6.033 Quiz Format

- **Multiple Choice**

  - Normal multiple choice(Choose the best answer)

  - Choose all that apply

- **Short Answer**

  - Louis Reasoner is not always wrong

  - Alyssa P Hacker is not always right

System Complexity

- **Where does it come from?**

  - Many components

  - Many interconnections

  - Irregularity

System Complexity

- **What problems arise from complexity?**
  - *Emergent properties* - properties that arise during integration
  - *Propagation of effects* - making one change requires changes through the whole system
  - *Incommensurate scaling* - one part of the system scales faster than another part

System Complexity

- **Tools for Complexity Control**
    - *Modularity* - divide the system into smaller pieces
    - *Abstraction* - hide the unnecessary details inside a module
    - *Hierarchy* - assemble modules into larger modules
    - *Layering* - conceptual levels of abstraction