DATE:-21/09/22

COURSE NAME:-DATA STRUCTURES FOR EXPRESSION EVALUATION

COURSE CODE:-CSA0374

NAME OF THE STUDENT:-CH.INDHU PRIYA

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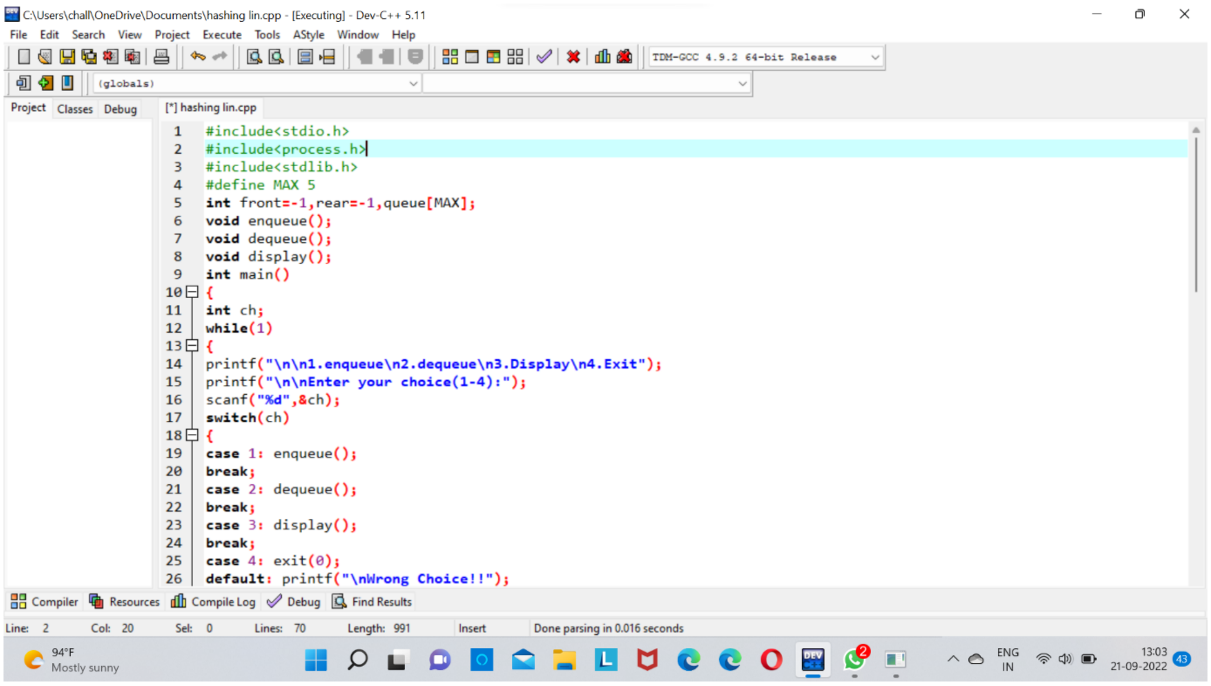
EXPERIMENT:12(QUEUE,DEQUE)


C:\Users\chall\OneDrive\Documents\hashing lin.cpp - [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
[*] hashing lin.cpp
Compiler Resources Compile Log Debug Find Results
Line: 2 Col: 20 Sel: 0 Lines: 70 Length: 991 Insert Done parsing in 0.016 seconds
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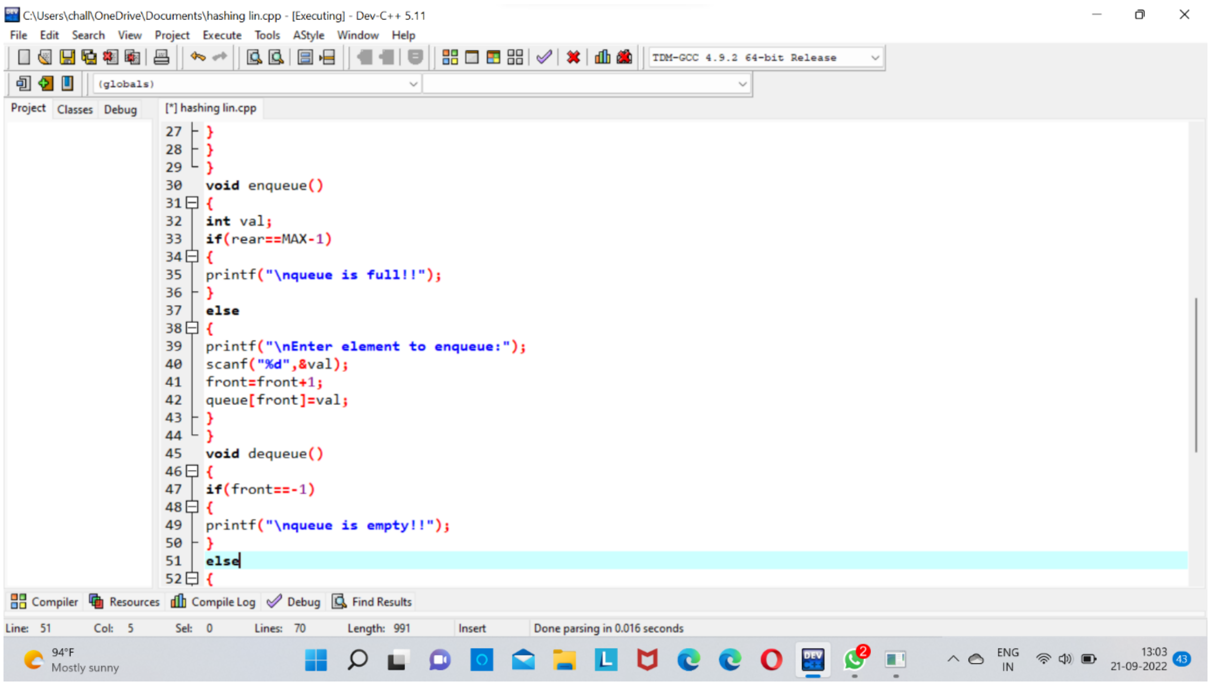
ENG IN 13:03 21-09-2022

```
#include<stdio.h>
#include<process.h>
#include<stdlib.h>
#define MAX 5
int front=-1,rear=-1,queue[MAX];
void enqueue();
void dequeue();
void display();
int main()
{
int ch;
while(1)
{
printf("\n\n1.enqueue\n2.dequeue\n3.Display\n4.Exit");
printf("\n\nEnter your choice(1-4):");
scanf("%d",&ch);
switch(ch)
{
case 1: enqueue();
break;
case 2: dequeue();
break;
case 3: display();
break;
case 4: exit(0);
default: printf("\nWrong Choice!!");
```


C:\Users\chall\OneDrive\Documents\hashing lin.cpp - [Executing] - Dev-C++ 5.11
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TDM-GCC 4.9.2 64-bit Release
(globals)
Project Classes Debug
[*] hashing lin.cpp
Compiler Resources Compile Log Debug Find Results
Line: 51 Col: 5 Sel: 0 Lines: 70 Length: 991 Insert Done parsing in 0.016 seconds
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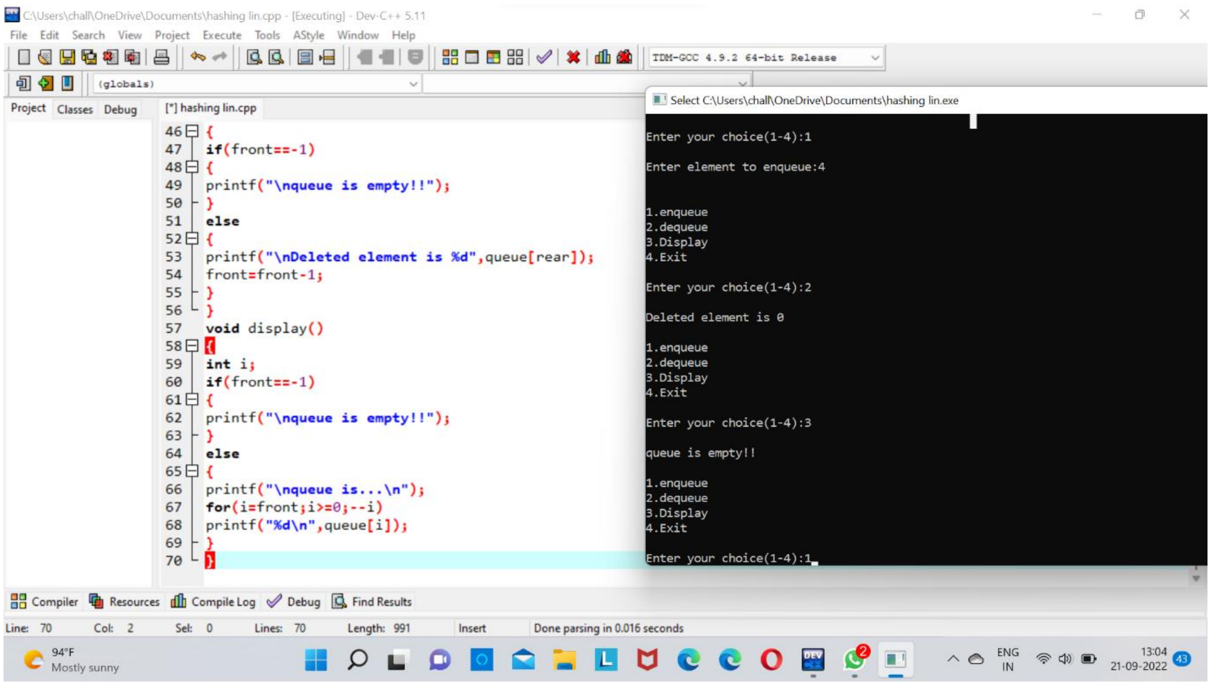
```
}
}
}
void enqueue()
{
int val;
if(rear==MAX-1)
{
printf("\nqueue is full!!");
}
else
{
printf("\nEnter element to enqueue:");
scanf("%d",&val);
front=front+1;
queue[front]=val;
}
}
void dequeue()
{
if(front==-1)
{
printf("\nqueue is empty!!");
}
else
{
```



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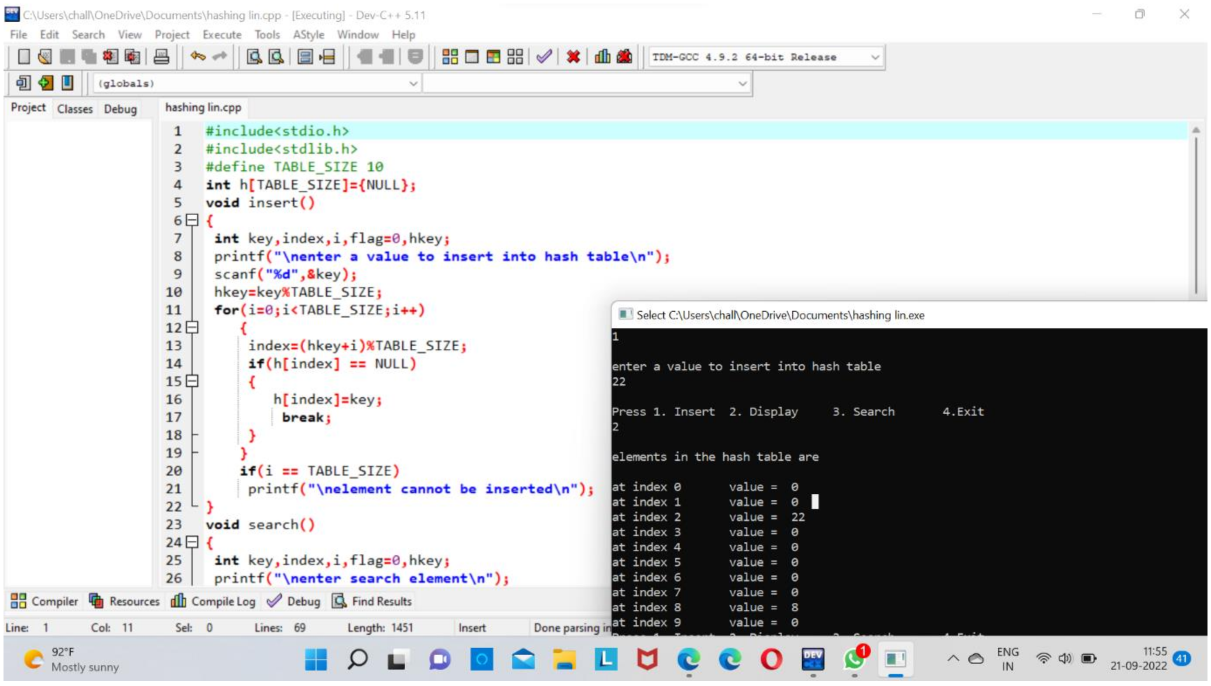
```c
{
if(front==-1)
{
printf("\nqueue is empty!!");
}
else
{
printf("\nDeleted element is %d",queue[rear]);
front=front-1;
}
}
void display()
{
int i;
if(front==-1)
{
printf("\nqueue is empty!!");
}
else
{
printf("\nqueue is...\n");
for(i=front;i>=0;--i)
printf("%d\n",queue[i]);
}
}
```

Select C:\Users\chall\OneDrive\Documents\hashing lin.exe

```
Enter your choice(1-4):1

Enter element to enqueue:4


1.enqueue
2.dequeue
3.Display
4.Exit

Enter your choice(1-4):2

Deleted element is 0

1.enqueue
2.dequeue
3.Display
4.Exit

Enter your choice(1-4):3

queue is empty!!

1.enqueue
2.dequeue
3.Display
4.Exit

Enter your choice(1-4):1
```

Line: 70 Col: 2 Sel: 0 Lines: 70 Length: 991 Insert Done parsing in 0.016 seconds

EXPERIMENT :-13(HASHING USING LINEARPROBING)



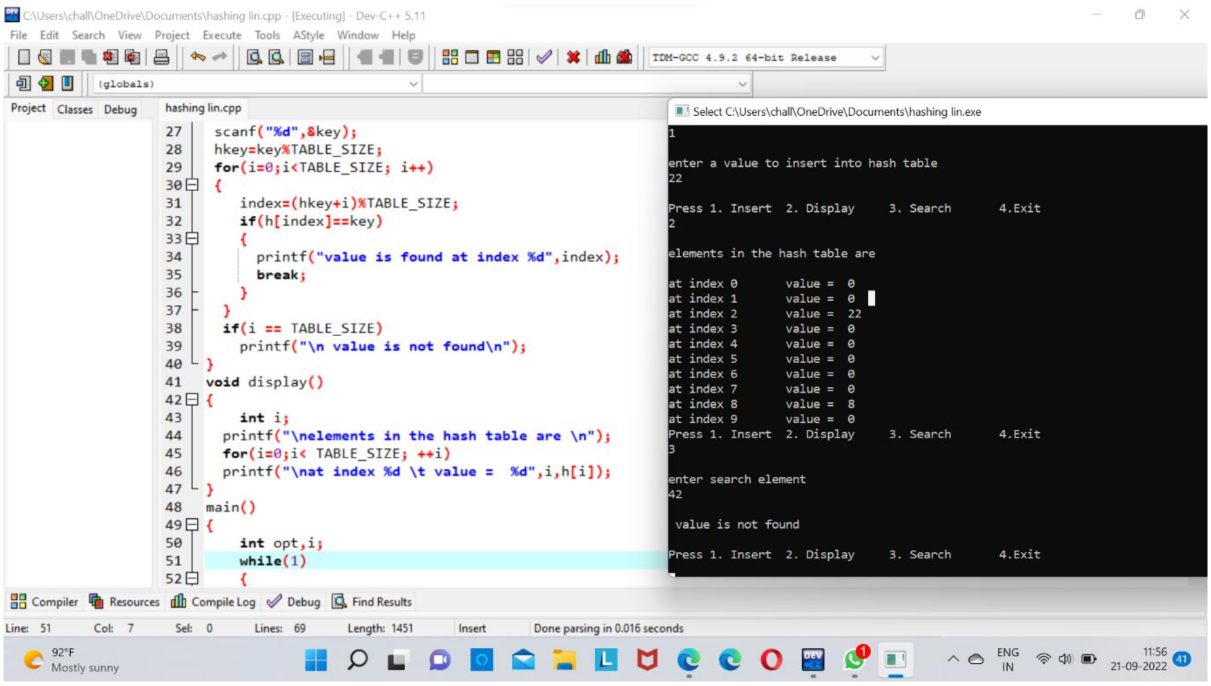
C:\Users\chall\OneDrive\Documents\hashing lin.cpp - [Executing] - Dev-C++ 5.11

```c
#include<stdio.h>
#include<stdlib.h>
#define TABLE_SIZE 10
int h[TABLE_SIZE]={NULL};
void insert()
{
 int key,index,i,flag=0,hkey;
 printf("\nenter a value to insert into hash table\n");
 scanf("%d",&key);
 hkey=key%TABLE_SIZE;
 for(i=0;i<TABLE_SIZE;i++)
    {
     index=(hkey+i)%TABLE_SIZE;
     if(h[index] == NULL)
     {
        h[index]=key;
         break;
     }
    }
    if(i == TABLE_SIZE)
     printf("\nelement cannot be inserted\n");
}
void search()
{
 int key,index,i,flag=0,hkey;
 printf("\nenter search element\n");
```

Select C:\Users\chall\OneDrive\Documents\hashing lin.exe

```
1

enter a value to insert into hash table
22

Press 1. Insert  2. Display    3. Search      4.Exit
2

elements in the hash table are

at index 0       value =  0
at index 1       value =  0
at index 2       value =  22
at index 3       value =  0
at index 4       value =  0
at index 5       value =  0
at index 6       value =  0
at index 7       value =  0
at index 8       value =  8
at index 9       value =  0
```

Line: 1 Col: 11 Sel: 0 Lines: 69 Length: 1451 Insert

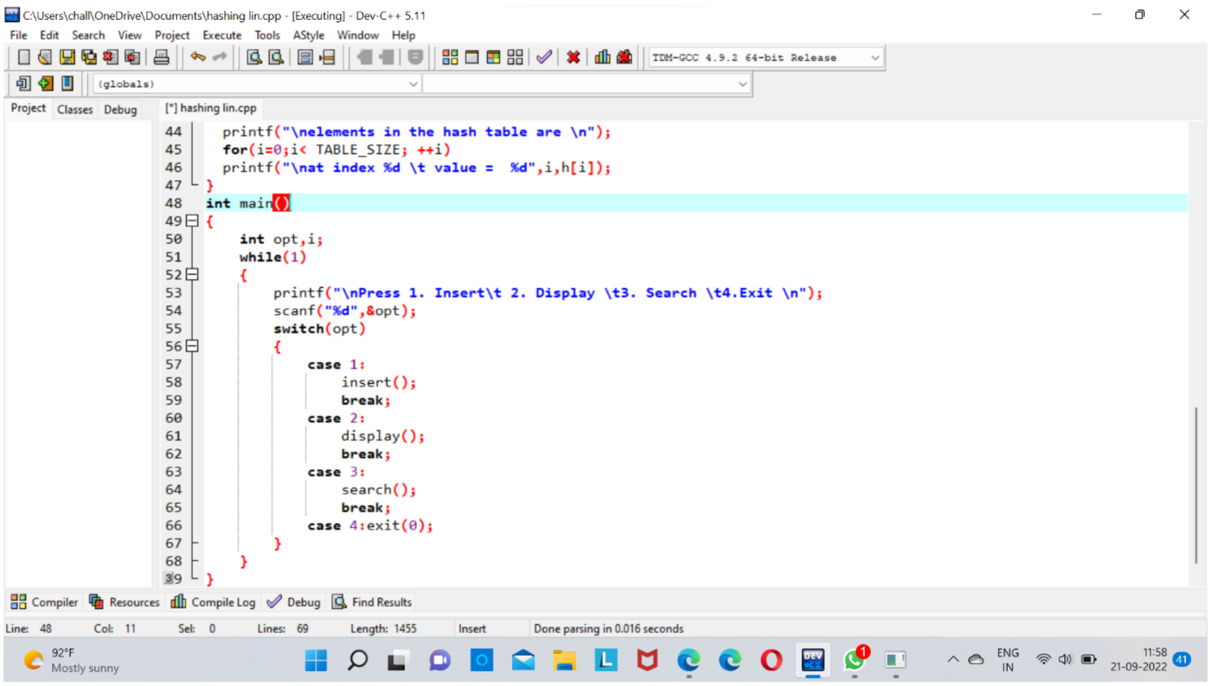

C:\Users\chall\OneDrive\Documents\hashing lin.cpp - [Executing] - Dev-C++ 5.11

```c
    scanf("%d",&key);
    hkey=key%TABLE_SIZE;
    for(i=0;i<TABLE_SIZE; i++)
    {
        index=(hkey+i)%TABLE_SIZE;
        if(h[index]==key)
        {
            printf("value is found at index %d",index);
            break;
        }
    }
    if(i == TABLE_SIZE)
        printf("\n value is not found\n");
}
void display()
{
    int i;
    printf("\nelements in the hash table are \n");
    for(i=0;i< TABLE_SIZE; ++i)
    printf("\nat index %d \t value =  %d",i,h[i]);
}
main()
{
    int opt,i;
    while(1)
    {
```

Select C:\Users\chall\OneDrive\Documents\hashing lin.exe

```
1

enter a value to insert into hash table
22

Press 1. Insert  2. Display    3. Search      4.Exit
2

elements in the hash table are

at index 0      value =  0
at index 1      value =  0
at index 2      value =  22
at index 3      value =  0
at index 4      value =  0
at index 5      value =  0
at index 6      value =  0
at index 7      value =  0
at index 8      value =  8
at index 9      value =  0
Press 1. Insert  2. Display    3. Search      4.Exit
3

enter search element
42

 value is not found

Press 1. Insert  2. Display    3. Search      4.Exit
```

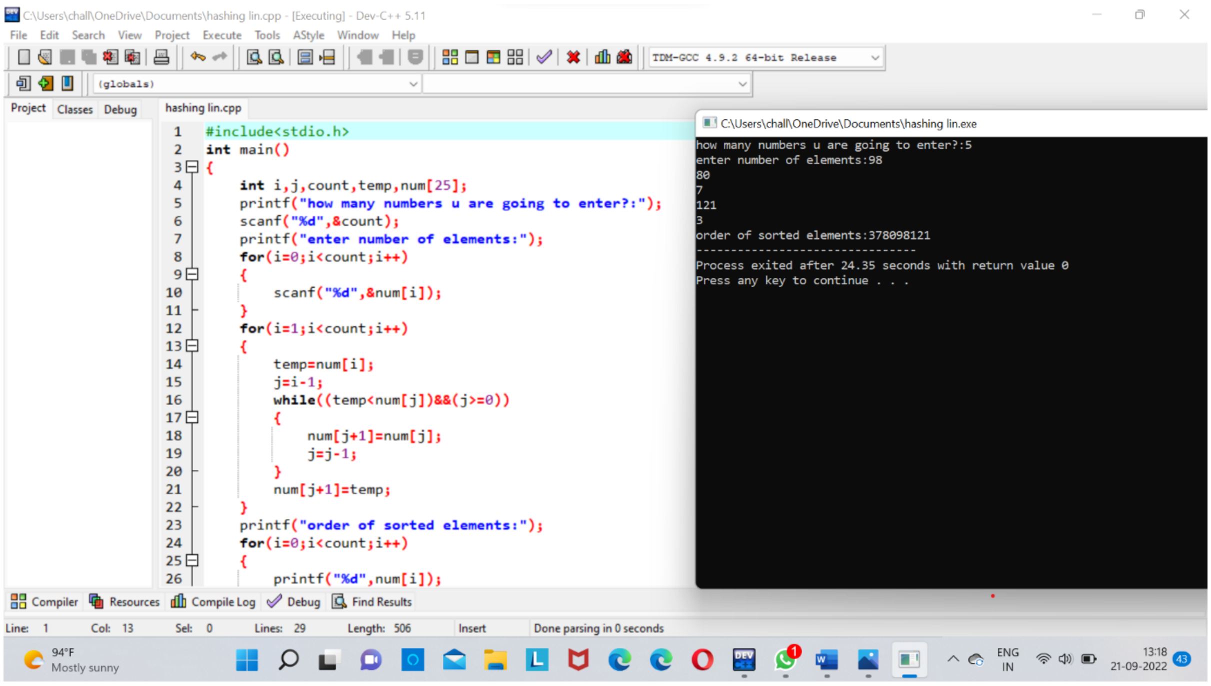
Line: 51 Col: 7 Sel: 0 Lines: 69 Length: 1451 Insert Done parsing in 0.016 seconds


C:\Users\chall\OneDrive\Documents\hashing lin.cpp - [Executing] - Dev-C++ 5.11

```c
    printf("\nelements in the hash table are \n");
    for(i=0;i< TABLE_SIZE; ++i)
    printf("\nat index %d \t value =  %d",i,h[i]);
}
int main()
{
    int opt,i;
    while(1)
    {
        printf("\nPress 1. Insert\t 2. Display \t3. Search \t4.Exit \n");
        scanf("%d",&opt);
        switch(opt)
        {
            case 1:
                insert();
                break;
            case 2:
                display();
                break;
            case 3:
                search();
                break;
            case 4:exit(0);
        }
    }
}
```

Line: 48 Col: 11 Sel: 0 Lines: 69 Length: 1455 Insert Done parsing in 0.016 seconds

EXPERIMENT:-14(INSERTION SORT)


C:\Users\chall\OneDrive\Documents\hashing lin.cpp - [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
hashing lin.cpp
C:\Users\chall\OneDrive\Documents\hashing lin.exe
Compiler Resources Compile Log Debug Find Results
Line: 1 Col: 13 Sel: 0 Lines: 29 Length: 506 Insert Done parsing in 0 seconds
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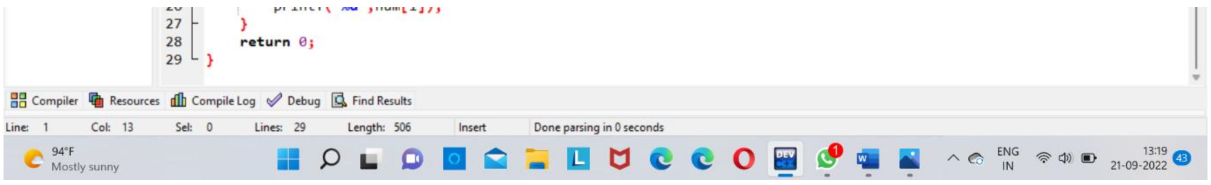
```c
#include<stdio.h>
int main()
{
    int i,j,count,temp,num[25];
    printf("how many numbers u are going to enter?:");
    scanf("%d",&count);
    printf("enter number of elements:");
    for(i=0;i<count;i++)
    {
        scanf("%d",&num[i]);
    }
    for(i=1;i<count;i++)
    {
        temp=num[i];
        j=i-1;
        while((temp<num[j])&&(j>=0))
        {
            num[j+1]=num[j];
            j=j-1;
        }
        num[j+1]=temp;
    }
    printf("order of sorted elements:");
    for(i=0;i<count;i++)
    {
        printf("%d",num[i]);
```

```
how many numbers u are going to enter?:5
enter number of elements:98
80
7
121
3
order of sorted elements:378098121
--------------------------------
Process exited after 24.35 seconds with return value 0
Press any key to continue . . .
```


Compiler Resources Compile Log Debug Find Results
Line: 1 Col: 13 Sel: 0 Lines: 29 Length: 506 Insert Done parsing in 0 seconds
94°F Mostly sunny
ENG IN 13:19 21-09-2022

```c
    }
    return 0;
}
```