// Gabrielle Tordillos & Yousef Zoumot

// main.cpp

// Coen70Lab3

// Paul Thurston

// Created by Yousef Zoumot on 1/19/16.

// Copyright (c) 2016 Yousef Zoumot. All rights reserved.

//

#include <iostream>

#include <sstream>

#include <cassert>

#include <stdlib.h>//

using namespace std;

class Stack{

public:

double express[100];

void push(double x);

double pop();

double top();

bool empty();

void printValues();

private:

int used;

int last;

};

void Stack:: push(double x){

assert(last!=used-1);

express[last++]=x;

used++;

return;

}

bool Stack:: empty(){

if(used==0)

return true;

else{

return false;

}

}

double Stack:: pop(){

assert(!empty());

double temp= express[--used];

last--;

return temp;

}

double Stack:: top(){

return express[last];

}

void Stack:: printValues(){

cout<<"The values in the stack are: ";

for(int i=0; i<used; i++){

cout<<express[i]<<"\n";

}

}

int main(int argc, const char \* argv[]) {

string expr, token;

Stack s1;

double temp1, temp2;

getline(cin, expr);

istringstream stream(expr);

while(stream >> token){

if(token=="+"){

temp1=s1.pop();

temp2=s1.pop();

s1.push(temp1+temp2);

}

if(token=="-"){

temp1=s1.pop();

temp2=s1.pop();

s1.push(temp2-temp1);

}

if(token=="/"){

temp1=s1.pop();

temp2=s1.pop();

s1.push(temp2/temp1);

}

if(token=="\*"){

temp1=s1.pop();

temp2=s1.pop();

s1.push(temp1\*temp2);

}

if(token!="+" && token!="-" && token!="/" && token!="\*"){

double temp=atof(token.c\_str());

s1.push(temp);

}

}

s1.printValues();

}