Introduction to C++ (Season 2)

Unit 7: File Input and Output
第7单元:出入虽同趣，所向各有宜— 文件输入输出

Section 02 : Write data to a file
第02节： 将数据写入文件

Writing Data to a File

❖ <u>ofstream</u> class can be used to write data to a text file. (ofstrem可向文本文件中写数据)

- Create an instance of <u>ofstream</u> (创建ofstream实例)
- Open the file with open() or <u>ofstream</u> constructor (用open()或者构造函数打开文件)
- Write data to the file with "<<" (用流插入运算符写数据)
- Close the file (explicitly close()) (显式地使用close()函数关闭文件)

❖ File exists? (文件已存在)

- the contents of the file will be destroyed without warning.(内容被直接清除)

Writing Data to a File – Auto type recognition (自动类型识别)

❖ Example →

- writes two lines to the file "scores.txt"
- Each line consists of first name (a string), middle name initial (a character), last name (a string), and score (an integer).

与cout用法相同

```
output << "John" << " " << "T" << "Smith" << " " << 90 << endl;
```

scores.txt   John T Smith 90
file   Eric K Jones 85

```
output << "Eric" << " " << "K" << "Jones" << " " << 85 << endl;
```

→TextFileOutput

Filename & Path (文件名和路径)

❖ **Absolute Filename (platform dependent)** (绝对文件名，操作系统相关)

- An ***absolute file*** name contains a file name with its complete path and drive letter.(包含完整的路径和驱动器符号)

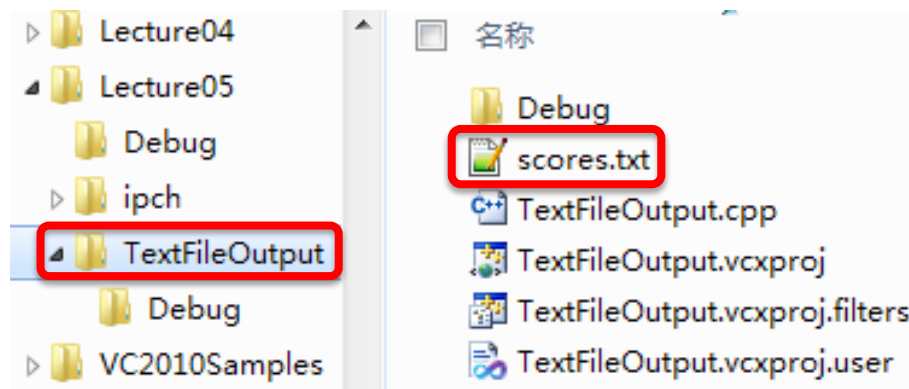| OS Type	Absolute filename	Directory path
Windows(case insensitive)	**c:\example\scores.txt**	c:\example
Unix/Linux(case sensitive)	**/home/cyd/scores.txt**	/home/cyd

❖ **Relative Filename (相对文件名)**

- Contains NO **drive letter** or leading "/" (不包含驱动器及开头的/符号)
- The file stores in the path Relative to "**Current Path**" (文件存在相对于"当前路径"的位置)

```
ofstream output("scores.txt");
```

Project Dir:
D:\cpp\src\Lecture05\TextFileOutput

▷ 📁 Lecture04
▲ 📁 Lecture05
  📁 Debug
  ▷ 📁 ipch
  ▲ 📁 TextFileOutput
    📁 Debug
▷ 📁 VC2010Samples

☐ 名称
📁 Debug
📝 scores.txt
📄 TextFileOutput.cpp
📄 TextFileOutput.vcxproj
📄 TextFileOutput.vcxproj.filters
📄 TextFileOutput.vcxproj.user

\ in file names

❖ The directory separator for Windows is a backslash (\). (windows中的目录分隔符是反斜杠字符)

❖ The backslash is a special character and should be written as \\ in a string literal (字符串中的反斜杠需要被写成\\).

output.open("c:\\example\\scores.txt");

❖ Windows (>=XP) also support slash (/)

output.open("c:/example/scores.txt");