224. Basic Calculator

题目描述： **https://leetcode.com/problems/basic-calculator/**

> 给定一个计算式，这个式子中只包括+,-,(,),和非负整数。求这个计算式的值

解题思路：

用栈结构将括号去掉。然后计算无括号算式的值。
注意一定要考虑好整数不一定是一位的。

代码：

```cpp
class Solution {
public:
    string BasicCaculator(string s) {
        s = "+" + s;
        // cout << "s:"<< s << endl;
        stringstream ss(s);
        int r = 0;
        int flag = true;
        int a;
        char c;
        while(ss >> c >> a) {
            // cout << "c:" << c << "a:" << a << endl;
            if(c == '+')
                r = r + a;
            else if(c == '-')
                r = r - a;
            // else
                // cout << "error" <<endl;
        }
        // cout << "result = " << r << endl;
        return to_string(r);
    }
    int calculate(string str) {
        stack<char> s;
        string resf;
        for(auto item:str) {
            if(item == ' ') {
                continue;
            }
            else if(item == ')') {
                string f;
                while(s.top() != '(') {
                    f = s.top() + f;
                    s.pop();
                }
                s.pop();
                string nowResult = BasicCaculator(f);
                for(auto item:nowResult) {
                    s.push(item);
                }
            }
            else {
                s.push(item);
            }
        }
        while(!s.empty()) {
            resf = s.top() + resf;
            s.pop();
        }
        string res = BasicCaculator(resf);
```

```cpp
        stringstream ss(res);
        int resInt;
        ss >> resInt;
        return resInt;
    }
};
```