

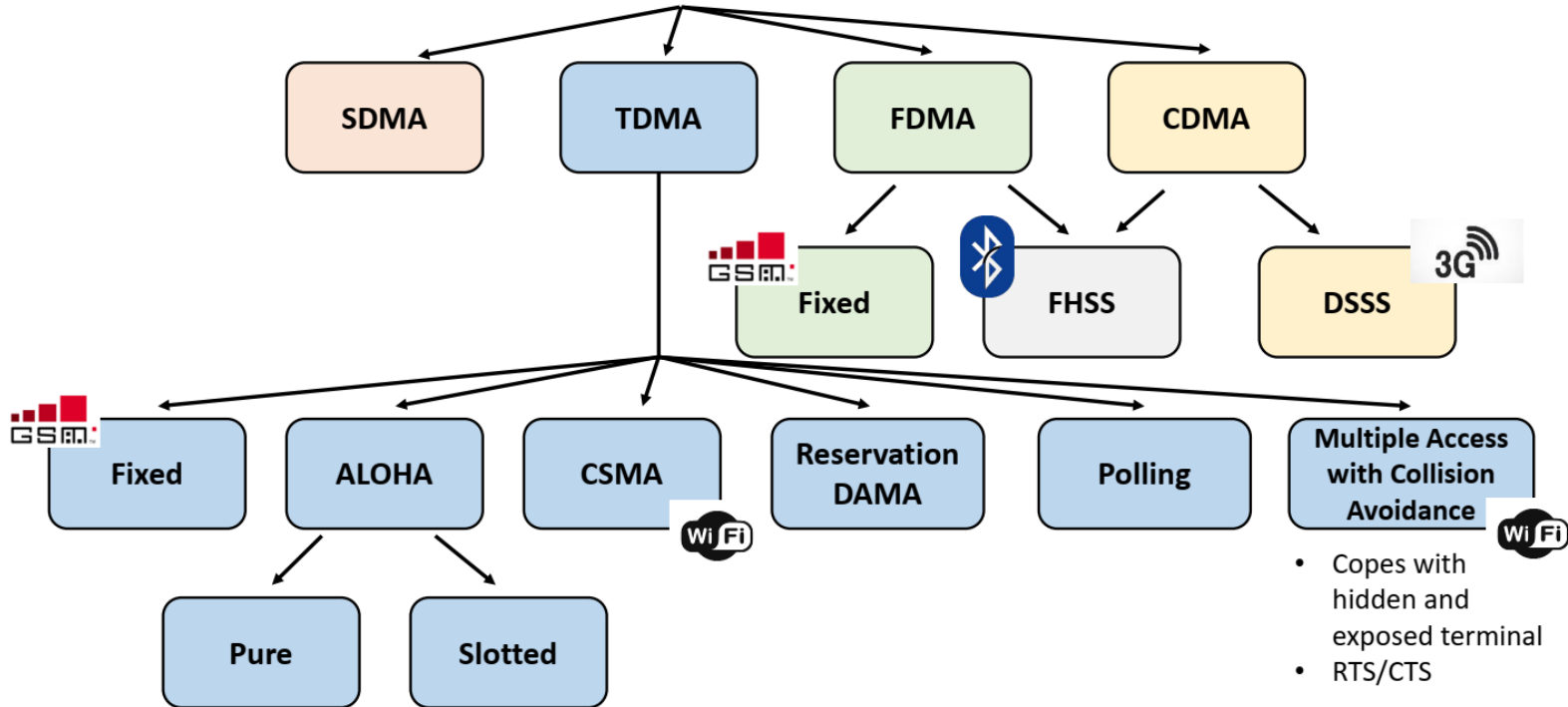
Lab 2: Performance of slotted ALOHA

Q/A session: 06.05.2026

Submission deadline: 12.05.2026, 23:59

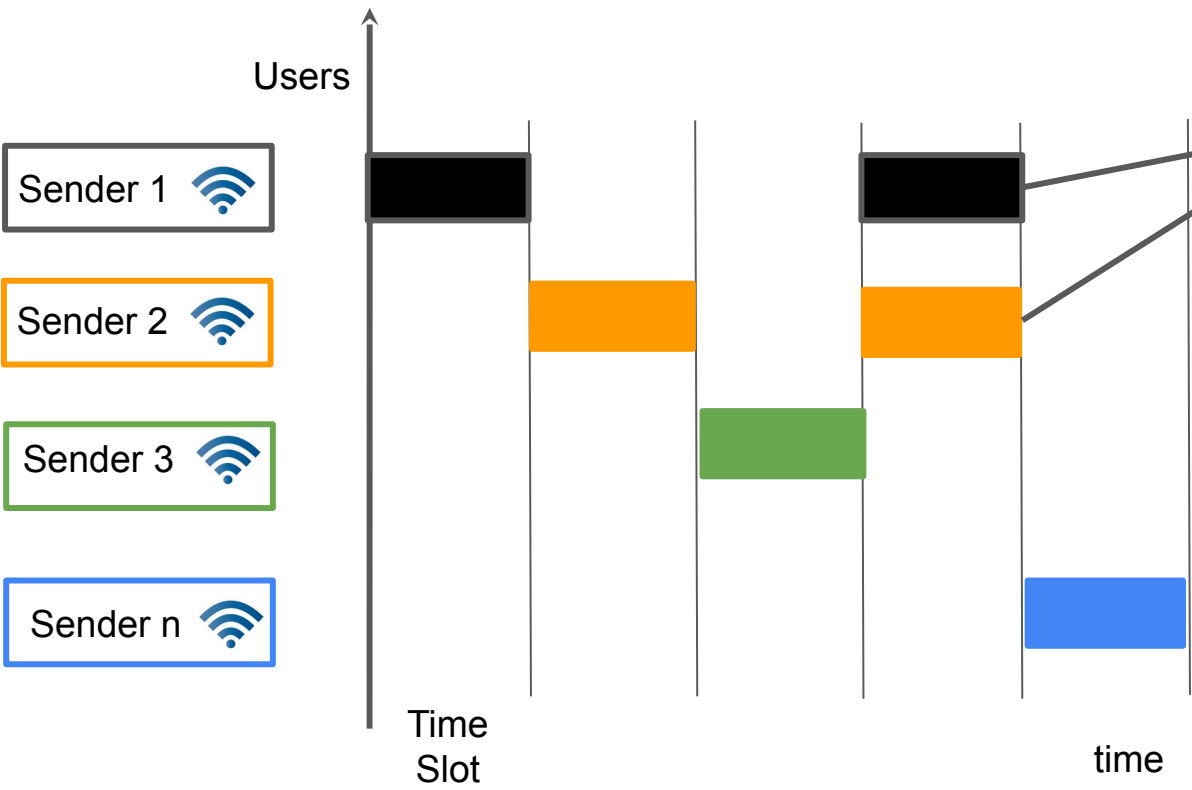
Lab 2: Performance of slotted ALOHA

Wireless medium access control mechanisms

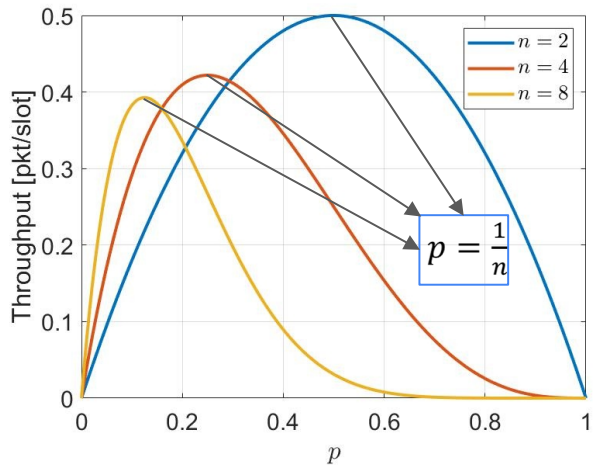


Lab 2: Performance of slotted ALOHA

Transport
Network
Data Link
PHY



Throughput = (4 successful mess) / (5 slots)
 = 0.8 [pkts/slot]



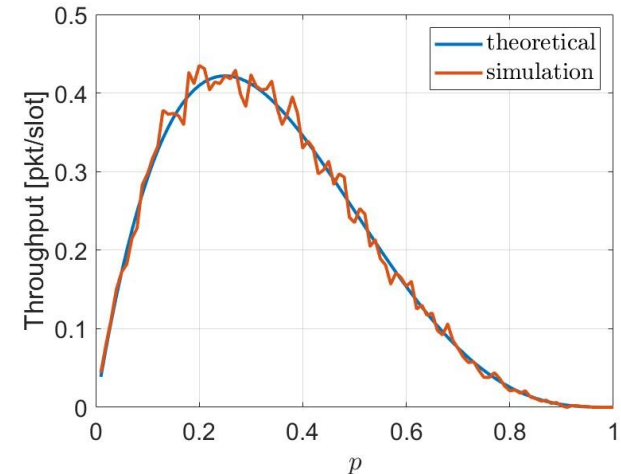
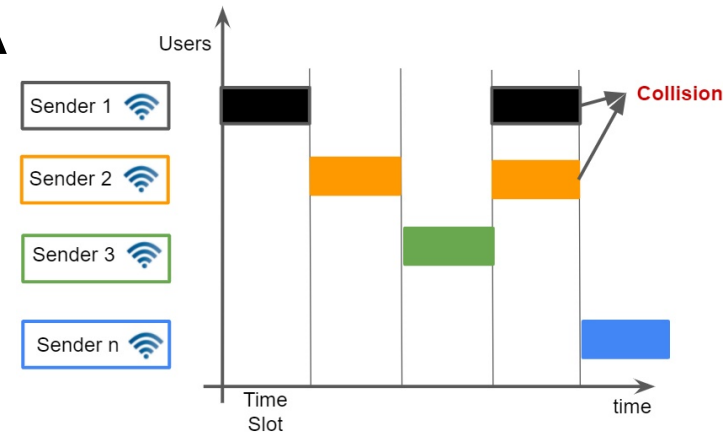
$$\text{throughput} = np(1 - p)^{n-1}$$

n : total of senders

p : access probability

Lab 2: Performance of slotted ALOHA

- Simulate in Matlab the slotted ALOHA to derive the throughput curve.
- Inputs to the program:
 - Number of senders: 4
 - Access probability: [0, 0.01, 0.02, ..., 1]
 - Number of time slots: 1000
- Outputs from the program:
 - Throughput curve vs access probability.
- Submission (zip file):
 - Your code.
 - A pdf report with: throughput curve plot, maximum coordinates, and your remarks when comparing results with the theoretical formula.



$$\text{throughput} = np(1 - p)^{n-1}$$