CS 241
Data Organization

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University of New Mexico

Fall 2014

Contact Info

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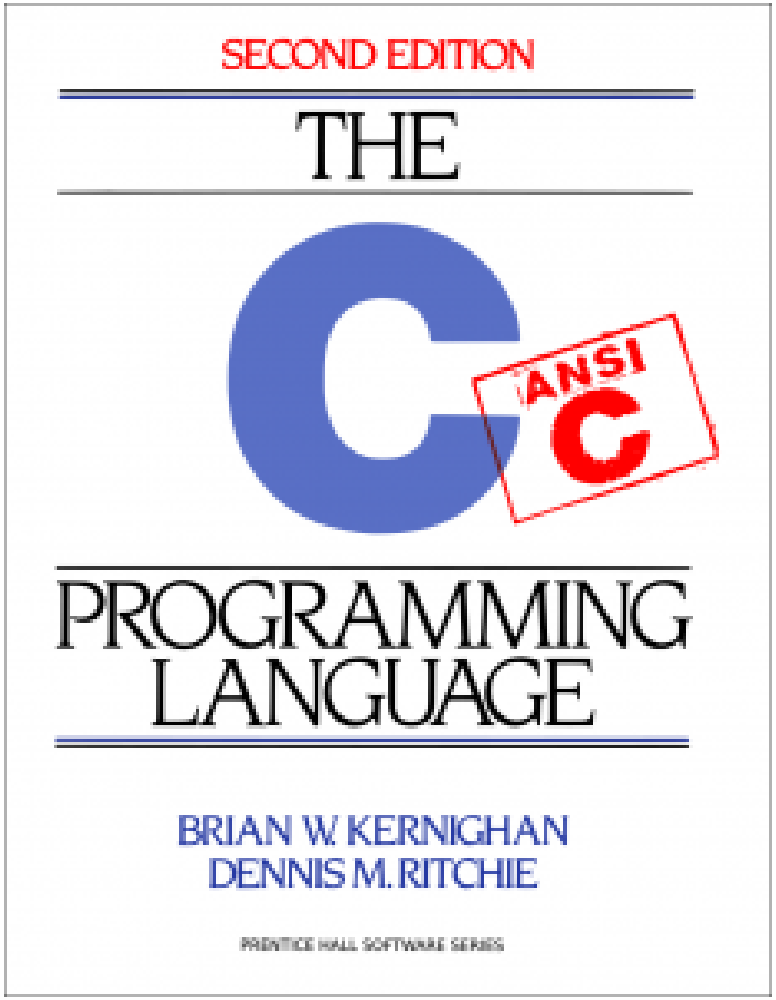
Textbook



Kernighan, Brian W. &
Ritchie, Dennis M.
The C Programming
Language, 2nd ed.,
ISBN: 0-13-110362-8

Course Description

CS-241 is an introduction to the C Programming language, an introduction to using a command-line interface of the Linux operating system, and an introduction to machine level data organization and memory allocation.

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Developing mastery of these fundamental concepts is one of the goals of CS-241.

Course Description

Students in CS-241 author many C programs:

- Lab assignments will be short and simple.
- Projects are more interesting and touch on a wide range of computer applications which have included
  - encryption
  - numerical analysis
  - databases
  - scientific visualization
  - artificial intelligence
  - genetic algorithms
  - games

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3. Use a Linux command-line environment to manipulate files, and directories, and to edit, compile, run and debug C programs.
4. Implement, in C, any given algorithm with a complexity level equivalent to that of quicksort or a doubly linked list with accuracy, efficiency and clarity.

Schedule — Lectures (required)

- 12:30 pm - 1:45 pm
- TR
- Mitchell Hall 202

Schedule — Labs (also required)

Lab	Time	Day	Location
1	9:00 am - 9:50 am	F	Centennial Eng Center B146A
2	2:00 pm - 2:50 pm	R	Centennial Eng Center B146A

You may attend a different section, but please obtain permission from the TA.

Office Hours

- Office Hours: Monday 1:30-3:30 and Wednesday 1:30-2:30
- You may attend regular office hours without an advance appointment. If you want to meet at another time, make an appointment by email or in person.
- TAs have office hours, too! (Check course website)
- Feel free to ask any of the TAs for help.

Grading

- 60% Programming Assignments
- 30% Exams (midterm and final)
- 10% Lecture, quizzes, and participation

Assignments and Projects

- Assignments must be in UNM Learn to receive credit.
- Late assignments will not be accepted.
- Don't wait until the last minute to submit.

UNM Learn

- `http://learn.unm.edu`
- Assignment submissions
- Discussion forum
- Surveys and quizzes
  - Welcome quiz/survey is there now!

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  - test cases
  - **Not code!**
- Do *not* share code.
- It is considered cheating to leave your code (paper or electronic copies) where others can find it. You responsible for the security of your intellectual property.

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- Understand your code!

Computer Access

- Need to work on a CS Linux machine.
- Get a CS account (in addition to your UNM account)
  - Go to FEC 307 and talk to George (bring your LoboCard)

Monday	8AM to 11AM
Tuesday	10:30AM to 5PM
Wednesday	8AM to 11AM
Thursday	10:30AM to 5PM

- Use Putty (or some other SSH) to connect:
  - **moons.cs.unm.edu**
  - **trucks.cs.unm.edu**
- With a CS computer account you can access ***.cs.unm.edu** and use the CS Linux lab on the third floor of FEC.

Summary

- Go to class and labs
- Keep up with the websites
- Expect some sort of work each week
- Be proactive!
- Form study groups
- Ask questions
- The TAs are there to help you

To do

- Visit course website
  - Slides will be posted after the lecture.
- Visit UNM Learn site
  - Take Welcome Quiz by Friday
  - Visit discussion forum
- Get a CS account before lab.

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- A person can be fluent in a language without knowing the vast majority of its proper nouns.
- Proper nouns are learned as needed, and can be forgotten when no longer needed.
- Like natural languages, programming languages have punctuation and syntax rules (e.g. In C, every statement is ended with a semicolon). Programming languages, however, have fewer rules than natural languages.

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- However, programming languages are primarily used to express complex branchings of conditional logic that far surpass common uses of natural languages.
- Logic skills have strong carryover from one programming language to another.

Why use C?

- C and C++ are used widely in industry.
- Compact language, and does not change (unlike Java and C++)
- C influenced many later languages.
- Used in many higher level courses like:
  - Networking,
  - Operating Systems,
  - Compilers,
  - Machine Language
- C is "close to the machine", yet portable.

Hello, World!

```c
#include <stdio.h>

int main(void)
{
   printf("Hello, World!\n");
   return 0;
}
```