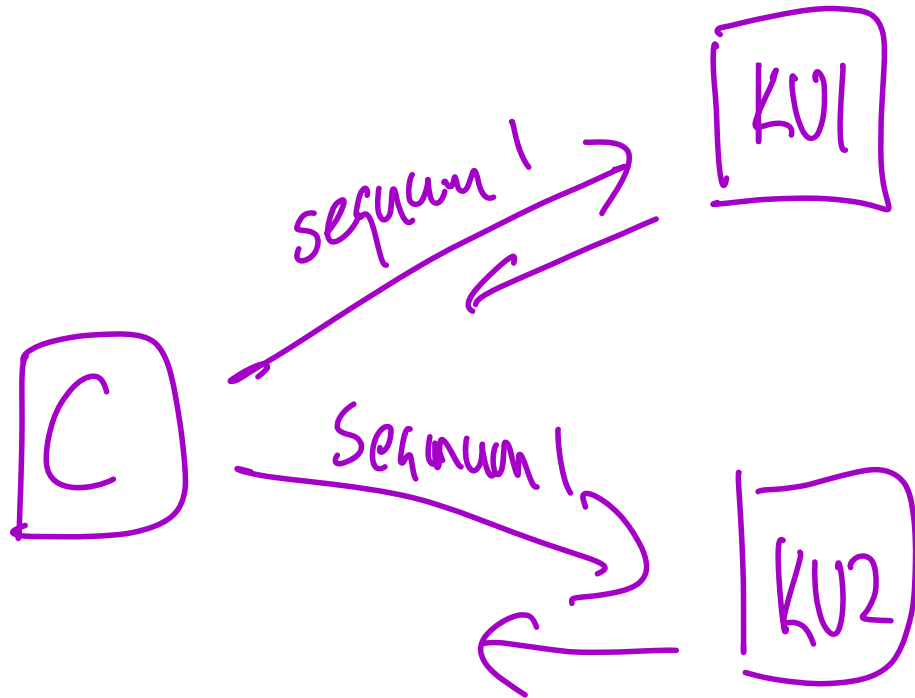


CSE 452

Distributed Systems

Primary Backup

- handle node failure — replication



- execute same ops in same order  
on both replicas

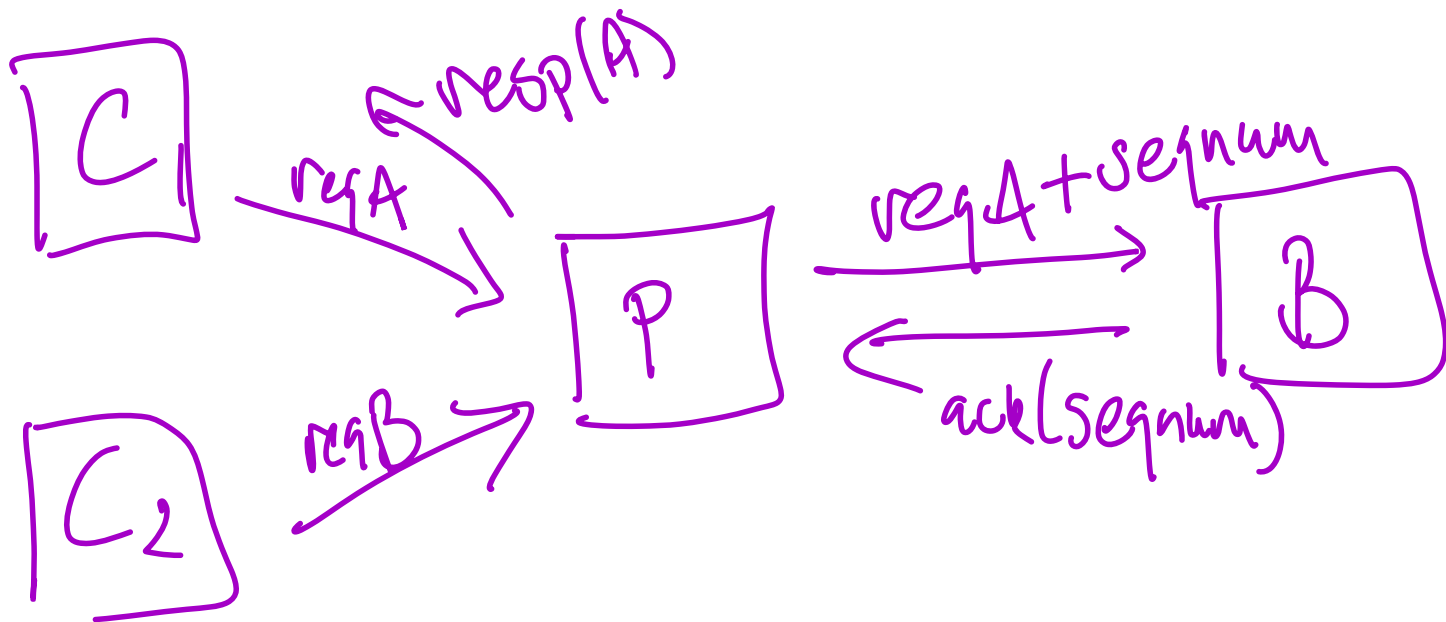
# Deterministic State Machine

(also "Application") AFD Application

- have state (possibly infinite)
- take inputs ("Commands")
- produce outputs ("Results")
- deterministic: equal states or equal inputs produce equal outputs and next states

# Primary Backup

- one replica is primary
- primary decides what order
- tell the backup what to do



# Failover Protocol

- replacing one node w/ another  
in same role
- ideally, detect the failure, then failover