

3.2
3.3

Sliding window

- Throughput can be increased by allowing the transmitter to send subsequent IUs without waiting for the corresponding acknowledgements
 - A copy of the IUs must be maintained until a positive ACK is received
- SQNs of consecutive IUs that can be issued without receiving acknowledgement can be considered a "window" that flows
- If the transmitter receives an ACK greater than the lowest position of the window it can advance it to that position, ignoring the fact that some ACKs have not yet been received
- Receive window: range of IUs that can also be received non-sequentially
- Protocols can be differentiated according to the ability of the receiver to keep received IUs out of sequence
 - go-back-N (unitary window) or selective repeat (larger window)

Note: They can be received non-sequentially but without overloading the time-out

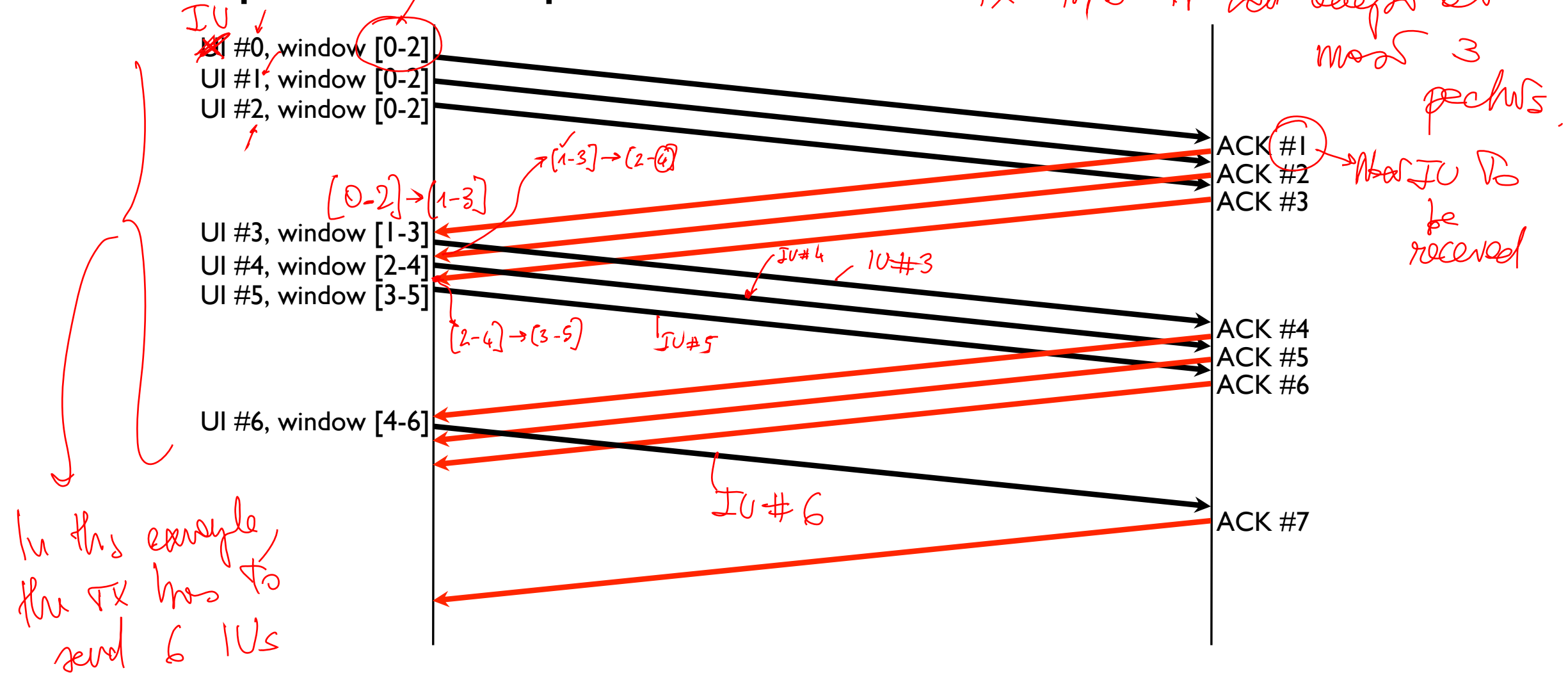
$\#N_L$ $\#N_H$
↓
 $[N_L, \dots, N_H]$

ACK $\rightarrow \#N_L$
 $[N_L + 1, \dots, N_H + 1]$

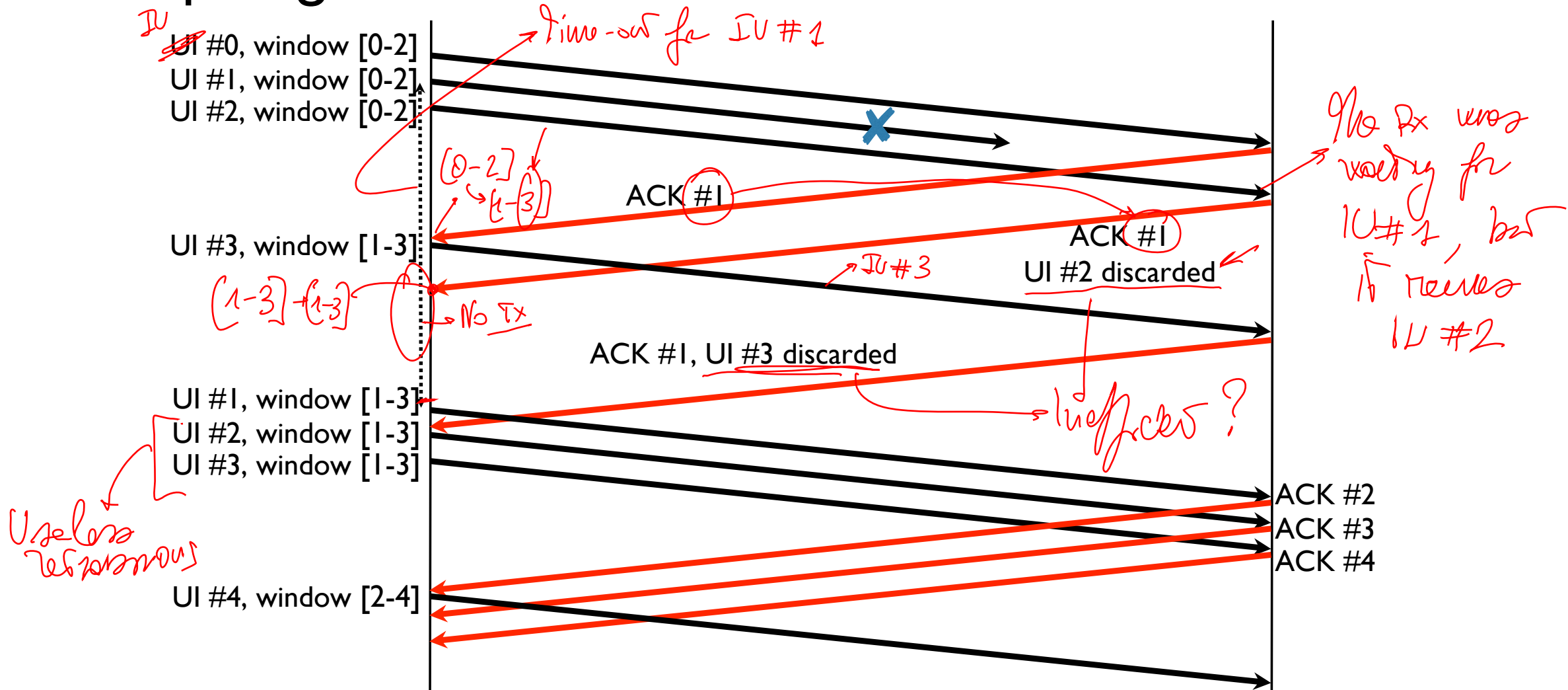
↑
source of the sliding window

↑

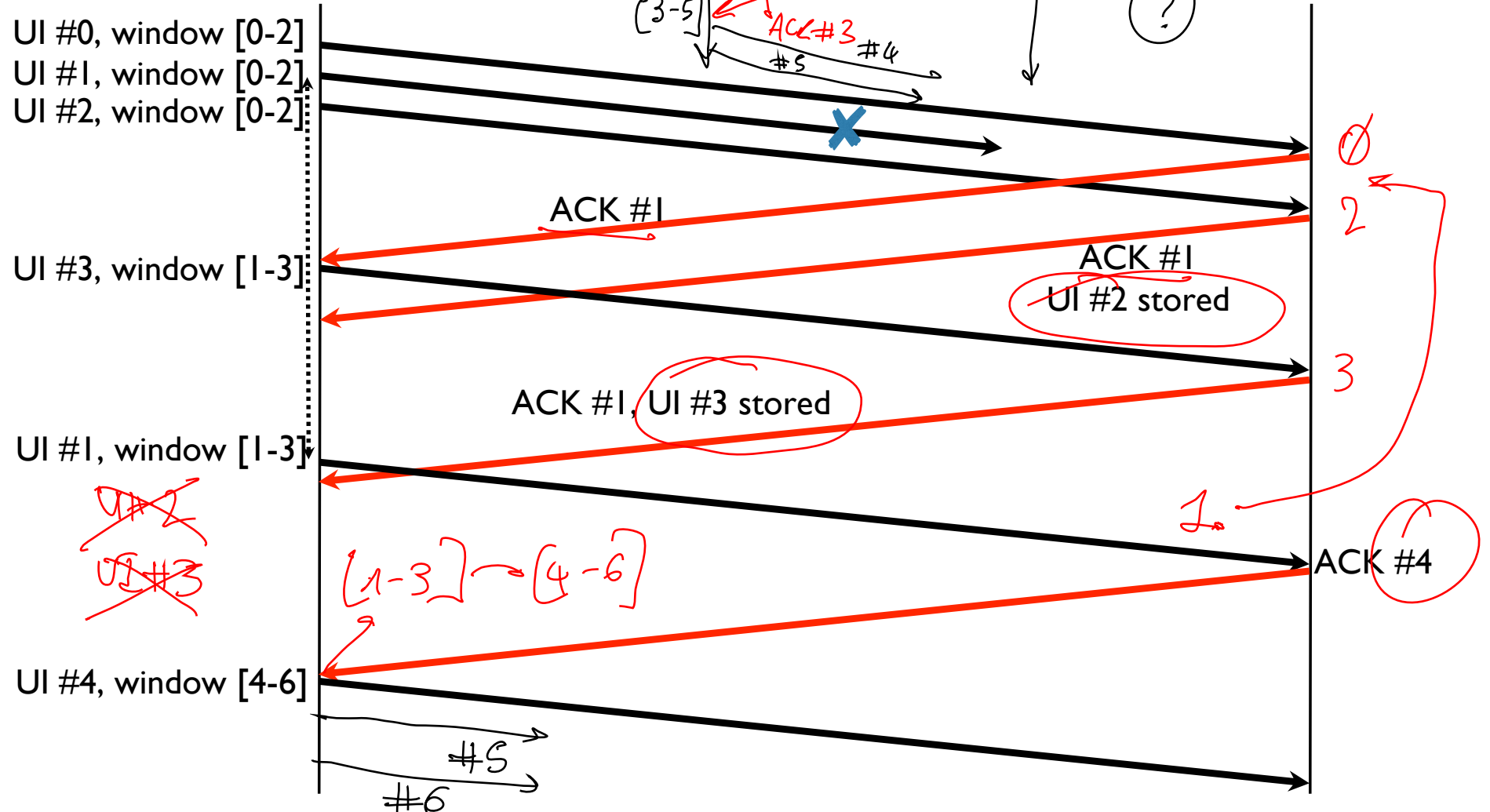
Example: basic operations



Example: go-back-N



Example: selective repeat



[illegible]