**LEADER ELECTION for our system by nek**

**based on byzantine idea**

election(): The node who receives election privileges waits for answers of different nodes(i, listofanswerednodes) and timeout

**if** (number\_of\_answers\_received < upperbound((n-1)/3)

**if** number\_of\_recursion over 10

findnewtoexecuteelection()

number\_of\_recursion = numberofrecursion + 1

Broadcast 🡪 election()

**Else**

number\_of\_recursion = 0

then Checklistelements()

then Giveleader() to the first that appeared most

**Master’s side Leader algorithm**

**Leader:** checkservants() in random moment:

**If** (upperbound((n-1)/3) answers = ΟΚ && timeout)

Remains leader 🡪 Broadcast 🡪 continue();

**Else**

Broadcast 🡪 election()

**NewLeader:** notifyleadership():

**If** (upperbound((n-1)/3) answers = ΟΚ && timeout)

Broadcast 🡪 continue();

**Else**

Broadcast🡪election();

**Client’s side Leader algorithm**

**Servant:** checkleader() in random moment:

**If** (Leader answer = OK)

continue()

**Else**

Broadcast🡪 checkleaderforme()

Waits for answers and timeout

**If** (Leader answer = OK and upperbound((n-1)/3) answers = OK)

Broadcast🡪 leader ok 🡪 continue()

**Else If**  (Leader answer != OK and upperbound((n-1)/3) answers = OK)

checkalone()

**If** (Leader answer = OK)

Broadcast 🡪 leader ok 🡪 continue()

**Else**

Broadcast 🡪 do not see leader 🡪 continue()

**Else** Broadcast 🡪 election()