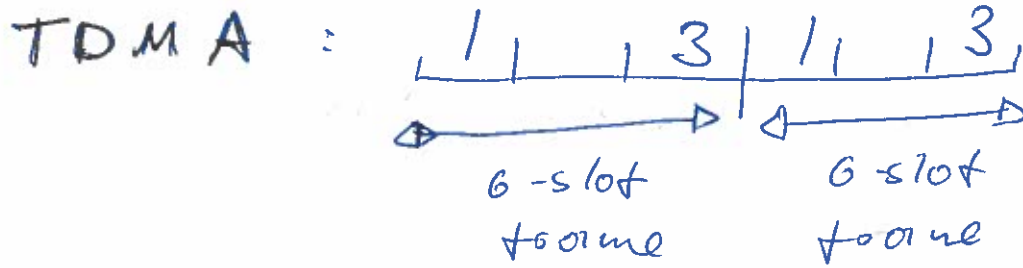


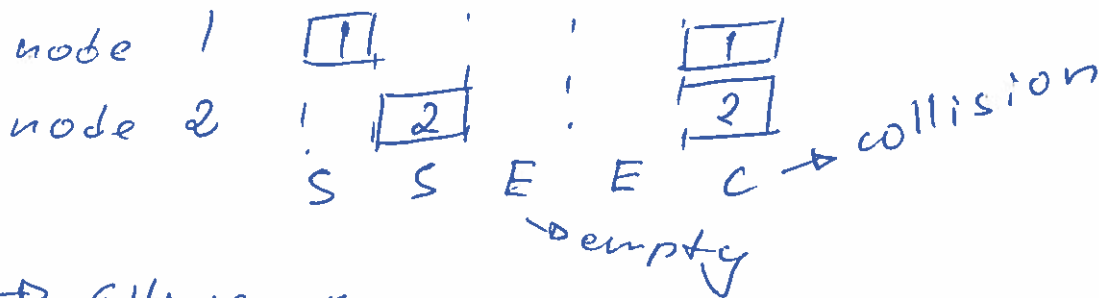
Link Layer

- on Network Interface Cards (NIC)
- Multiple Access Protocols



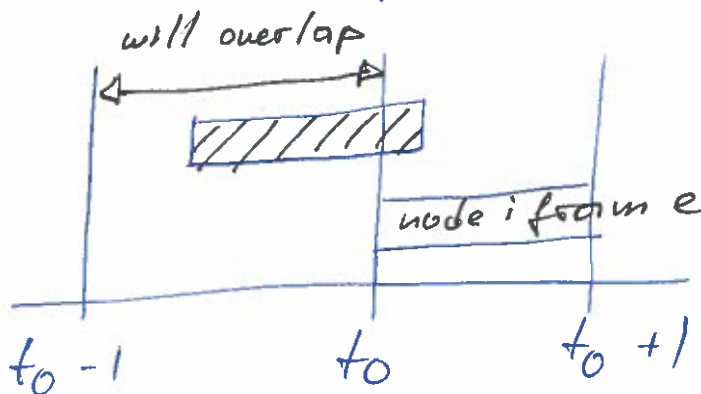
FDMA : Frequency, ...

- Random Access Protocols
- Slotted ALOHA Time for every node



- Efficiency
- $$Np(1-p)^{N-1} \quad | \quad p - \text{probability of sending}$$

Pure (unslotted) ALOHA



$$\begin{aligned}
 P(\text{success}) &= \\
 &P(\text{node transmits}) \times \\
 &P(\text{no other in } [t_o - 1, t_o]) \times \\
 &P(\text{no other in } [t_o, t_o + 1]) \\
 &= p(1-p)^{N-1} (1-p)^{N-1}
 \end{aligned}$$

- Retransmit with probability p each slot until success.