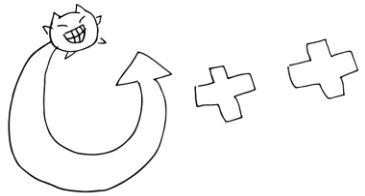
Designed by 106級 丁羅邦芸



Designed by 106級 何秋瑛

Program Design (2)

Syllabus

Department of Computer Science & Information Engineering
National Cheng Kung University
2018 Spring

Prerequisite

- We assume that you have passed at least one course on the C programming language (e.g., Program Design (I) in CSIE department).

Goal

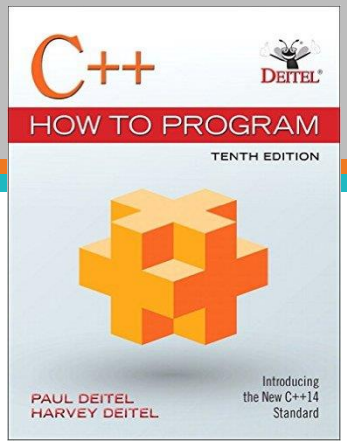
- Learn the basics on the C++ programming language.
- Learn the object-oriented concepts and how to implement object-oriented C++ programs.
- Learn some other advanced programming features (e.g., function overloading) introduced in C++.
- Learn how to develop small games in C++ through project assignments.

Class Information

- Time: Tue. 3:10 ~ 6:00pm ([2] 7~9)
- Website: http://moodle.ncku.edu.tw/
- Classroom: 65405@CSIE Building
- Instructor: Meng-Hsun Tsai (tsaimh@csie.ncku.edu.tw)
  ext. 62518 office: Room 65B01, New CSIE Building
- TAs
  - 王俞婷 瞿旭民 梁祐承 謝耀賢
  - E-mail: pd2@imslab.org
  - Tel: (06) 2757575 ext. 62520-1004
  - Lab: Room 65A04, New CSIE Building

Reference Books

- C++ How to Program (10th Edition), Paul Deitel and Harvey Deitel, Prentice Hall, 2016



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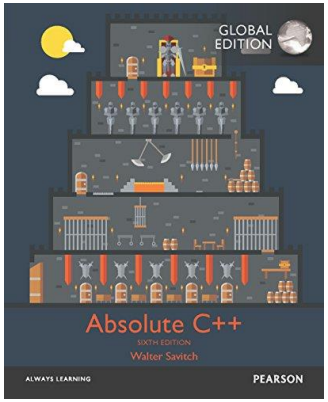
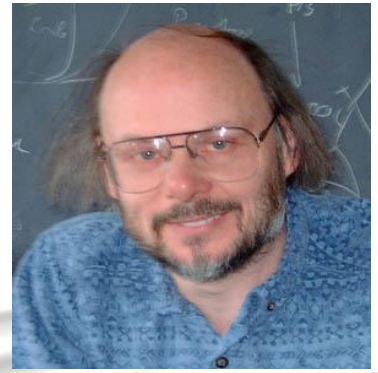
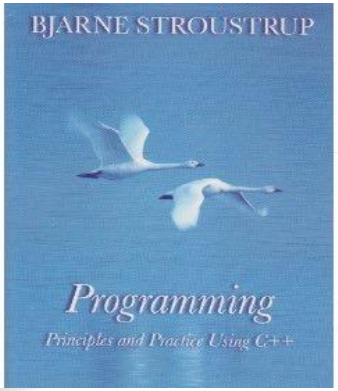
- Absolute C++ (6th Edition), Walter Savitch, Kenrick Mook Addison Wesley, 2015



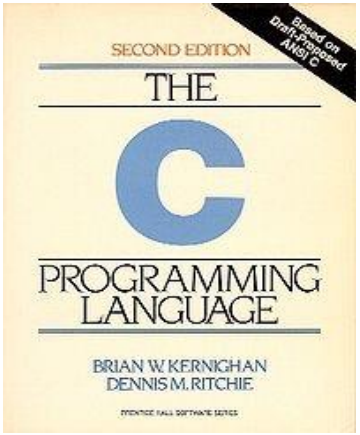
- Programming: Principles and Practice Using C++ (2nd Edition), Bjarne Stroustrup Addison-Wesley, 2014

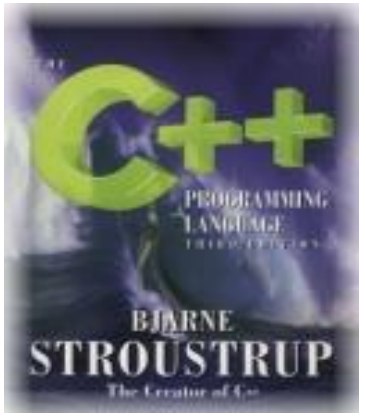


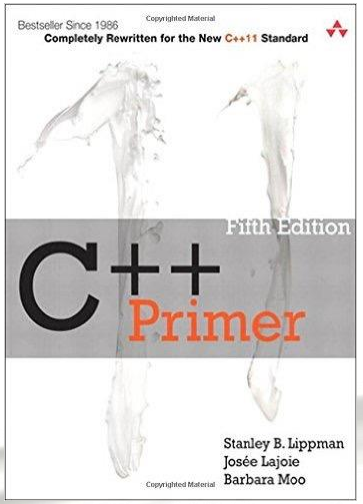


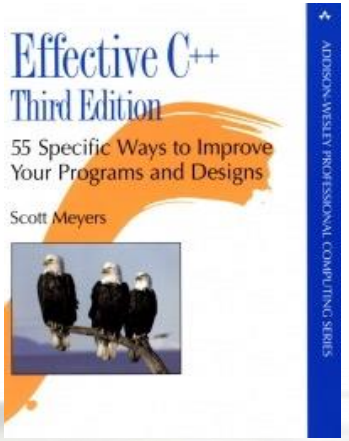
Suggested Readings After This Semester

- The C Programming Language, 2/e, Brian Kernighan and Dennis Ritchie, Prentice Hall, 1988
- The C++ Programming Language, 4/e Bjarne Stroustrup, Addison Wesley, 2013
- C++ Primer, 5/e, Stanley B. Lippman, Josée Lajoie and Barbara E. Moo, Addison Wesley, 2012
- Effective C++, 3/e, Scott Meyers Addison-Wesley, 2005
- Ptt BBS: C_and_CPP board
- StackOverflow: http://stackoverflow.com/









Schedule

1. 2/27 Syllabus / C++ History
2. 3/6 *Git/GitHub* / L1. C++ Basics
3. 3/13 L2. Class
4. 3/20 L3. File Processing (3/20 anno. Proj#1)
5. 3/27 L4. Array and Vector
6. 4/3 (no class) (4/1 Proj#1 due) (4/2~4/9 Online Game)
7. 4/10 L5. Function (4/10 anno. Proj#2)
8. 4/17 L6. Scope, Ctor and Dtor
9. 4/24 L7. const, friend, this, static
10. 5/1 Midterm Exam

5/11 Deadline of Withdrawal (friendly reminder)

Schedule (cont.)

11. 5/8 L8. Operator Overloading (1/2) (5/13 Proj#2 due)
12. 5/15 L8. Operator Overloading (2/2)
    (5/14~5/18 demo Proj#2) (5/15 anno. Proj#3)
13. 5/22 L9. Inheritance
14. 5/29 L.10 Polymorphism
15. 6/5 L.11 Exception Handling (1/2)
16. 6/12 L.11 Exception Handling (2/2) (6/17 Proj#3 due)
17. 6/19 L.12 Templates (6/18~6/22 demo Proj#3)
18. 6/26 Final Exam

Final score will be announced before 7/1 and submitted to the registrar no later than 7/3.

Developing Environment

- TA will provide a VM image installed with Linux. Download the image and *VirtualBox* (from the Internet), and then enjoy it.
- You can also install *Cygwin* software on your Windows system if you may write codes without GUI. (remember to select packages *Editors->vim*, *Devel->git* and *Devel->gcc-g++*)
- Note that all labs/projects are cloned/checked out from GitLab for evaluation. Make sure that your correct version is available on GitLab by deadline.

Evaluation

- Assignments 65%
  - Project#1 15%
  - Project#2 25%
  - Project#3 25%
- Exams (close book) 35%
  - Midterm 15%
  - Final 20%
- Bonus (see course webpage on Moodle)
  (Some bonus questions will be considered as midterm/final questions.)

Labs

- Some labs will be announced after lecture. Deadline for each lab is the time before the next class begins (i.e., one week).
- You only need to push 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 labs are not evaluated, you are encouraged to do all the labs on your own.
- Students with scores in the range 45~59 will get a chance for their labs 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.
- Discussion is encouraged, but plagiarism is seriously prohibited. You must **write your own codes** after discussion.