

Program Prefix evaluation

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

double evaluatePrefix(string prefixExp)
{
    stack<double> operendStack;
    int size = prefixExp.size() - 1;
    for (int i = size; i >= 0; i--)
    {
        if (isdigit(prefixExp[i]))
            operendStack.push(prefixExp[i] - '0');
        else
        {
            double o1 = operendStack.top();
            operendStack.pop();
            double o2 = operendStack.top();
            operendStack.pop();
            if( prefixExp[i] == '+')
                operendStack.push(o1 + o2);
            else if( prefixExp[i] == '-')
                operendStack.push(o1 - o2);
            else if( prefixExp[i] == '*')
                operendStack.push(o1 * o2);
            else if( prefixExp[i] == '/')
                operendStack.push(o1 / o2);
            else
            {
                cout<<"Invalid Expression";
                return -1;
            }
        }
    }
    return operendStack.top();
}

int main()
{
    char prefixExp[10];
    cout<<"Enter the expression:";
    cin>>prefixExp;
    cout<<"\n The result of evaluation of expression "<<prefixExp<<" is \n
"<<evaluatePrefix(prefixExp);
    return 0;
}
```

Output:

Enter the expression:

+*345

The result of evaluation of expression +*345 is
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