#pragma once

#include<iostream>

#include<string>

#include<stack>

using namespace std;

class Poliz

{

private:

 string \_str;

 const int GetPrior(char a)

 {

 switch(a)

 {

 case '\*':

 case '/':

 return 3;

 case '-':

 case '+':

 return 2;

 case '(':

 return 1;

 case '=':

 return 0;

 }

 }

public:

 Poliz(string str)

 {

 \_str = str;

 }

 const string GetResult()

 {

 stack<char> operation;

 string output;

 for(int i = 0; i < \_str.length(); i++)

 {

 if(\_str[i] == ')')

 {

 while(operation.top() != '(')

 {

 output.push\_back(operation.top());

 operation.pop();

 }

 operation.pop();

 }

 if((\_str[i] >='a'&& \_str[i]<='z') || (\_str[i] >='A'&& \_str[i]<='Z'))

 output.push\_back(\_str[i]);

 if(\_str[i] == '=')

 {

 while(!operation.empty())

 {

 output.push\_back(operation.top());

 operation.pop();

 }

 operation.push(\_str[i]);

 }

 if(\_str[i] == '(')

 operation.push(\_str[i]);

 if(\_str[i]=='+'|| \_str[i]=='-'|| \_str[i]=='/' || \_str[i]=='\*')

 {

 if(operation.empty())

 operation.push(\_str[i]);

 else

 {

 if(GetPrior(operation.top()) < GetPrior(\_str[i]))

 operation.push(\_str[i]);

 else

 {

 while(!operation.empty() && (GetPrior(operation.top()) >= GetPrior(\_str[i])))

 {

 output.push\_back(operation.top());

 operation.pop();

 }

 operation.push(\_str[i]);

 }

 }

 }

 }

 while(!operation.empty())

 {

 output.push\_back(operation.top());

 operation.pop();

 }

 return output;

 }

};

// PolizProject.cpp : Defines the entry point for the application.

//

#include "stdafx.h"

#include "PolizProject.h"

#include "Poliz.h"

INT\_PTR CALLBACK MainWindow(HWND, UINT, WPARAM, LPARAM);

int APIENTRY \_tWinMain(\_In\_ HINSTANCE hInstance,

 \_In\_opt\_ HINSTANCE hPrevInstance,

 \_In\_ LPTSTR lpCmdLine,

 \_In\_ int nCmdShow)

{

 return DialogBox(hInstance, MAKEINTRESOURCE(IDD\_MainForm), NULL, MainWindow);

}

INT\_PTR CALLBACK MainWindow(HWND hDlg, UINT message, WPARAM wParam, LPARAM lParam)

{

 UNREFERENCED\_PARAMETER(lParam);

 switch (message)

 {

 case WM\_INITDIALOG:

 return (INT\_PTR)TRUE;

 case WM\_COMMAND:

 if (LOWORD(wParam) == IDConvert)

 {

 char text[1024];

 GetDlgItemTextA(hDlg, IDC\_EDIT, text, 1024);

 Poliz poliz(text);

 SetDlgItemTextA(hDlg, IDC\_Result, poliz.GetResult().c\_str());

 }

 if( LOWORD(wParam) == IDCANCEL)

 {

 EndDialog(hDlg, LOWORD(wParam));

 return (INT\_PTR)TRUE;

 }

 break;

 }

 return (INT\_PTR)FALSE;

}