

Accessing ilab, writing, compiling, and running your first C program

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Why use Linux?

Active learning exercise: Crowdsourcing resources to set up your programming environment.

Basic Linux tutorial

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Why study C?

A program to print a list of numbers

A program to test for prime numbers

Compiling and running your program

Short quiz

- ▶ Will be released soon.
- ▶ Will be about computer architecture, basics of using Linux, C programs.
- ▶ Will also contain a poll about recitation sections.
- ▶ Due 11:59pm Monday, January 25.

Programming assignment

- ▶ Released yesterday
- ▶ Start early, and use Piazza to ask and respond to questions.
- ▶ Due in three weeks: 11:59pm Thursday, February 11.

Recitation sections

Starting next week, and in most weeks

You can attend all, any, or none of the recitations for reviewing the material and help on the programming assignments.

In the two weeks after some programming assignments are due

When we are doing recitation code review study groups, you must report to your assigned recitation to get the points that TAs will award for participation.

New section, Section 09

- ▶ TA Azita Nouri
- ▶ Mondays 1:00-1:55 PM ET
- ▶ Indicate on short quiz if you would like to switch to this section.

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Why use Linux?

Why use Linux?

- ▶ Stable
- ▶ Open source
- ▶ Flexible: all form factors
- ▶ A critical piece of infrastructure for practicing computer science

Crowdsource resources to set up your programming environment.

- ▶ A lot of questions about "what's the right way to do so and so..." "are you going to tell us how to do so and so..."
- ▶ Link in Zoom chat box
- ▶ <https://docs.google.com/spreadsheets/d/1XeeeU-SBJdaxqapI0p9rMmA3ZF0b2LrsY-Gr1Lxt80M/edit?usp=sharing>

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Getting started with programming assignment 1

- ▶ `https://rutgers.instructure.com/courses/104725/assignments/1245908`
- ▶ `git`: version control tool; interfaces with `github.com`
- ▶ `gcc`: C compiler
- ▶ `man`: look up documentation for Linux commands

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Why study C?

C is fast

- ▶ C is close to the machine: directly manipulate memory
- ▶ C is compiled
- ▶ C is strongly typed

C is influential

- ▶ C is old
- ▶ <https://arstechnica.com/features/2020/12/a-damn-stupid-thing-to-do-the-origins-of-c/>
- ▶ C has a relatively short specification
- ▶ Influenced Java, Python, C++, and most major programming languages
- ▶ <https://www.tiobe.com/tiobe-index/>

A program to print a list of numbers

- ▶ Command line arguments
- ▶ printf and format specifiers
- ▶ EXIT_SUCCESS

A program to test for prime numbers

- ▶ Function signatures
- ▶ Conditionals, loops

Compiling and running your program

- ▶ How a Makefile works