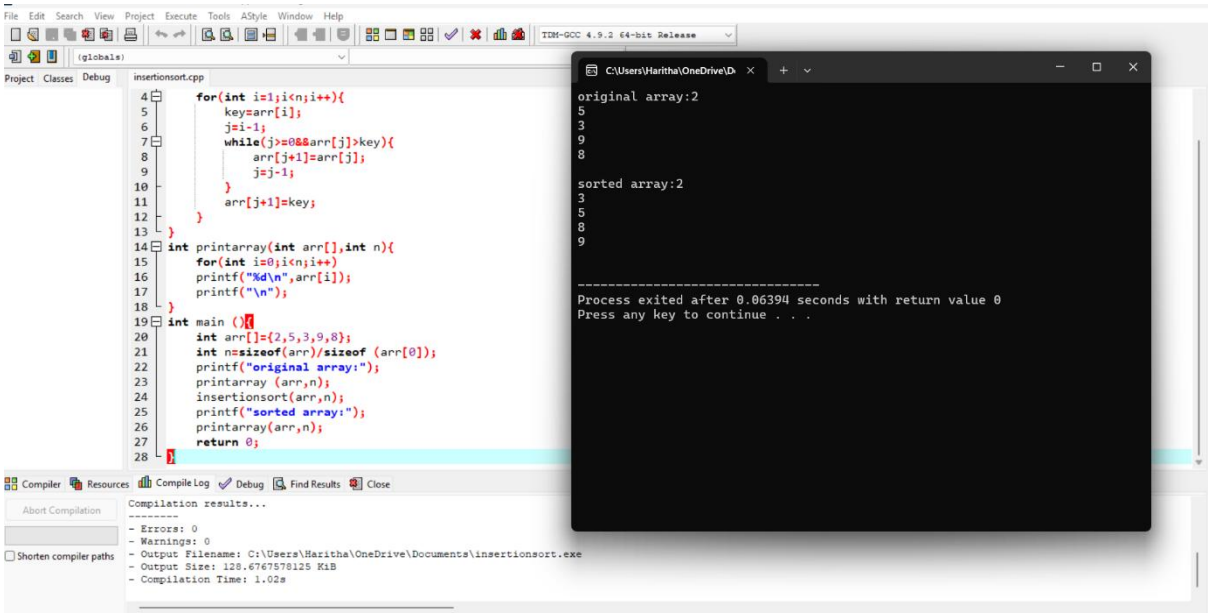
16.INSERTION SORT

SAMPLE CODE

```
#include<stdio.h>
int insertionsort(int arr[],int n){
	int i,key,j;
	for(int i=1;i<n;i++){
		key=arr[i];
		j=i-1;
		while(j>=0&&arr[j]>key){
			arr[j+1]=arr[j];
			j=j-1;
		}arr[j+1]=key;
	}
}
int printarray(int arr[],int n){
	for(int i=0;i<n;i++)
	printf("%d\n",arr[i]);
	printf("\n");
}
int main (){
	int arr[]={2,5,3,9,8};
	int n=sizeof(arr)/sizeof (arr[0]);
	printf("original array:");
	printarray (arr,n);
	insertionsort(arr,n);
	printf("sorted array:");
	printarray(arr,n);
	return 0;
}
```

OUTPUT


File Edit Search View Project Execute Tools AStyle Window Help
TDM-GCC 4.9.2 64-bit Release
(globals)
Project Classes Debug
insertionsort.cpp
4 for(int i=1;i<n;i++){
5 key=arr[i];
6 j=i-1;
7 while(j>=0&&arr[j]>key){
8 arr[j+1]=arr[j];
9 j=j-1;
10 }
11 arr[j+1]=key;
12 }
13 }
14 int printarray(int arr[],int n){
15 for(int i=0;i<n;i++)
16 printf("%d\n",arr[i]);
17 printf("\n");
18 }
19 int main (){
20 int arr[]={2,5,3,9,8};
21 int n=sizeof(arr)/sizeof (arr[0]);
22 printf("original array:");
23 printarray (arr,n);
24 insertionsort(arr,n);
25 printf("sorted array:");
26 printarray(arr,n);
27 return 0;
28 }
C:\Users\Haritha\OneDrive\D
original array:2
5
3
9
8
sorted array:2
3
5
8
9
Process exited after 0.06394 seconds with return value 0
Press any key to continue . . .
Compiler Resources Compile Log Debug Find Results Close
Abort Compilation
Shorten compiler paths
Compilation results...
- Errors: 0
- Warnings: 0
- Output Filename: C:\Users\Haritha\OneDrive\Documents\insertionsort.exe
- Output Size: 128.6767578125 KiB
- Compilation Time: 1.02s