

Applications of Parallel Programming

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Logistics

A2

- ▶ Test updates will go out on Thu 12/2
- ▶ Update should resolve Valgrind issues for problem 1
- ▶ Will suppress errors coming from OpenMPI library

A3

- ▶ Will post later in the week
- ▶ Short CUDA coding assignment to parallelize a serial code
- ▶ Due 12/17

Poll on Final Exam

Poll on Canvas concerning Final Exam

- ▶ Option A: Mini-exam 4 (10%) + Final Exam (10%)
- ▶ Option B: Final Exam Last Day of class (20%)

Indicate your preference

Agenda

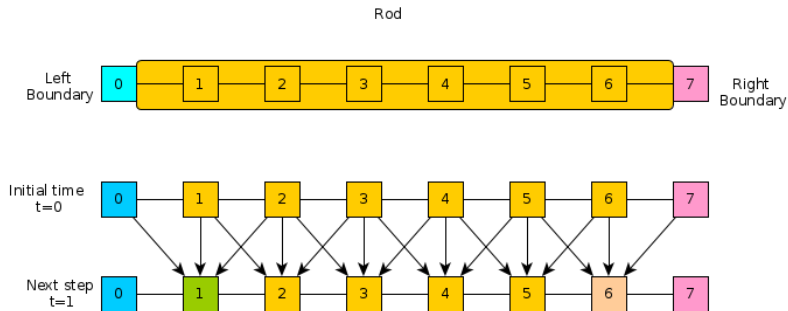
- ▶ Today: Guest Lecture on Fluid dynamics
- ▶ Next Week: More applications + Parallel languages

Guest Lecture

Some Applications of Parallel Computing in Fluid Mechanics

Sreevatsa “Sam” Anantharamu, Aerospace Engineering

Note on A2 Problem 1 Heat



- ▶ Assume 4 procs total, Column partition
- ▶ Note the need to exchange data between procs
- ▶ What MPI calls would be used to exchange
- ▶ How does one most **efficiently** arrange communication?

Avoid “chains” of communication that would block procs for proceeding as quickly as possible.