

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.