#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;

}