# Summary

- Consensus Problem

  - Agreement in distributed systems

  - Solution exists in synchronous system model (e.g., supercomputer)

  - Impossible to solve in an asynchronous system (e.g., Internet, Web)

    - Key idea: with even one (adversarial) crash-stop process failure, there are always sequences of events for the system to decide any which way

    - Holds true regardless of whatever algorithm you choose!

  - FLP impossibility proof

- One of the most fundamental results in distributed