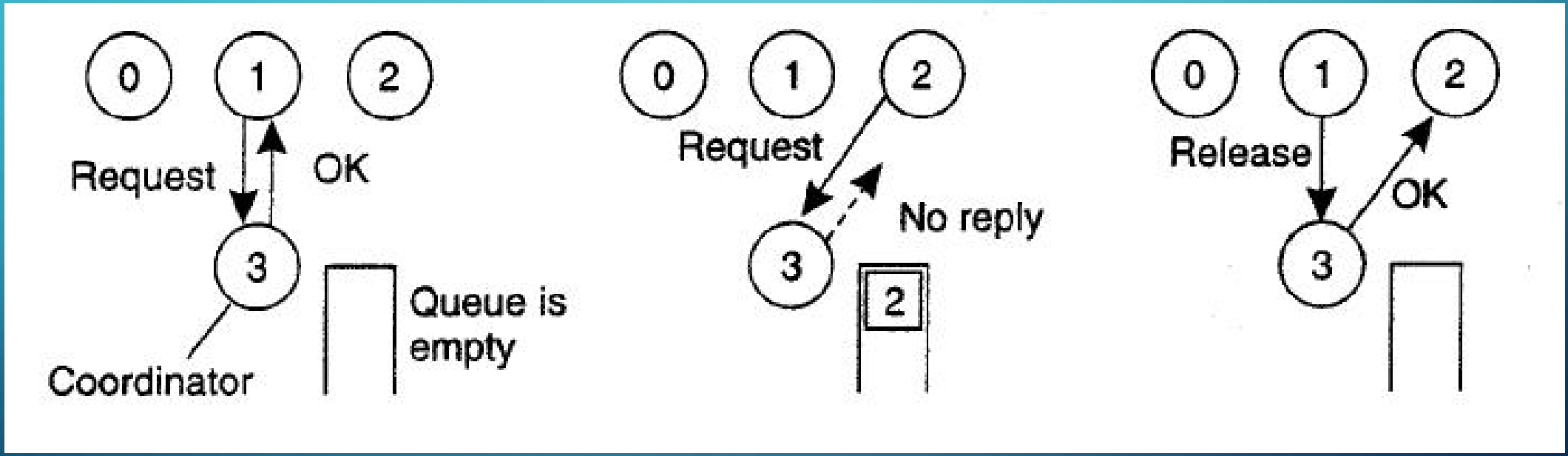
AGREEMENT IN DISTRIBUTED SYSTEM

DILIP KUMAR SHRESTHA

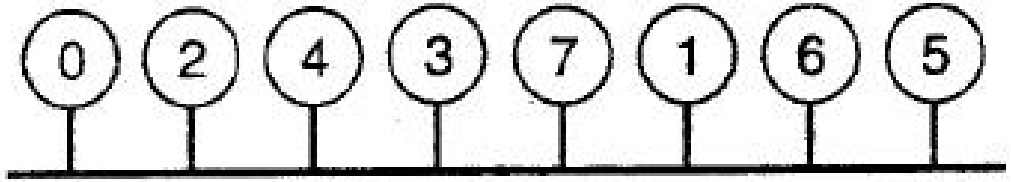
MUTUAL EXCLUSION

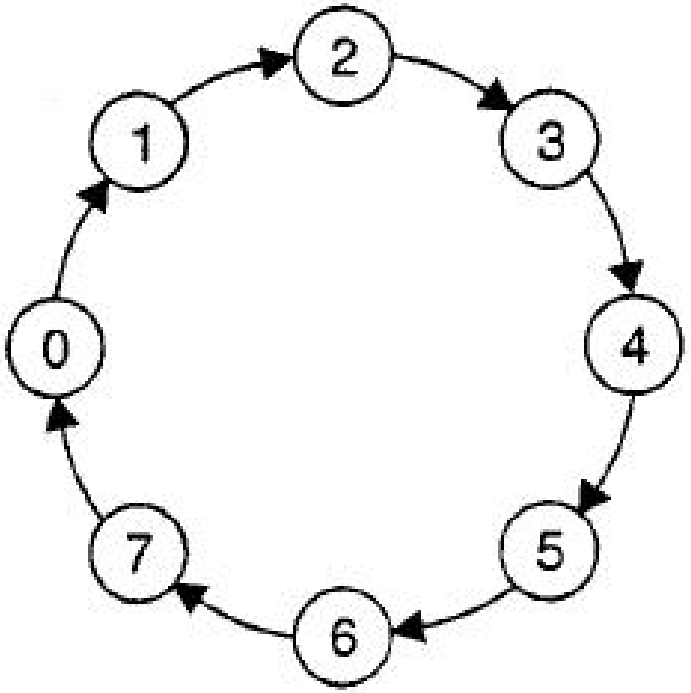
- Categories
  - Centralized
  - Decentralized
    - Token ring Algorithm
    - Ricart & Agrawala Algorithm

MUTUAL EXCLUSION: CENTRALIZED



MUTUAL EXCLUSION – TOKEN RING





RICART & AGRAWALA ALGORITHM

On initialization

state := RELEASED;

To enter the section

state := WANTED;
Multicast *request* to all processes;
T := request's timestamp;
Request processing deferred here
Wait until (number of replies received = (*N* – 1));
state := HELD;

On receipt of a request $<T_i, p_i>$ *at* p_j $(i \neq j)$

if (*state* = HELD *or* (*state* = WANTED *and* $(T, p_j) < (T_i, p_i)$))
then
queue *request* from p_i without replying;
else
reply immediately to p_i;
end if

To exit the critical section

state := RELEASED;
reply to any queued requests;