

# Availability

- If each server is down a fraction  $f$  of the time
  - Server's failure probability
- With no replication, availability of object =
  - = Probability that single copy is up
  - =  $(1 - f)$
- With  $k$  replicas, availability of object =
  - Probability that at least one replicas is up
  - =  $1 - \text{Probability that all replicas are down}$
  - =  $(1 - f^k)$