

The screenshot shows a code editor window with the following details:

- Title Bar:** Welcome C stackoperations.c
- Status Bar:** C/C++: gcc.exe build and run

The code itself is a C program for stack operations. It includes definitions for stack size (N=5), stack array, top pointer, and integer i. It contains three functions: push(), pop(), and peek(). The push() function prompts for input, checks for overflow (top==N-1), and prints the current stack state if successful. The pop() function checks for underflow (top==-1) and prints the popped value along with the remaining stack elements. The peek() function checks for underflow (top==-1) and prints a message.

```
#include <stdio.h>
#define N 5
int stack[N];
int top=-1;
int i;

void push(){
    int x;
    printf("Enter data:");
    scanf("%d",&x);
    if (top==N-1){
        printf("Overflow");
    }
    else{
        top++;
        stack[top]=x;
        printf("Now the top is:%d \n",top);
        printf("The elements Stack are:");
        for(i=top;i>=0&&i<N;i--){
            printf("%d, ",stack[i]);
        }
    }
}
void pop(){
    int item;
    if(top==-1){
        printf("Underflow");
    }
    else{
        item=stack[top];
        top--;
        printf("%d is popped",item);
        printf("\nThe elements Stack are:");
        for(i=top;i>=0&&i<N;i--){
            printf("%d",stack[i]);
        }
    }
}
void peek(){
    if (top==-1){
        printf("Underflow");
    }
}
```

```
 Welcome   C stackoperations.c ●
C stackoperations.c > ⚡ push()
24     void pop(){
39         void peek(){
40             if (top== -1){
41                 printf("Underflow");
42             }
43             else{
44                 printf("%d", stack[top]);
45             }
46         }
47     }
48     void main(){
49         int stack[5];
50         int top=-1;
51         int a;
52         do{
53             printf("\nEnter 1,2,3 to choose push,pop,peek operations respectively");
54             scanf("%d",&a);
55             switch(a){
56                 case 1:
57                     push();
58                     break;
59                 case 2:
60                     pop();
61                     break;
62                 case 3:
63                     peek();
64                     break;
65                 default:
66                     printf("Invalid input!!!");
67                     break;
68             }
69         }while(a!= -1);
70     }
71 }
72 }
```

PROBLEMS OUTPUT DEBUG CONSOLE TERMINAL PORTS

```
PS C:\Users\student\Desktop\1BF24CS250> & 'c:\Users\student\.vscode\extensions\ms-vscode.cpptools-pyw.mik' '--stdout=Microsoft-MIEngine-Out-vqyc4sk1.ub5' '--stderr=Microsoft-MIEngine-Error-zy14uprf\gdb.exe' '--interpreter=mi'

Enter 1,2,3 to choose push,pop,peek operations respectively2
Underflow
Enter 1,2,3 to choose push,pop,peek operations respectively3
Underflow
Enter 1,2,3 to choose push,pop,peek operations respectively1
Enter data:11
Now the top is:0
The elements Stack are:11,
Enter 1,2,3 to choose push,pop,peek operations respectively1
Enter data:12
Now the top is:1
The elements Stack are:12, 11,
Enter 1,2,3 to choose push,pop,peek operations respectively1
Enter data:13
Now the top is:2
The elements Stack are:13, 12, 11,
Enter 1,2,3 to choose push,pop,peek operations respectively1
Enter data:14
Now the top is:3
The elements Stack are:14, 13, 12, 11,
Enter 1,2,3 to choose push,pop,peek operations respectively2
14 is popped
The elements Stack are:131313
Enter 1,2,3 to choose push,pop,peek operations respectively1
Enter data:14
Now the top is:3
The elements Stack are:14, 13, 12, 11,
Enter 1,2,3 to choose push,pop,peek operations respectively3
14
Enter 1,2,3 to choose push,pop,peek operations respectively1
Enter data:15
Now the top is:4
The elements Stack are:15, 14, 13, 12, 11,
Enter 1,2,3 to choose push,pop,peek operations respectively1
Enter data:16
Overflow
Enter 1,2,3 to choose push,pop,peek operations respectively█
```