#### 问答题

1. 迭代器的种类有哪些？他们各自的功能是什么？为什么要定义这么多种类？

2. 通过阅读迭代器源码的方式来理解迭代器，如：

> ostream\_iterator

> istream\_iterator

> back\_insert\_iterator

3. 什么是适配器模式？STL中有哪些适配器？

#### 代码题:

#### 1. Leetcode 20 Valid Parentheses -->stack

Given a string containing just the characters '(', ')', '{', '}', '[' and ']', determine if the input string is valid.

An input string is valid if:

1. Open brackets must be closed by the same type of brackets.
2. Open brackets must be closed in the correct order.

Note that an empty string is also considered valid.

****Example 1:****

****Input:**** "()"****Output:**** true

****Example 2:****

****Input:**** "()[]{}"****Output:**** true

****Example 3:****

****Input:**** "(]"****Output:**** false

****Example 4:****

****Input:**** "([)]"****Output:**** false

****Example 5:****

****Input:**** "{[]}"****Output:**** true

#### 2. Leetcode 127 Word Ladder

Given two words (beginWord and endWord), and a dictionary's word list, find the length of shortest transformation sequence from beginWord to endWord, such that:

1. Only one letter can be changed at a time.
2. Each transformed word must exist in the word list. Note that beginWord is not a transformed word.

****Note:****

* Return 0 if there is no such transformation sequence.
* All words have the same length.
* All words contain only lowercase alphabetic characters.
* You may assume no duplicates in the word list.
* You may assume beginWord and endWord are non-empty and are not the same.

****Example 1:****

****Input:****

beginWord = "hit",

endWord = "cog",

wordList = ["hot","dot","dog","lot","log","cog"]

****Output:**** 5

****Explanation:**** As one shortest transformation is "hit" -> "hot" -> "dot" -> "dog" -> "cog",

return its length 5.

****Example 2:****

****Input:****

beginWord = "hit"

endWord = "cog"

wordList = ["hot","dot","dog","lot","log"]

****Output:**** 0

****Explanation:**** The endWord "cog" is not in wordList, therefore no possibletransformation.

class Solution {

public:

int ladderLength(string beginWord,

string endWord,

const set<string>& wordList) {

}

};

#### 3. 完成C++ primer(第5版)中的15.9节的文本查询程序扩展,

#### 即使不自己实现, 最好也要照着书敲一遍代码,在机器

#### 上让程序跑起来, 也会让你对面向对象设计有新的理解.[慢慢做]