

## Prefix to Postfix in C++

```
#include <iostream>
#include <stack>
#include <string>
using namespace std;

// Function to convert a prefix expression to a postfix expression.
string preToPost(string exp) {
    stack<string> op;
    int n = exp.length();
    for (int i = n - 1; i >= 0; i--) {
        char ch = exp[i];
        if (ch == '+' || ch == '-' || ch == '*' || ch == '/') {
            string val1 = op.top();
            op.pop();
            string val2 = op.top();
            op.pop();
            string cal = val1 + val2 + ch;
            op.push(cal);
        } else {
            op.push(string(1, ch));
        }
    }
    return op.top();
}

int main() {
    string prefix1 = "+AB-CDE";
    cout << "Prefix: " << prefix1 << " -> Postfix: " <<
    preToPost(prefix1) << endl; // Expected: "ABC+DE-*"

    string prefix2 = "-A/BC-/DEFG";
    cout << "Prefix: " << prefix2 << " -> Postfix: " <<
    preToPost(prefix2) << endl; // Expected:
    "ABC/-DE/FG-*"

    // Add more test cases as needed

    return 0;
}
```

### 📌 Dry Run Table:

i (index)	ch	Stack Before	Action	Stack After
7	'E'	[]	Operand → push "E"	["E"]
6	'D'	["E"]	Operand → push "D"	["E", "D"]
5	'C'	["E", "D"]	Operand → push "C"	["E", "D", "C"]
4	'.'	["E", "D", "C"]	Operator → pop "C" & "D" → "CD-"	["E", "CD-"]
3	'B'	["E", "CD-"]	Operand → push "B"	["E", "CD-", "B"]
2	'A'	["E", "CD-", "B"]	Operand → push "A"	["E", "CD-", "B", "A"]
1	'+'	["E", "CD-", "B", "A"]	Operator → pop "A" & "B" → "AB+"	["E", "CD-", "AB+"]
0	'*'	["E", "CD-", "AB+"]	Operator → pop "AB+" & "CD-" → "AB+CD-*"	["AB+CD- *"]

### Final Result:

Top of the stack: **"AB+CD-\*"**

Prefix: +AB-CDE -> Postfix: AB+CD-\*  
 Prefix: \*-A/BC-/DEFG -> Postfix: ABC/-DE/F.\*