Introduction

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1 Administrivia

Announcements

Assignment

Read 1.1–1.9, 2.1–2.4.

Outline

1. Syllabus.
2. Introduction: compilation, layered design, computer system components, history.

Coming Up

Performance metrics.

2 Introduction

Compilation process:

1. HLL and compiler.
2. Assembly and assembler.

   One-to-one correspondence to machine code (usually).
3. Binary machine code.

Layered system design:

1. Hardware.
2. Operating system.
3. System software.
4. Application software.
5. User.

Components of a computer:

1. Input, output.
2. Memory.
3. Control, datapath. (Processor)

A little history:

1. What *was* a computer? Why did some dream of mechanized computers?
2. Babbage and Lovelace: Analytical Engine.
3. Eckert and Mauchly: ENIAC.

   Total market for electronic computers. Application areas?

4. Univac, 1951.

   Census.

5. IBM System/360, 1964.

6. DEC PDP-8.

7. CDC and Cray: supercomputing.

8. Solid state memory. Microprocessors (Intel 4004, 1971).

9. Personal computers: Apple, IBM, others.

10. DEC VAX: 32-bit minicomputer. Pinnacle of CISC architecture.

11. Berkeley RISC and Stanford MIPS: RISC architectural revolution.

12. Intel x86.