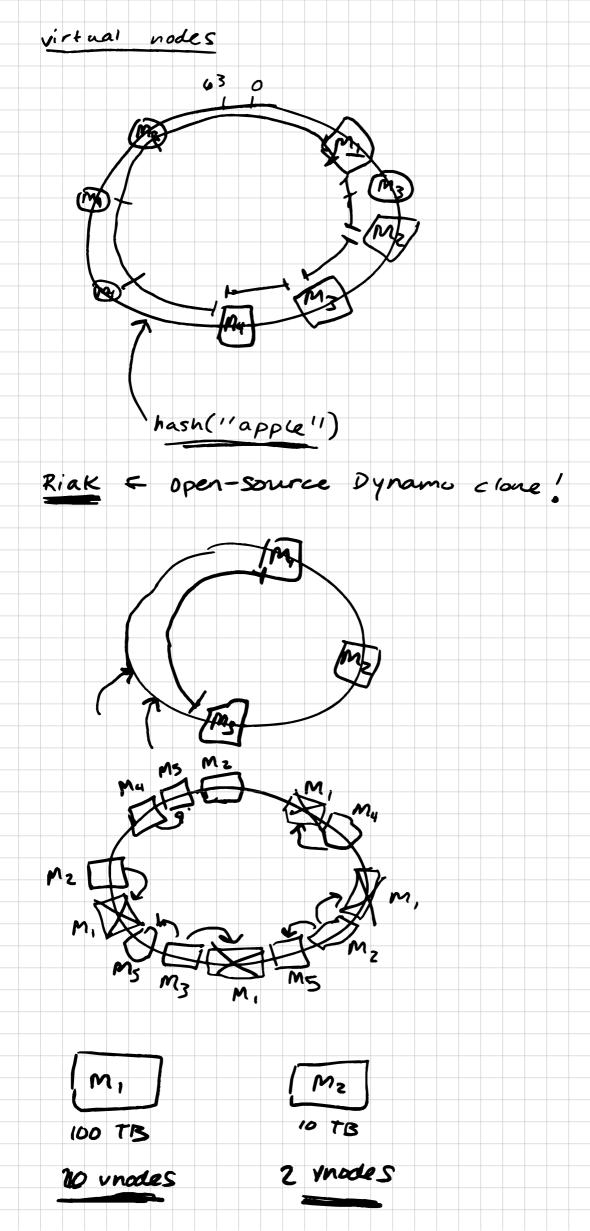
Lecture 19 CSE138 this time: - announcements/logistics - ask me anything -by midright next tres. 19th please fill out the pear assessments! - Monday 4pm final! - zine project - 1et me know

if you might be interested
in doing this over the summer. what's my research? one topic: Chorcographic progamming Alice Bob 306 Alice recv (Bob) > recv (Alice) recu (Bob) Choreography-Alice > "hello", Bob Bob ~ "hi", Alice ~> = "commy endpoint projection (EPP) Bend ("Inello", Bob) ecu(Alice) (recv) (Bdb) nd "hi" Alig Chor (2013) [Choral] (2020) - choral-lang. org Pirouette our idea: library-level CP purck, \$ GET(V) chain replication Commit Primary-backup Point ₹≥ B (PUT(V, \$) commit alternative ? approach: Bz Pur(x, 5)0K



online systems offline systems **VS.** MapReduce compilers & ntal compilers? REPLS ? streaming data processing Jamie Brandon blog post even A3 A, Prepare (2) Prepareli) anise(2) grand Accept (2, "pikadhu") groved Prepare(3 Promise(3) Acapted (2, "Pikachur) Promisel3 1900 red igrored. Accepted, "pixacuin CONSEN i'pika duu Acepted 1 2 moch Accepted(4, picace) Raged (4, pikachu) M3-V M3 a proposer gets a majority of acceptors "on board with it (a proposer gets Promise(n) messages for a certain n from a majority of acceptors) milestoneconsensus is reached milestone 2 (a majority of proposers send Accepted messages for a particular value e.g. "pikachu") participants learn that conserving is reached by receiving Accepted messages for a particular value from a majority of acceptors. milestone 3 Acceptors Proposer Prepare/
Provise phase 2 ( ) Accepted ( ) sunther phase

2

Same

proposil

number

cickercite

sequence numbers. multi-Paxos: keep doing Phase Z

Por as long as your can

(unless another proposer
takes away your "leadership") "squirte" ·piKachu" consersus "squirte" "squirtle" "squirme? "ch armander" given some inputs, everyone must produce an output that respects these criteria: -termination:
- everyone eventually produces an output. -agreement: - everyone who produces an output produces the same output. Validity: - every output produced must be something that was proposed FLP result says this is impossible in the async network model and the crash fault model. " CAP theorem:

(afety)

Consistency

(liveness)

Availability

Partition tolerance

(this is of 3 (this is un realistic) you can't sacrifice partition tolerance" a good blog prioritize whichever
of safety or Liveness
is right for your use case!

hash (key) mod hash ("squirtle") hash ("mew")