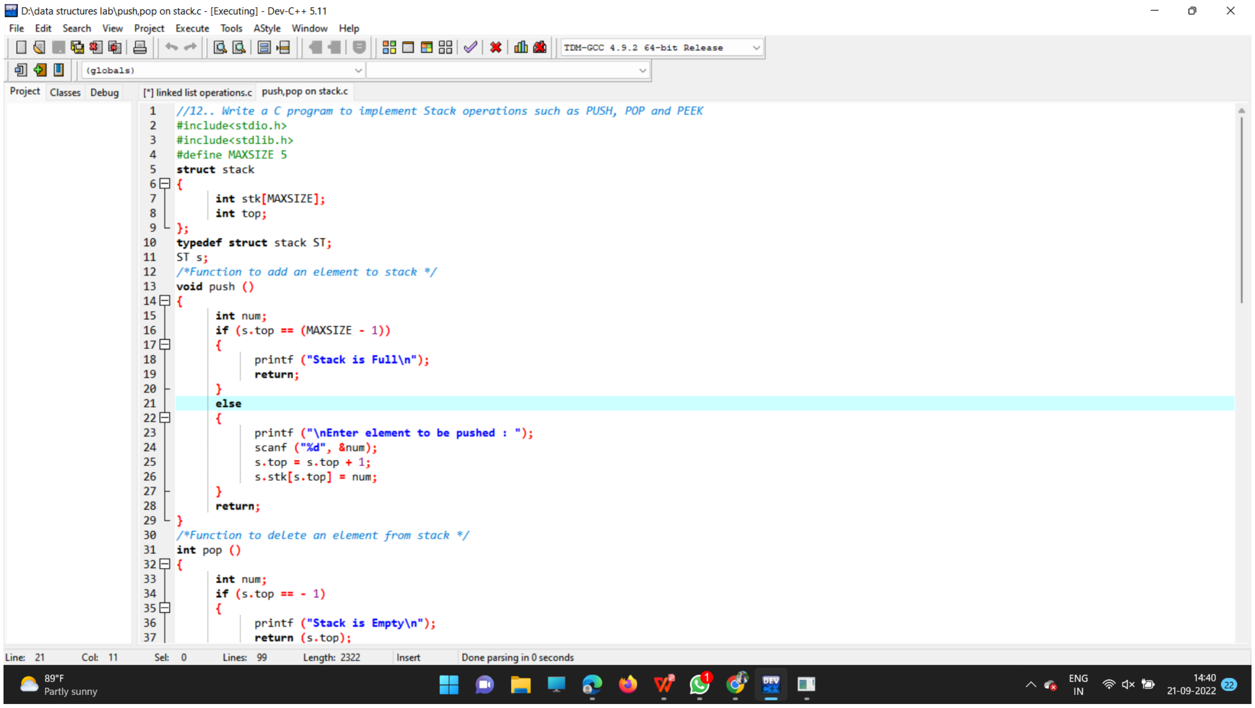
```
//11. Write a C program to implement Stack operations such as PUSH, POP and PEEK
#include<stdio.h>
#include<stdlib.h>
#define MAXSIZE 5
struct stack
{
    int stk[MAXSIZE];
    int top;
};
typedef struct stack ST;
ST s;
/*Function to add an element to stack */
void push ()
{
    int num;
    if (s.top == (MAXSIZE - 1))
    {
        printf ("Stack is Full\n");
        return;
    }
    else
    {
        printf ("\nEnter element to be pushed : ");
        scanf ("%d", &num);
        s.top = s.top + 1;
        s.stk[s.top] = num;
    }
    return;
}
/*Function to delete an element from stack */
int pop ()
{
    int num;
    if (s.top == - 1)
    {
        printf ("Stack is Empty\n");
        return (s.top);
    }
    else
    {
        num = s.stk[s.top];
        printf ("poped element is = %d\n", s.stk[s.top]);
        s.top = s.top - 1;
    }
    return(num);
}
/*Function to display the status of stack */
void display ()
{
    int i;
    if (s.top == -1)
    {
        printf ("Stack is empty\n");
        return;
    }
    else
    {
        printf ("\nStatus of elements in stack : \n");
        for (i = s.top; i >= 0; i--)
        {
            printf ("%d\n", s.stk[i]);
        }
    }
}
int main ()
{
    int ch;
    s.top = -1;

    printf ("\tSTACK OPERATIONS\n");
    printf("----------------------------\n");
    printf("      1. PUSH\n");
    printf("      2. POP\n");
    printf("      3. DISPLAY\n");
    printf("      4. EXIT\n");
    //printf("----------------------------\n");
    while(1)
    {
        printf("\nChoose operation : ");
        scanf("%d", &ch);
        switch (ch)
        {
            case 1:
                push();
            break;
            case 2:
                pop();
            break;
```

```
                case 3:
                    display();
                break;
                case 4:
                    exit(0);
                default:
                    printf("Invalid operation \n");
            }
        }
        return 0;
}
```



D:\data structures lab\push,pop on stack.c - [Executing] - Dev-C++ 5.11

TDM-GCC 4.9.2 64-bit Release

(globals)

```
//12.. Write a C program to implement Stack operations such as PUSH, POP and PEEK
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#include<stdlib.h>
#define MAXSIZE 5
struct stack
{
        int stk[MAXSIZE];
        int top;
};
typedef struct stack ST;
ST s;
/*Function to add an element to stack */
void push ()
{
        int num;
        if (s.top == (MAXSIZE - 1))
        {
                printf ("Stack is Full\n");
                return;
        }
        else
        {
                printf ("\nEnter element to be pushed : ");
                scanf ("%d", &num);
                s.top = s.top + 1;
                s.stk[s.top] = num;
        }
        return;
}
/*Function to delete an element from stack */
int pop ()
{
        int num;
        if (s.top == - 1)
        {
                printf ("Stack is Empty\n");
                return (s.top);
```

Line: 21 Col: 11 Sel: 0 Lines: 99 Length: 2322 Insert Done parsing in 0 seconds

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Partly sunny

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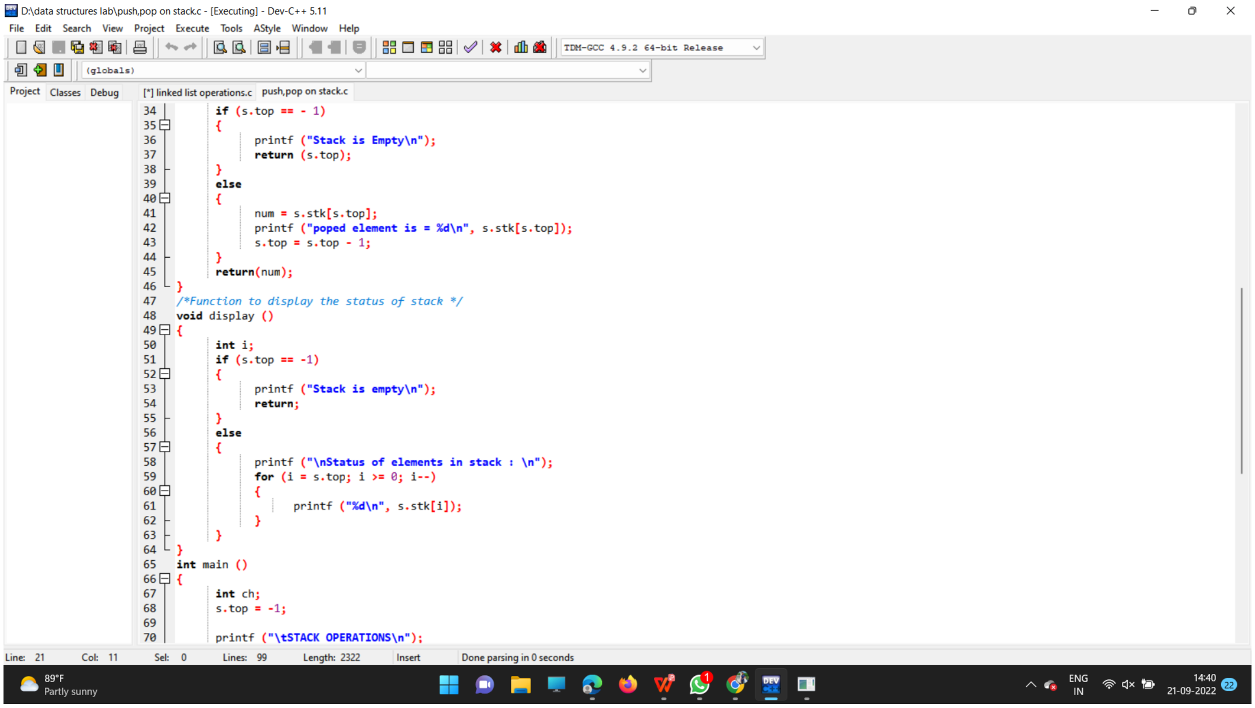
D:\data structures lab\push,pop on stack.c - [Executing] - Dev-C++ 5.11
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TDM-GCC 4.9.2 64-bit Release
(globals)
Project Classes Debug
[*] linked list operations.c
push,pop on stack.c
Line: 21 Col: 11 Sel: 0 Lines: 99 Length: 2322 Insert Done parsing in 0 seconds
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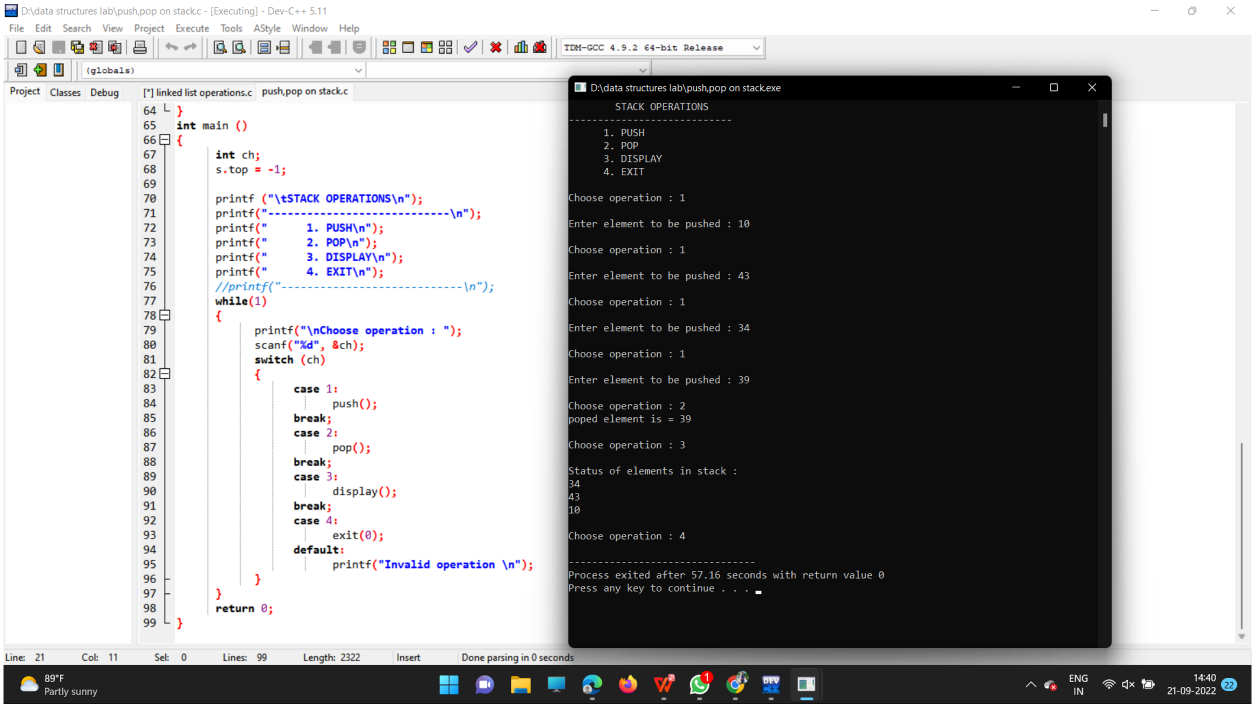
21-09-2022

```
    if (s.top == - 1)
    {
        printf ("Stack is Empty\n");
        return (s.top);
    }
    else
    {
        num = s.stk[s.top];
        printf ("poped element is = %d\n", s.stk[s.top]);
        s.top = s.top - 1;
    }
    return(num);
}
/*Function to display the status of stack */
void display ()
{
    int i;
    if (s.top == -1)
    {
        printf ("Stack is empty\n");
        return;
    }
    else
    {
        printf ("\nStatus of elements in stack : \n");
        for (i = s.top; i >= 0; i--)
        {
            printf ("%d\n", s.stk[i]);
        }
    }
}
int main ()
{
    int ch;
    s.top = -1;

    printf ("\tSTACK OPERATIONS\n");
```


D:\data structures lab\push,pop on stack.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
[*] linked list operations.c
push,pop on stack.c
D:\data structures lab\push,pop on stack.exe
Line: 21 Col: 11 Sel: 0 Lines: 99 Length: 2322 Insert Done parsing in 0 seconds
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14:40
21-09-2022

```
}
int main ()
{
    int ch;
    s.top = -1;

    printf ("\tSTACK OPERATIONS\n");
    printf("---------------------------\n");
    printf("      1. PUSH\n");
    printf("      2. POP\n");
    printf("      3. DISPLAY\n");
    printf("      4. EXIT\n");
    //printf("---------------------------\n");
    while(1)
    {
        printf("\nChoose operation : ");
        scanf("%d", &ch);
        switch (ch)
        {
            case 1:
                push();
            break;
            case 2:
                pop();
            break;
            case 3:
                display();
            break;
            case 4:
                exit(0);
            default:
                printf("Invalid operation \n");
        }
    }
    return 0;
}
```

```
        STACK OPERATIONS
---------------------------
      1. PUSH
      2. POP
      3. DISPLAY
      4. EXIT

Choose operation : 1

Enter element to be pushed : 10

Choose operation : 1

Enter element to be pushed : 43

Choose operation : 1

Enter element to be pushed : 34

Choose operation : 1

Enter element to be pushed : 39

Choose operation : 2
poped element is = 39

Choose operation : 3

Status of elements in stack :
34
43
10

Choose operation : 4

--------------------------------
Process exited after 57.16 seconds with return value 0
Press any key to continue . . .
```