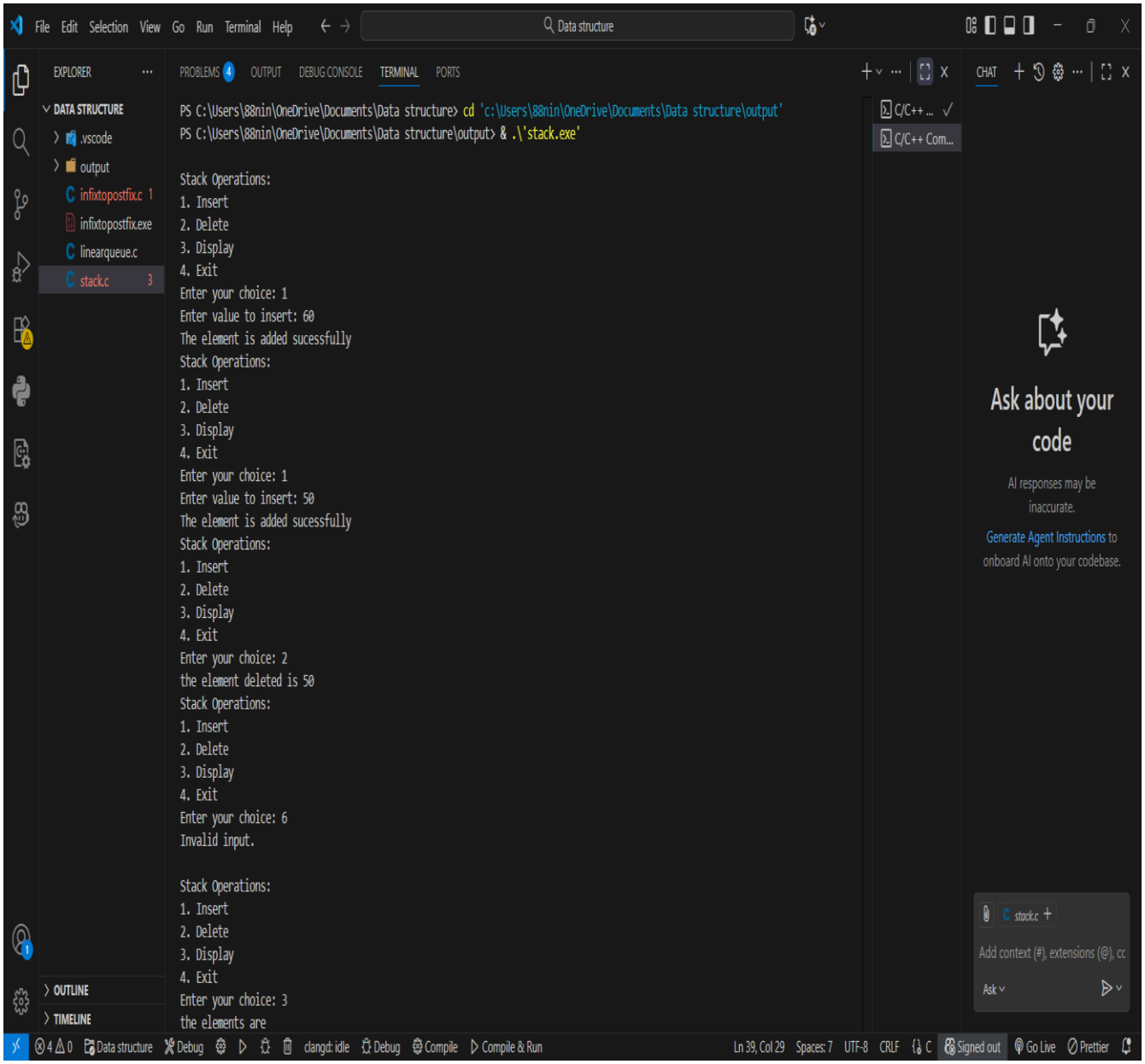
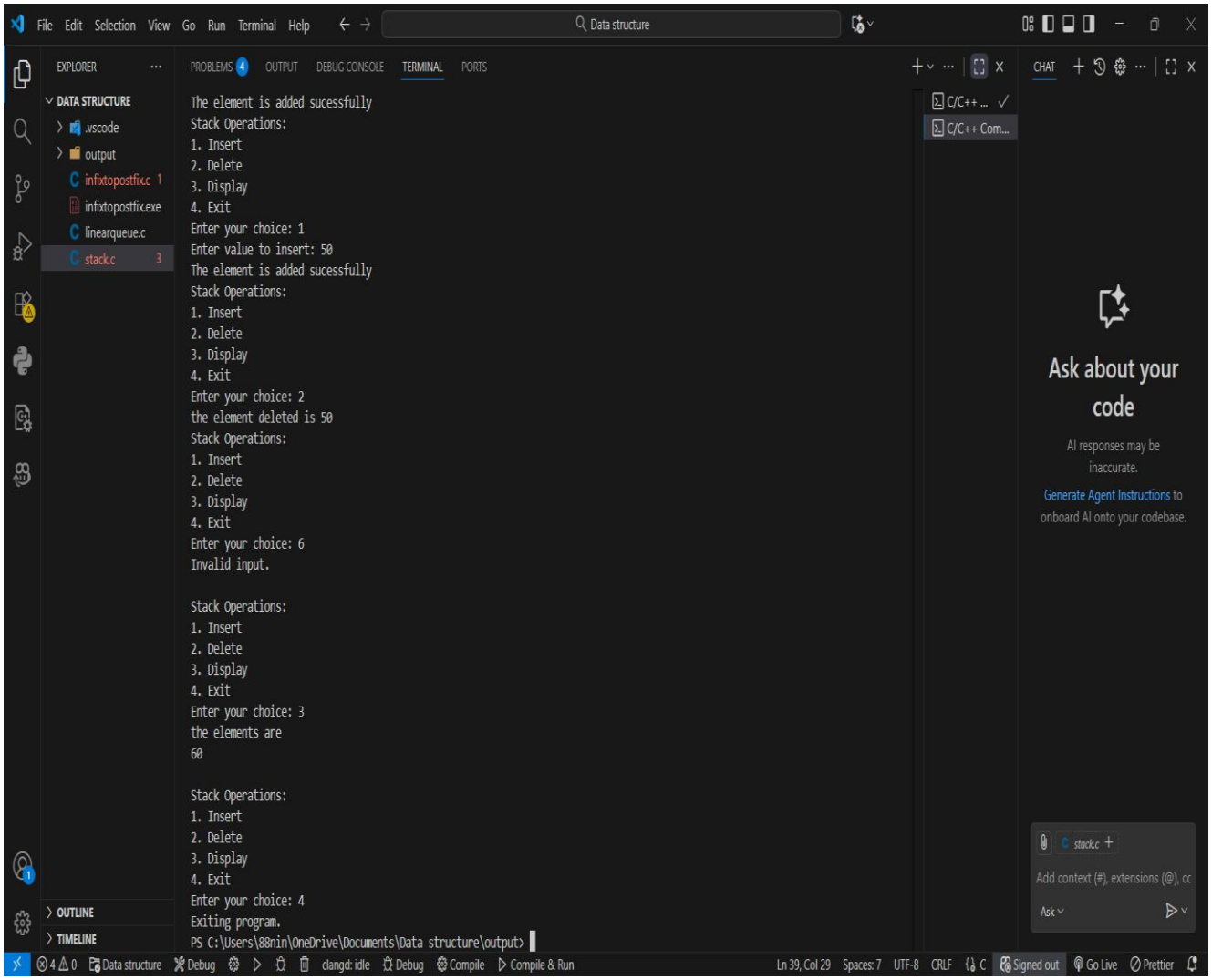
```
/*Write a program to stimulate a working of stack using an array using following
a.push()
b.pop()
c.display()
the program should print appropriate message for stack overflow and stack underfow*/
#include <stdio.h>
#define MAX 100
char stack[MAX];
int top = -1;

void push(int target)
{
if (top == MAX - 1)
printf("Stack Overflow\n");
else
 {
top = top + 1;
stack[top] = target;
printf("The element is added sucessfully");
}
}

int pop()
{
int val;
if (top == -1) {
printf("Stack Underflow\n");
return -1;
```

```
} else {
val = stack[top];
top = top - 1;
printf("the element deleted is %d ",val);
return val;
}
}
void display()
{
if(top==-1)
printf("Stack Underflow \n");
else
{
printf("the elements are \n");
for(int i=top;i>=0;i--)
{
printf("%d \n",stack[i]);
 } }
}

int main()
{
 int n, value;
while (1)  {
printf("\nStack Operations:\n");
printf("1. Insert\n");
printf("2. Delete\n");
printf("3. Display\n");
```

```
printf("4. Exit\n");
printf("Enter your choice: ");
scanf("%d", &n);

switch (n)
{
case 1:
    printf("Enter value to insert: ");
    scanf("%d", &value);
    push(value);
    break;
case 2:
    pop();
    break;
case 3:
    display();
    break;
case 4:
    printf("Exiting program.\n");
    return 0;
default:
   printf("Invalid input.\n");
}
}
return 0;
}
```

Output:-


File Edit Selection View Go Run Terminal Help
Data structure
EXPLORER
DATA STRUCTURE
.vscode
output
infixtopostfix.c 1
infixtopostfix.exe
linearqueue.c
stack.c 3
PROBLEMS 4
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
CHAT
C/C++ ...
C/C++ Com...
PS C:\Users\88nin\OneDrive\Documents\Data structure> cd 'c:\Users\88nin\OneDrive\Documents\Data structure\output'
PS C:\Users\88nin\OneDrive\Documents\Data structure\output> & .\'stack.exe'
Stack Operations:
1. Insert
2. Delete
3. Display
4. Exit
Enter your choice: 1
Enter value to insert: 60
The element is added sucessfully
Stack Operations:
1. Insert
2. Delete
3. Display
4. Exit
Enter your choice: 1
Enter value to insert: 50
The element is added sucessfully
Stack Operations:
1. Insert
2. Delete
3. Display
4. Exit
Enter your choice: 2
the element deleted is 50
Stack Operations:
1. Insert
2. Delete
3. Display
4. Exit
Enter your choice: 6
Invalid input.
Stack Operations:
1. Insert
2. Delete
3. Display
4. Exit
Enter your choice: 3
the elements are
Ask about your code
AI responses may be inaccurate.
Generate Agent Instructions to onboard AI onto your codebase.
stack.c
Add context (#), extensions (@), cc
Ask
OUTLINE
TIMELINE
Data structure
Debug
clangd: idle
Compile
Compile & Run
Ln 39, Col 29
Spaces: 7
UTF-8
CRLF
C
Signed out
Go Live
Prettier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TIMELINE
PROBLEMS 4
OUTPUT
DEBUG CONSOLE
TERMINAL
PORTS
The element is added sucessfully
Stack Operations:
1. Insert
2. Delete
3. Display
4. Exit
Enter your choice: 1
Enter value to insert: 50
The element is added sucessfully
Stack Operations:
1. Insert
2. Delete
3. Display
4. Exit
Enter your choice: 2
the element deleted is 50
Stack Operations:
1. Insert
2. Delete
3. Display
4. Exit
Enter your choice: 6
Invalid input.
Stack Operations:
1. Insert
2. Delete
3. Display
4. Exit
Enter your choice: 3
the elements are
60
Stack Operations:
1. Insert
2. Delete
3. Display
4. Exit
Enter your choice: 4
Exiting program.
PS C:\Users\88nin\OneDrive\Documents\Data structure\output>
C/C++ ...
C/C++ Com...
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