

When a new KVNode starts and connects to the front end it sends its address of where it is listening for RPC calls from the front end. The front end will keep a list of these KVNodes in a list to iterate through as commands are sent from clients.

if new node comes on, check if  $\text{numNodes} < r$ , if so replicate to new node, else do nothing

In order to replicate to a new KVNode when it connects, we created a rpc function that sends the map of values to the front end which is then sent to the new KVNode.

When a KVNode goes offline, it is removed from our list. When it connects again, it is added back to the end of the list.

Whenever a command is sent from a client, it is called from the front end to the first  $r$  of the nodes in the list of KVNodes. Whenever a kill command is received and passed on the KVNode is then also removed from our list of nodes.