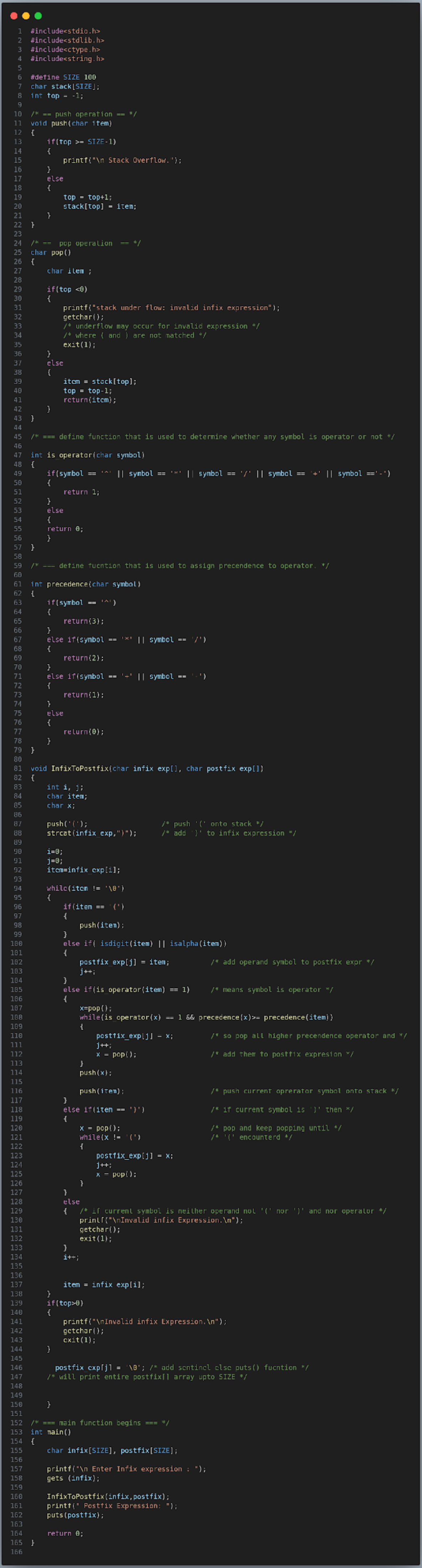
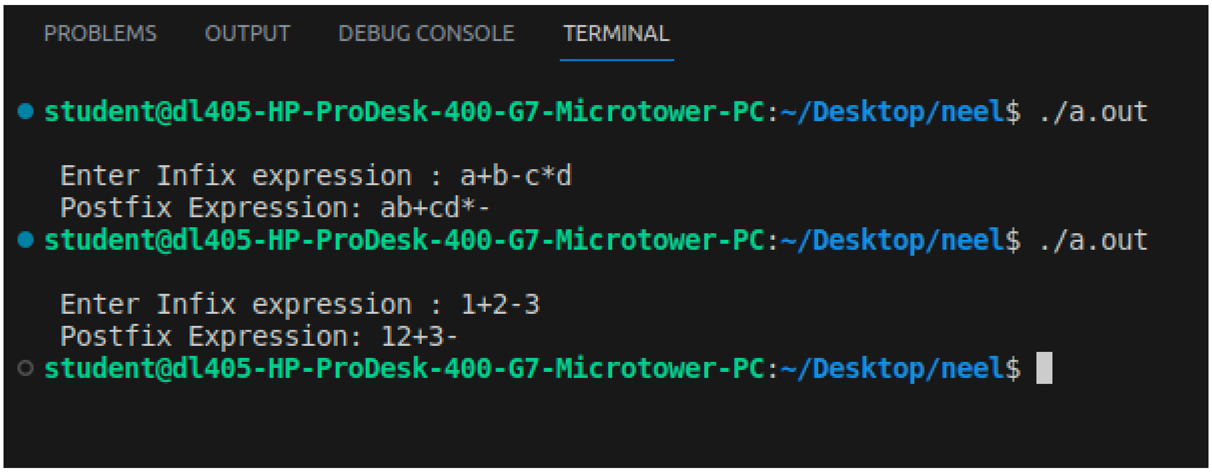


```c
#include<stdio.h>
#include<stdlib.h>
#include<ctype.h>
#include<string.h>

#define SIZE 100
char stack[SIZE];
int top = -1;

/* == push operation == */
void push(char item)
{
    if(top >= SIZE-1)
    {
        printf("\n Stack Overflow.");
    }
    else
    {
        top = top+1;
        stack[top] = item;
    }
}

/* ==  pop operation  == */
char pop()
{
    char item ;

    if(top <0)
    {
        printf("stack under flow: invalid infix expression");
        getchar();
        /* underflow may occur for invalid expression */
        /* where ( and ) are not matched */
        exit(1);
    }
    else
    {
        item = stack[top];
        top = top-1;
        return(item);
    }
}

/* === define function that is used to determine whether any symbol is operator or not */

int is_operator(char symbol)
{
    if(symbol == '^' || symbol == '*' || symbol == '/' || symbol == '+' || symbol =='-')
    {
        return 1;
    }
    else
    {
    return 0;
    }
}

/* === define fucntion that is used to assign precendence to operator. */

int precedence(char symbol)
{
    if(symbol == '^')
    {
        return(3);
    }
    else if(symbol == '*' || symbol == '/')
    {
        return(2);
    }
    else if(symbol == '+' || symbol == '-')
    {
        return(1);
    }
    else
    {
        return(0);
    }
}

void InfixToPostfix(char infix_exp[], char postfix_exp[])
{
    int i, j;
    char item;
    char x;

    push('(');                      /* push '(' onto stack */
    strcat(infix_exp,")");          /* add ')' to infix expression */

    i=0;
    j=0;
    item=infix_exp[i];

    while(item != '\0')
    {
        if(item == '(')
        {
            push(item);
        }
        else if( isdigit(item) || isalpha(item))
        {
            postfix_exp[j] = item;             /* add operand symbol to postfix expr */
            j++;
        }
        else if(is_operator(item) == 1)        /* means symbol is operator */
        {
            x=pop();
            while(is_operator(x) == 1 && precedence(x)>= precedence(item))
            {
                postfix_exp[j] = x;            /* so pop all higher precendence operator and */
                j++;
                x = pop();                     /* add them to postfix expresion */
            }
            push(x);

            push(item);                        /* push current oprerator symbol onto stack */
        }
        else if(item == ')')                   /* if current symbol is ')' then */
        {
            x = pop();                         /* pop and keep popping until */
            while(x != '(')                    /* '(' encounterd */
            {
                postfix_exp[j] = x;
                j++;
                x = pop();
            }
        }
        else
        {   /* if current symbol is neither operand not '(' nor ')' and nor operator */
            printf("\nInvalid infix Expression.\n");
            getchar();
            exit(1);
        }
        i++;


        item = infix_exp[i];
    }
    if(top>0)
    {
        printf("\nInvalid infix Expression.\n");
        getchar();
        exit(1);
    }

      postfix_exp[j] = '\0'; /* add sentinel else puts() fucntion */
    /* will print entire postfix[] array upto SIZE */


    }

/* === main function begins === */
int main()
{
    char infix[SIZE], postfix[SIZE];

    printf("\n Enter Infix expression : ");
    gets (infix);

    InfixToPostfix(infix,postfix);
    printf(" Postfix Expression: ");
    puts(postfix);

    return 0;
}
```



```
● student@dl405-HP-ProDesk-400-G7-Microtower-PC:~/Desktop/neel$ ./a.out

  Enter Infix expression : a+b-c*d
  Postfix Expression: ab+cd*-
● student@dl405-HP-ProDesk-400-G7-Microtower-PC:~/Desktop/neel$ ./a.out

  Enter Infix expression : 1+2-3
  Postfix Expression: 12+3-
○ student@dl405-HP-ProDesk-400-G7-Microtower-PC:~/Desktop/neel$
```