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/*
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Date: 31-07-2025
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#include<stdio.h>
#include<ctype.h>
#define SIZE 100

char stack[SIZE];
int TOP = -1;

void push(char c){
    if (TOP ==SIZE-1)
        return;
    else {
        TOP++;
        stack[TOP] = c;
    }
}

char pop(){
    if (TOP ==-1)
        return;

    else{
        char c = stack[TOP];
        TOP--;
        return c;
    }
}

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

void infixToPostfix(char infix[], char postfix[]){

    char ch ;
    int i = 0, j=0;

    for(i=0; infix[i] !='\0'; i++){

        ch = infix[i];

        if(isdigit(ch))
            postfix[j++] = ch;
        else if (ch=='('){
            push(ch);
        }
        else if (ch ==')'){

            char poppedChar = pop();
            while(poppedChar !='('){
                postfix[j++] =poppedChar;
                poppedChar = pop();
            }
        }
        else {

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            while( TOP!=-1      &&  precedence(stack[TOP])
==precedence(ch)){
                postfix[j++] = pop();

            }
            push(ch);
        }
    }

    while(TOP !=-1){
        postfix[j++] =pop();
    }

    postfix[j] = '\0';
}

int evalPostfix(char postfix[]){

    int S2[32];
    int top =-1;
    int i =0;
    int a,b;
    while((ch=postfix[i++]) != '\0'){

        if (isdigit(ch)){
            S2[++top] = ch - '0';
        }
        else{
            a = S2[top--];
            b = S2[top--];

            switch(ch){
                case '+': S2[++top] = b+a; break;
                case '-': S2[++top] = b-a; break;
                case '*': S2[++top] = b*a; break;
                case '/': S2[++top] = b/a; break;
            }
        }
    }

    int result = S2[top];
    return result;
}

void main(){

    char postfix[SIZE] ,infix[SIZE];

    printf("Enter the infix value (don't enter white
space) : ");
    scanf("%s", infix);

    infixToPostfix(infix, postfix);

    printf("\nPostfix exp : %s\n", postfix);

    int result = evalPostfix(postfix);
    printf("result = %d\n", result);
}

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/*
Output:
Compilation Error:
uploads\infix_to_postfix.c: In function 'pop':
uploads\infix_to_postfix.c:24:3:  warning:  'return'
with no value, in function returning non-void
    return;
    ^~~~~~

uploads\infix_to_postfix.c:21:6: note: declared here
char pop(){
    ^~~

uploads\infix_to_postfix.c:          In          function
'evalPostfix':
uploads\infix_to_postfix.c:89:9:      error:      'ch'
undeclared (first use in this function)
    while((ch=postfix[i++]) != '\0'){
        ^~

uploads\infix_to_postfix.c:89:9:      note:      each
undeclared identifier is reported only once for each
function it appears in

*/

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