

**11-10-2025**

**2) WAP to convert a given valid parenthesized infix arithmetic expression to postfix expression. The expression consists of single character operands and the binary operators + (plus), - (minus), \* (multiply) and / (divide)**

```
#include <stdio.h>

#include <ctype.h>

#define MAX 100

char stack[MAX];

int top = -1;

/* Function to push into stack */
void push(char ch) {
    stack[++top] = ch;
}

/* Function to pop from stack */
char pop() {
    return stack[top--];
}

/* Function to check operator precedence */
int precedence(char ch) {
    if (ch == '+' || ch == '-')
        return 1;
    if (ch == '*' || ch == '/')
        return 2;
    return 0;
}

int main() {
    char infix[MAX], postfix[MAX];
    int i = 0, j = 0;
    char ch;
    printf("Enter infix expression: ");
    scanf("%s", infix);
```

```

while (infix[i] != '\0') {
    ch = infix[i];
    /* If operand, add to postfix */
    if (isalnum(ch)) {
        postfix[j++] = ch;
    }
    /* If '(', push to stack */
    else if (ch == '(') {
        push(ch);
    }
    /* If ')', pop until '(' */
    else if (ch == ')') {
        while (stack[top] != '(')
            postfix[j++] = pop();
        pop(); // remove '('
    }
    /* If operator */
    else {
        while (top != -1 && precedence(stack[top]) >= precedence(ch))
            postfix[j++] = pop();
        push(ch);
    }
    i++;
}

/* Pop remaining operators */
while (top != -1) {
    postfix[j++] = pop();
}

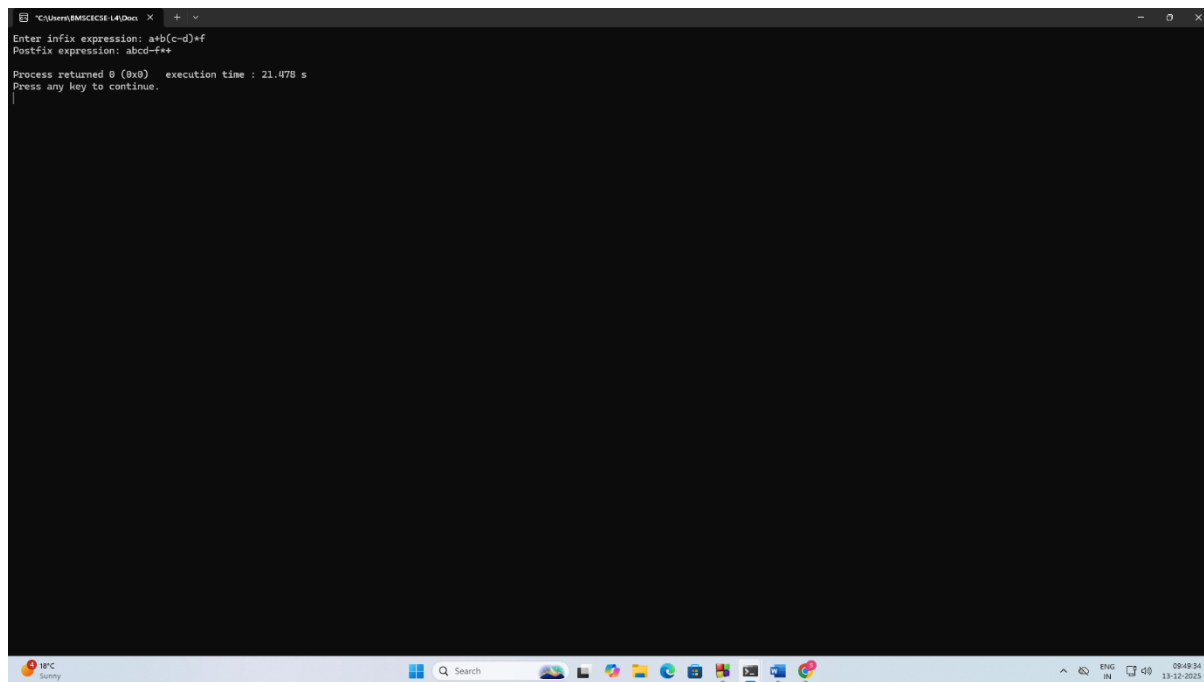
postfix[j] = '\0';

printf("Postfix expression: %s\n", postfix);

return 0;
}

```

```
C:\Users\BMSCECE16\OneDrive - ...>
Enter infix expression: a+b(c-d)+f
Postfix expression: abcd-f++
Process returned 0 (0x0)   execution time : 21.478 s
Press any key to continue.
```

The image shows a Windows 10 desktop environment. A black command prompt window is open, displaying the results of a program execution. The text in the window shows an infix expression 'a+b(c-d)+f' being converted to a postfix expression 'abcd-f++'. It also reports that the process returned 0 (0x0) and took 21.478 seconds to execute. The Windows taskbar is visible at the bottom, showing the Start button, a search bar, and several application icons. The system tray on the right indicates the date and time as 09:19:34 on 11-12-2025.