

CSEE 3827: Fundamentals of Computer Systems, Spring 2011

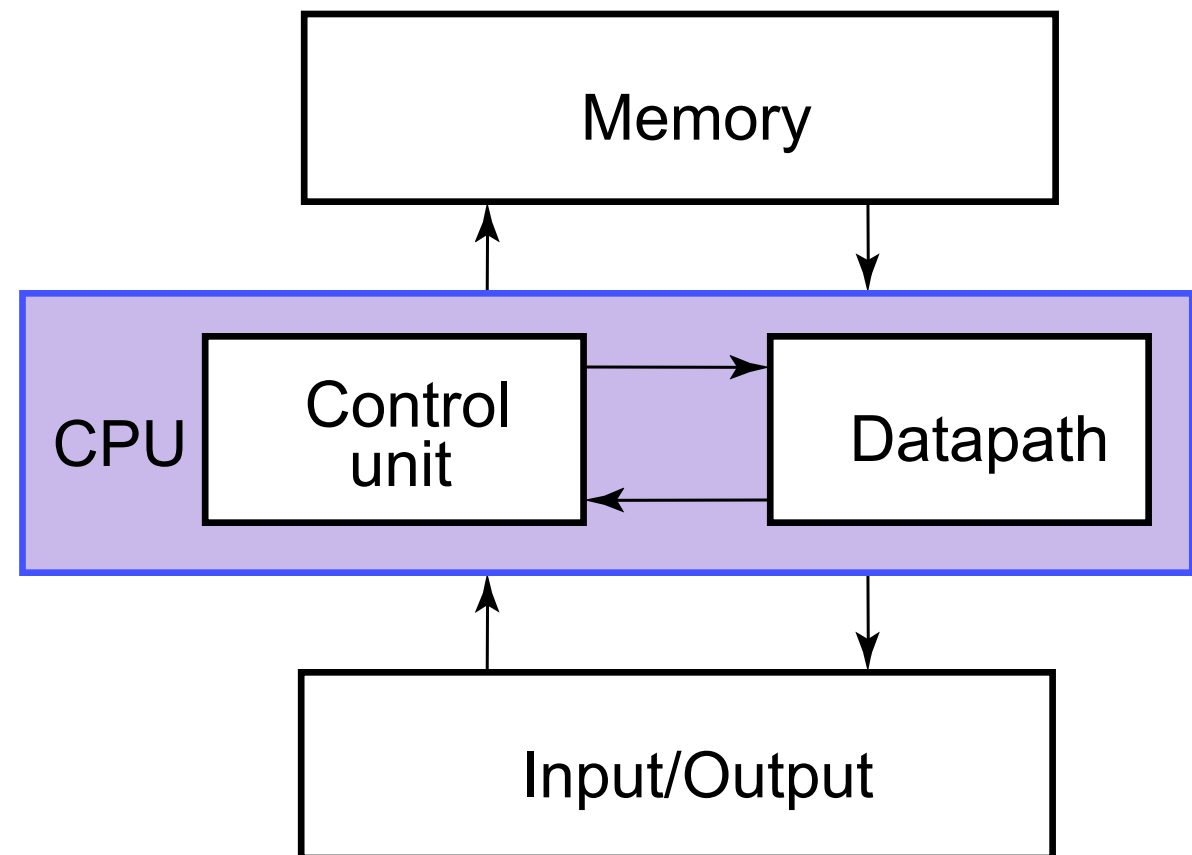
0. Course Overview

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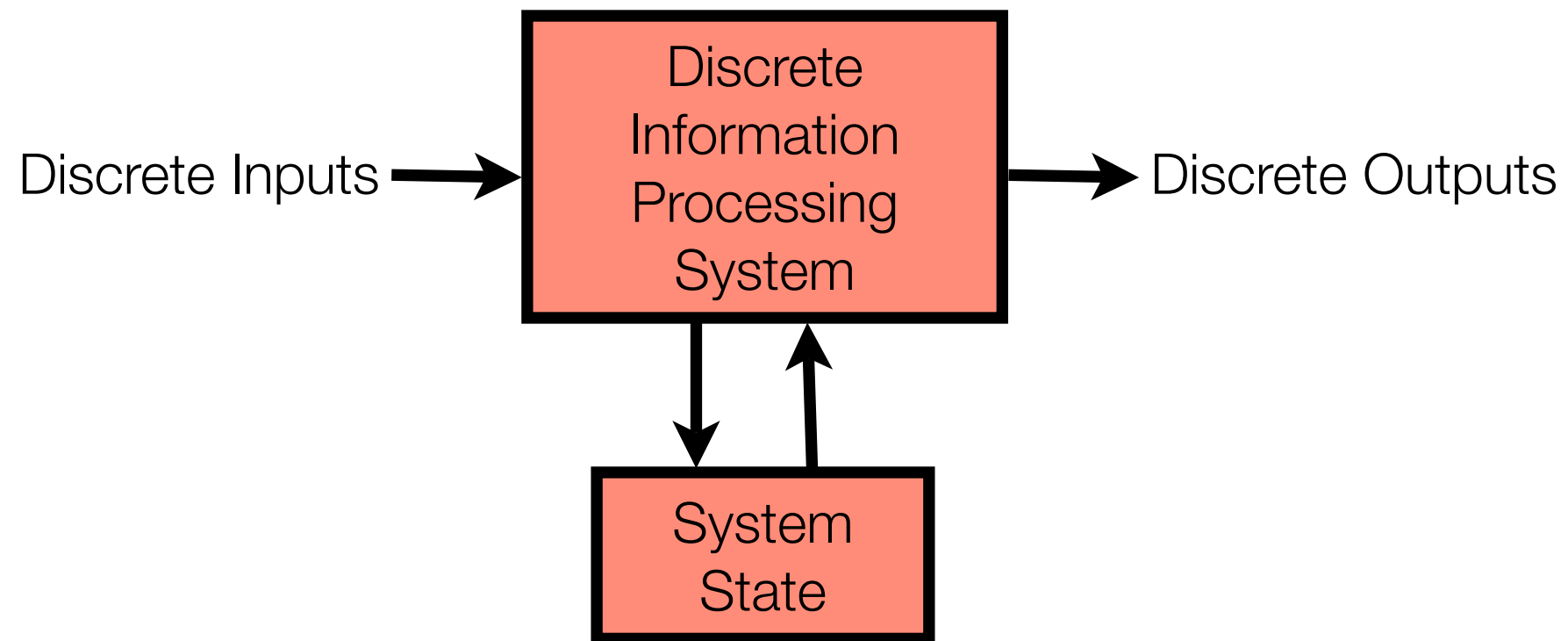
Web: <http://www.cs.columbia.edu/~martha/courses/3827/sp11/>

Course Overview: Building a computer (digital perspective)

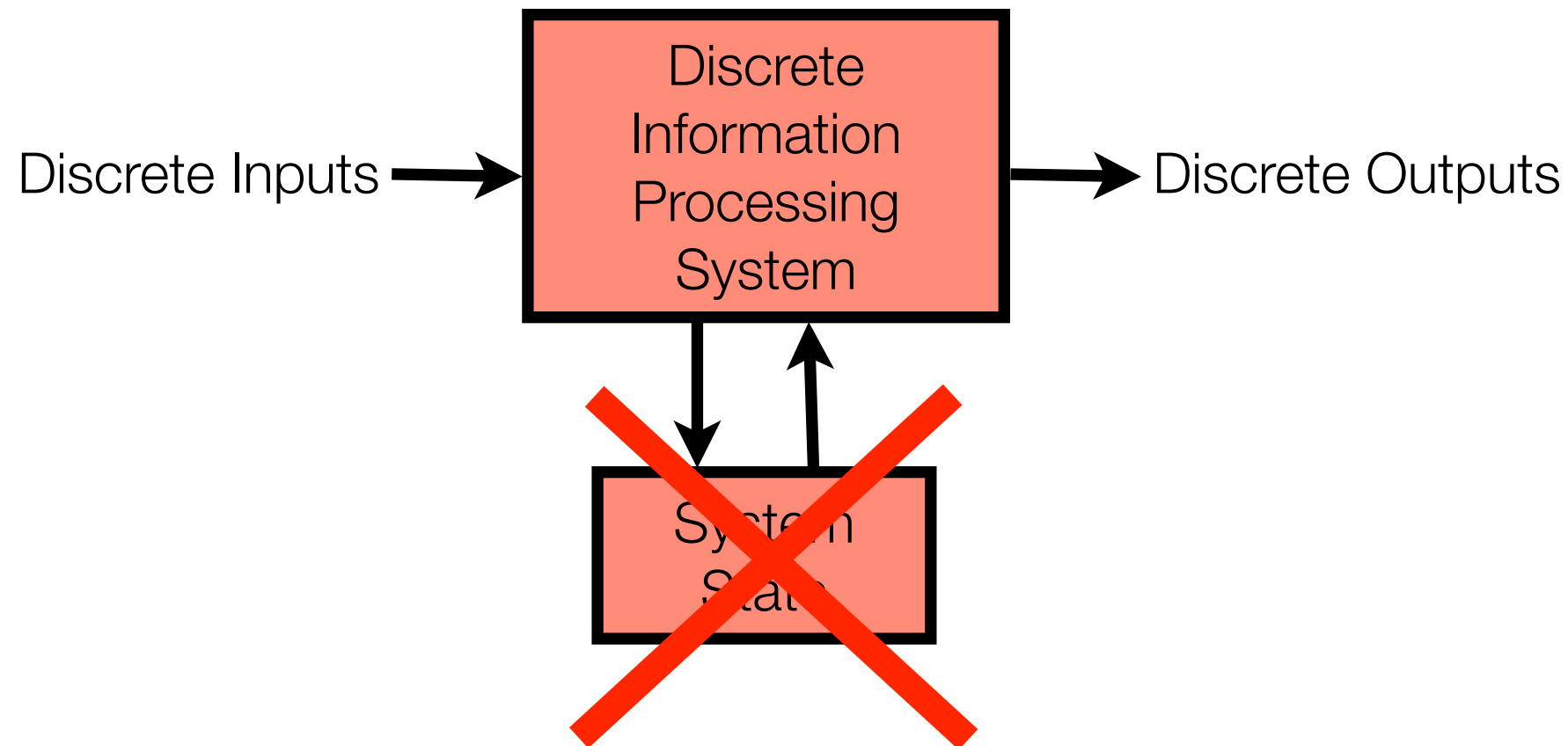
- **CPU**: the “brain” of a computer
 - **Control unit** does calculations on data in **datapath**
- **Memory**: stores data (for later use)
- **Input/Output**: interface to outside (disk, network, monitor, keyboard, mouse, etc.)



Simplified view of a system



Course Overview: 1st quarter

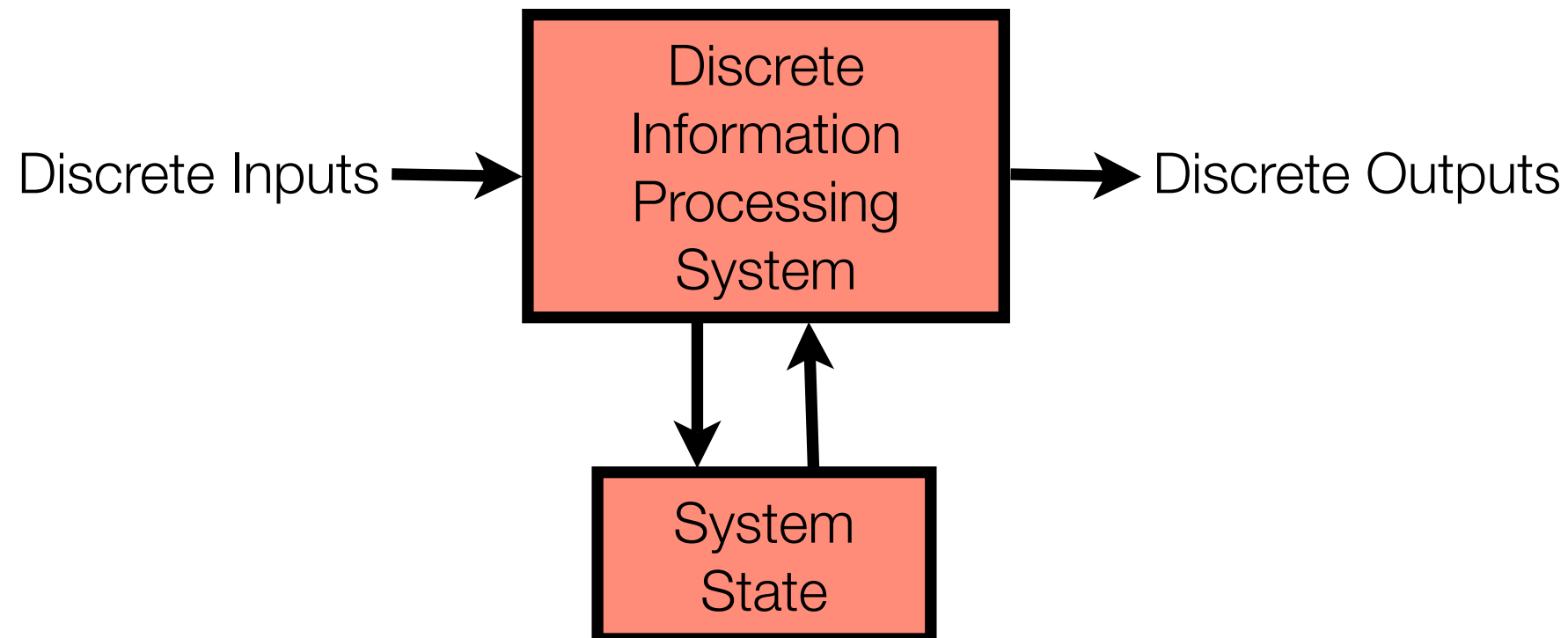


1st quarter of course: really simple view: “computer” doesn’t maintain state

Input → Compute → Output (just a math function)

Feed same input, get same output

Course Overview: 2nd quarter

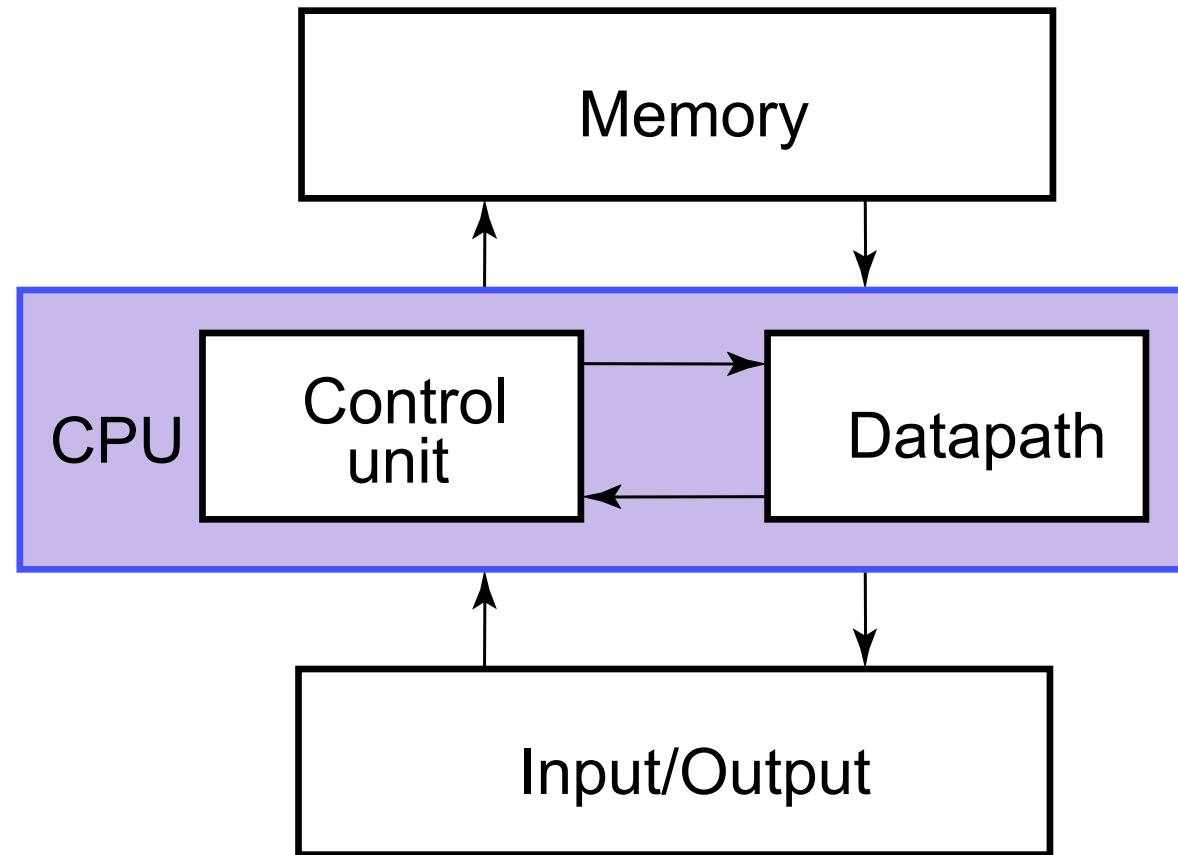


2nd quarter: “computer” has memory (system state)

Can use input & what it has stored in memory to determine output

Course Overview: 2nd Half

- Computer processes **programs** (stored in memory)
 - program made up of sequences of **instructions**
- Programs modify data also stored in memory



More on this later in term...