Program Design (2)

Syllabus

Department of Computer Science & Information Engineering
National Cheng Kung University
2014 Spring

Goal

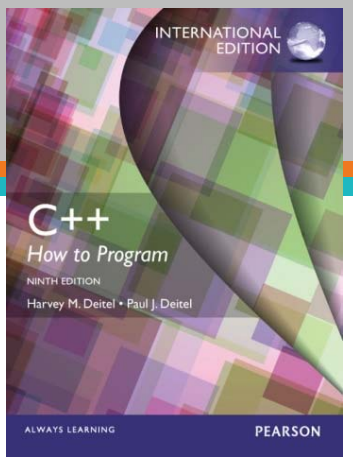
- Building on the background from the course "Program Design (1)", you will become acquainted with the C++ programming language, learn more advanced programming techniques, explore classic data structures and algorithms, and apply these tools to solve complex problems.

Class Information

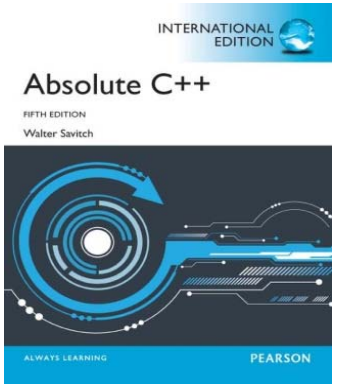
- Time: Tue. 3:10 ~ 6:00pm ([2] 7~9)
- Website: http://moodle.ncku.edu.tw/
- Instructor: Meng-Hsun Tsai (tsaimh@csie.ncku.edu.tw)
  ext. 62518 office: Room 308, Yun-Ping Building
- TAs
  - 高宏瑋, 李冠賢, 蘇珮華, 賴志豪, 蔡婉萍, 李思穎, 張蕙玲, 呂尚霖, 楊靜妃
  - E-mail: pd2_ta@imslab.org
  - Tel: (06) 2757575 ext. 62520-67
  - Lab: Room 609, Yun-Ping Building

Reference Books

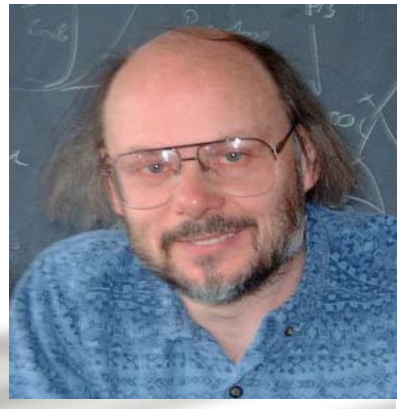
- C++ How to Program (9th Edition),
  Paul Deitel and Harvey Deitel,
  Prentice Hall, 2013

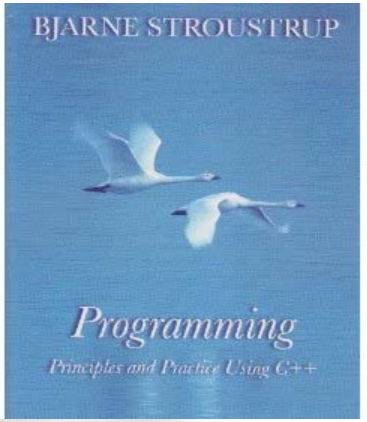


- Absolute C++ (5th Edition),
  Walter Savitch,
  Addison Wesley, 2012



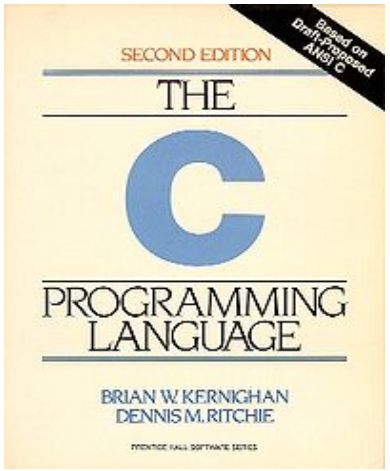
- Programming: Principles and
  Practice Using C++ (1st Edition),
  Bjarne Stroustrup
  Addison-Wesley, 2008

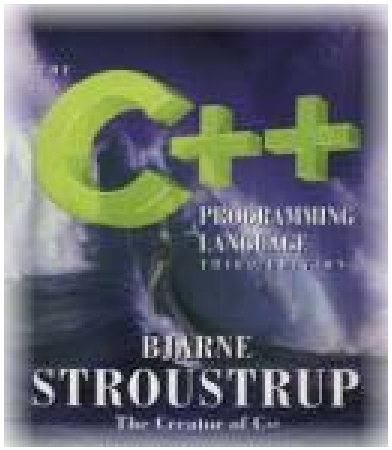


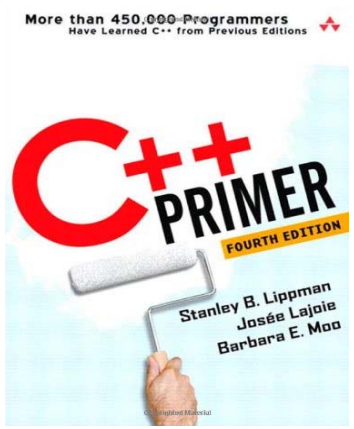


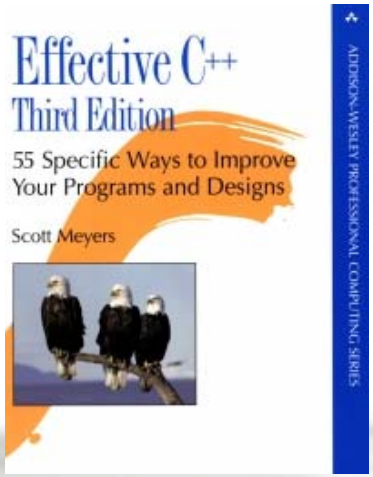
Suggested Readings After This Semester

- The C Programming Language, 2/e, Brian Kernighan and Dennis Ritchie, Prentice Hall, 1988
- The C++ Programming Language, Bjarne Stroustrup, Addison Wesley, 2000
- C++ Primer, 4/e, Stanley B. Lippman, Addison Wesley, 2005
- Effective C++, 3/e, Scott Meyers Addison-Wesley, 2005
- Ptt BBS: C_and_CPP board
- StackOverflow: http://stackoverflow.com/









Schedule

1. 2/18 Syllabus
2. 2/25 C++ Basics
3. 3/4 Introduction to Class (3/4 anno. HW#1)
4. 3/11 File Processing (3/16 HW#1 due)
5. 3/18 Array and Vector (3/18 anno. HW#2)
6. 3/25 Function (3/30 HW#2 due)
7. 4/1 (Spring Vacation) (3/31~4/6 Sudoku tournament)
8. 4/8 Class Deep Look (4/8 anno. Proj#1)
9. 4/15 Class Deep Look (cont.)
10. 4/22 Midterm Exam

Schedule (cont.)

11. 4/29 Operator Overloading
12. 5/6 Operator Overloading (cont.) (5/11 Proj#1 due)
13. 5/13 Inheritance (5/12~5/16 demo Proj#1)
14. 5/20 Polymorphism (5/20 anno. Proj#2)
15. 5/27 Exception Handling
16. 6/3 Templates
17. 6/10 Standard Template Library (STL)
18. 6/17 Final Exam (6/22 Proj#2 due)
19. 6/24 (No Class) (6/23~6/27 demo Proj#2)

Final score will be announced on 6/30 and submitted to the registrar no later than 7/4.

Developing Environment

- Download *pietty* or *putty*, connect to **pd2.imslab.org**. TA will announce account information on Moodle later.
- You can also install *Cygwin* software on your Windows system if you may write codes without Internet access. (remember to select packages *Editors->vim* and *Devel->gcc-g++*)
- Note that all homeworks/projects are evaluated on **pd2.imslab.org**. If you like to write codes on Cygwin, remember to upload your program and make sure everything works well on pd2.imslab.org before you submit your homeworks/projects to Moodle.

Evaluation

- Assignments 65%
  - Homework#1 5%
  - Homework#2 10%
  - Project#1 20%
  - Project#2 30%
- Exams (close book) 35%
  - Midterm 15%
  - Final 20%
- Bonus (see course webpage on Moodle)
  - Some bonus questions will be considered as midterm/final questions.

Self Exercise

- Free exercise will be posted on Moodle after class on weeks 2~6, 8~9, 11~17 (total 14 exercises). Deadline for each exercise is the time before the next class begins.
- You only need to submit your .cpp, .h, Makefile as well as a README file (simply showing how to compile and the running script). (*Note*: You can use script command to make the running script.)
- Although the exercises are not evaluated, you are encouraged to do the exercises on your own.
- Students with scores in the range 45~59 will get a chance for their self exercises to be checked to see if they deserve score adjustment.
- There is NO CHANCE TO MAKE AMENDMENTS in the end of this semester. Do not send email to me for this purpose.

Rules to Avoid Unfair Evaluation

- Anyone who cheats in midterm or final exam will be processed according to the college regulations. No doubt, he will fail in this class.
- Anyone who plagiarizes other student's source codes will get zero point, while the original author will get 50% off.
- Anyone who plagiarizes source codes from the Internet or students in previous years is also considered plagiarism. He will get zero point.
- Homework and project plagiarism is judged by MOSS from Stanford and JudgeGirl from NTU.
- Discussion is encouraged, but plagiarism is seriously prohibited. You must **write your own codes** after discussion.