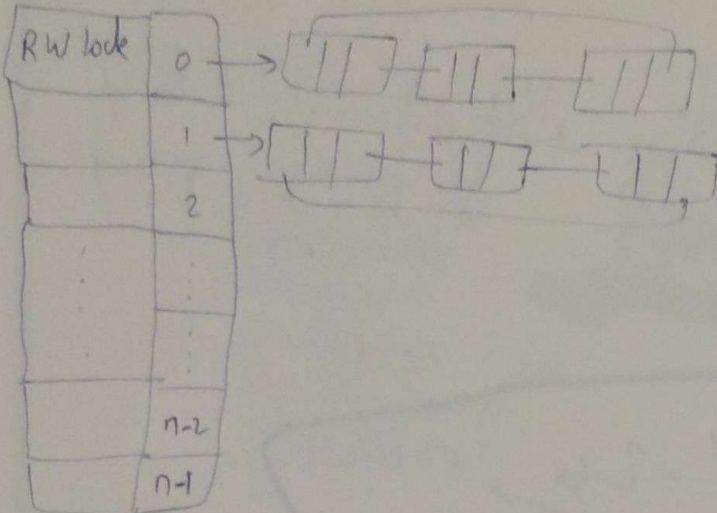
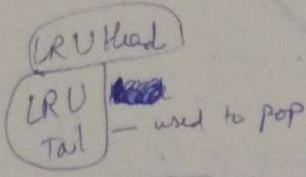


HashTable

Circular Linked list



n = ~~MMV~~ MMV



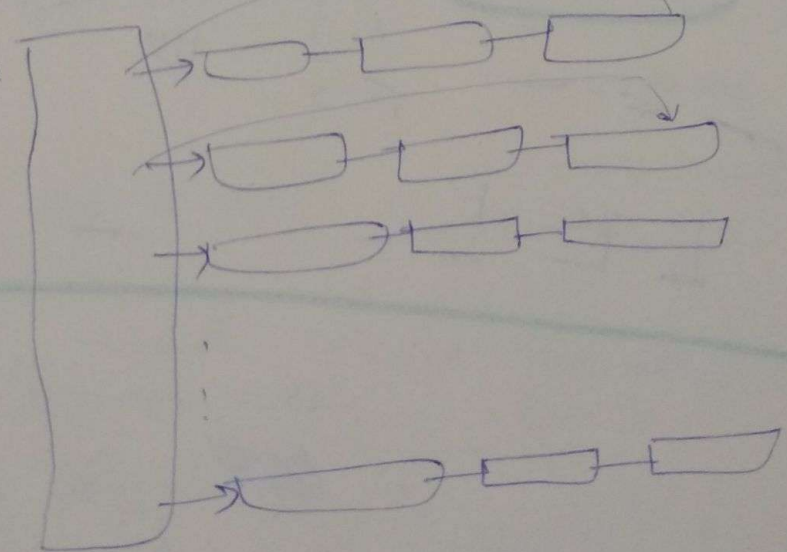
Head

Tail
Function

To avoid copy overhead
will be freed by cache only

ptr
Key, Value, ~~lock~~
left ptr, right ptr, lock
LRU head Idx, ~~Hash Table Idx~~,
Hash 2

lock



lock

KVServerConfig

ThreadSafe

Circular Queue

3



struct KVServerConfig-t {

int ~~port~~ listening port;
int thread-pool-size-initial
thread-pool-growth
clients-per-thread

cache-size

cache-replacement (LRU or LFU)

}

struct KVServerConfig-t

read-server-config () {

}

File Content - Hash1, Hash2, Key, Value, lldx, Rldx
entry

• Keep first 1000 entries fixed for head of each hash2 Key

• If any entry in first 1000 is blank, then lldx & Rldx will be MAX_vint64-t

• If entry is to be delete -

case 1 - it is first entry

case a - only 1 entry in list then set lldx, Rldx

case b - more than 1 entry

then replace this with next entry & update

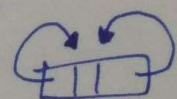
case 2 - prev & next

• if lldx & Rldx = ∞ the invalid entry.

• It is to be removed while closing the server

• Maintain circular linked list.

i.e



next → next → ...

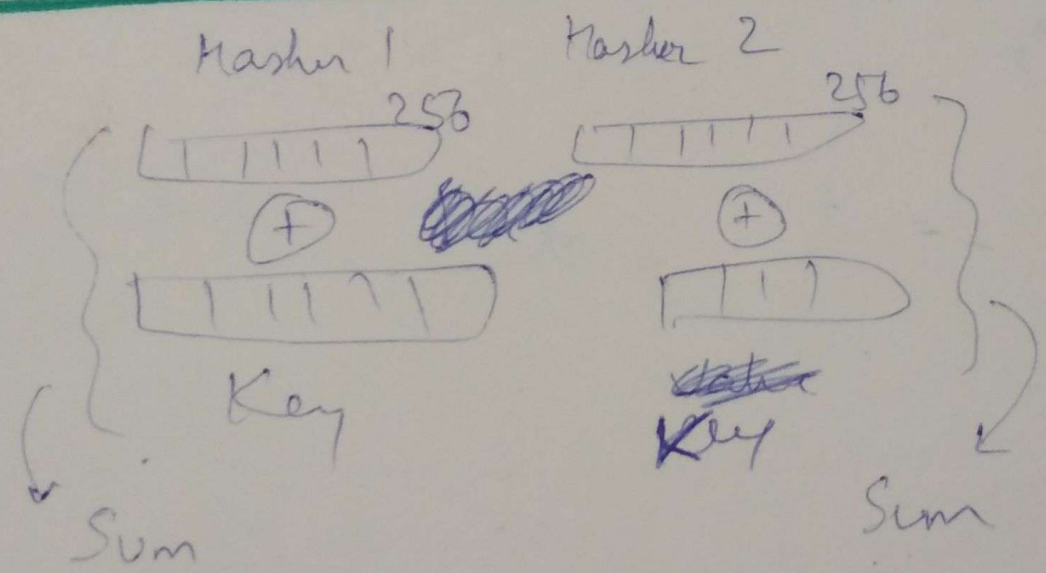
~~K~~ ~~K~~ K - -

K.

10% Cache
cleaning on Miss
if full →

MHV

String Hash



Max hash Val

Global fixed

Constants -
determines how
to split K-V pair

$$(2^{14} - 1)$$

5 5 5 5 h h h h

My 16383

Guess