L3: Naming systems

6.033 Spring 2008
http://web.mit.edu/6.033

Web names

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Fundamental abstractions

- Memory
  - Read/write
- Interpreter
  - Instruction repertoire
  - Environment
  - Instruction pointer
- Communication links
  - Send/receive

(\text{loop (print (eval (read)))})

PC board

Abstract bus picture

- address is overloaded \text{name} with \text{location info}
- LOAD 1742, R1
Example: program linking

foo (...) {
    int x, y;
    init();
    x = sqrt(...);
    y = sqrt(x);
    printf("answer: %d", y);
}

static init() { ...}

Sophistication: dynamic linking

• Resolve names at runtime through indirection
Summary

- Understanding a naming system:
  - What is the syntax for name?
  - What are the values?
  - What is the naming resolution algorithm?
  - Where does a name’s context from?