

Note for go-back-N vs. selective repeat ARQ: P_1 P_2

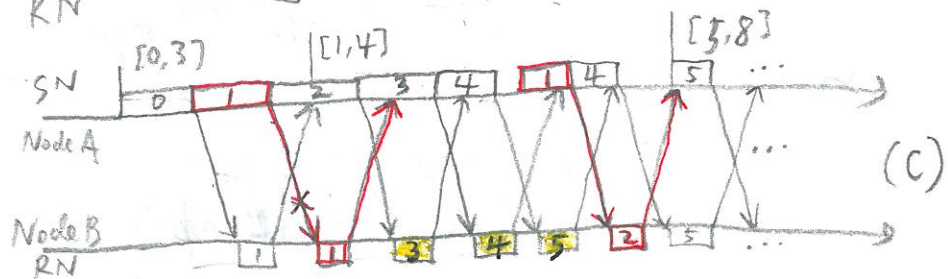
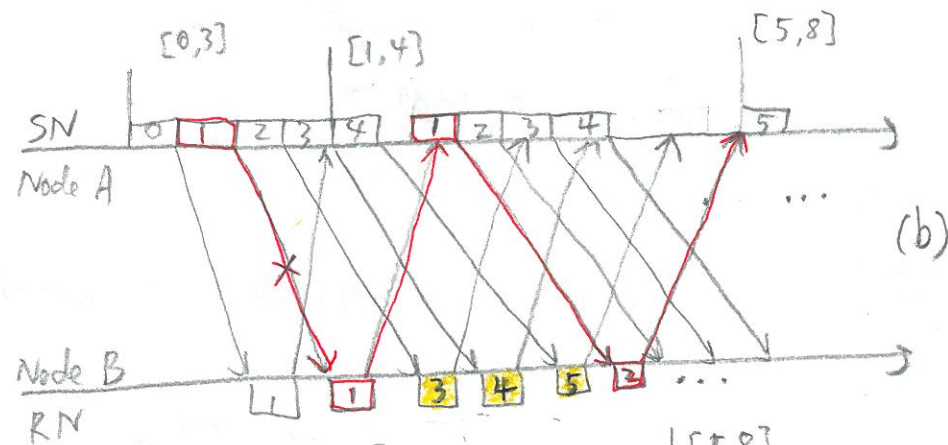
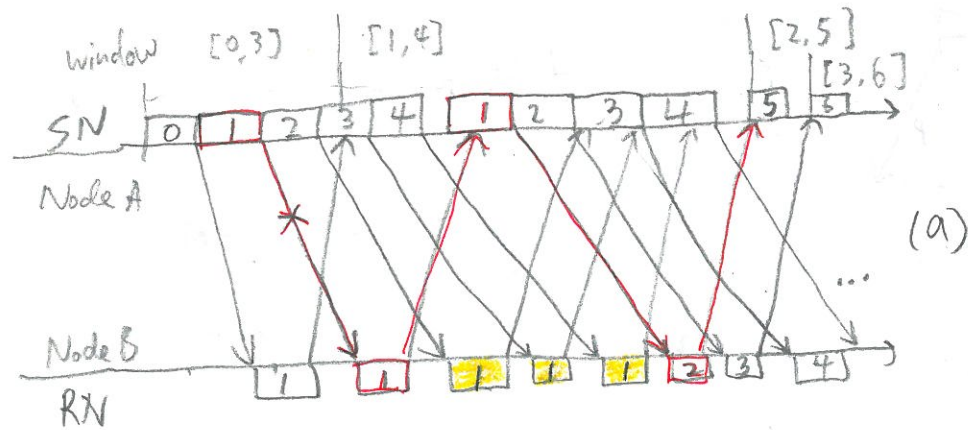


Figure (a) shows the case of go-back-N with $N=4$.

Note that different from Figure 2.25 in the textbook, Node B does not keep requesting packets.

Figure (b) shows the case of selective repeat. This shows that while selective repeat was designed to reduce number of re-transmissions, here packets 2, 3, 4 still ~~are~~ will be retransmitted because the acknowledgements arrived too late.

Figure (c) shows that, compared with Figure (b), if the acknowledgements arrived in time, then selective repeat indeed can save some re-transmissions (packets 2 and 3 in this case).

Finally, note that in selective repeat, the window may move forward faster, to have its starting packet ^{sequence} number set to the smallest unacknowledged packet sequence number. In this example, window moves from $[1, 4]$ to $[5, 8]$.

There are some typos in the textbook:

Page 74: "both packets 1 and 2" → "both packets 0 and 1"

"from packet 3 to 5" → "from packet 2 to 4"

Page 76: "packet 3 with 4 rather than 5"

→ "packet 2 with 3 rather than 4"