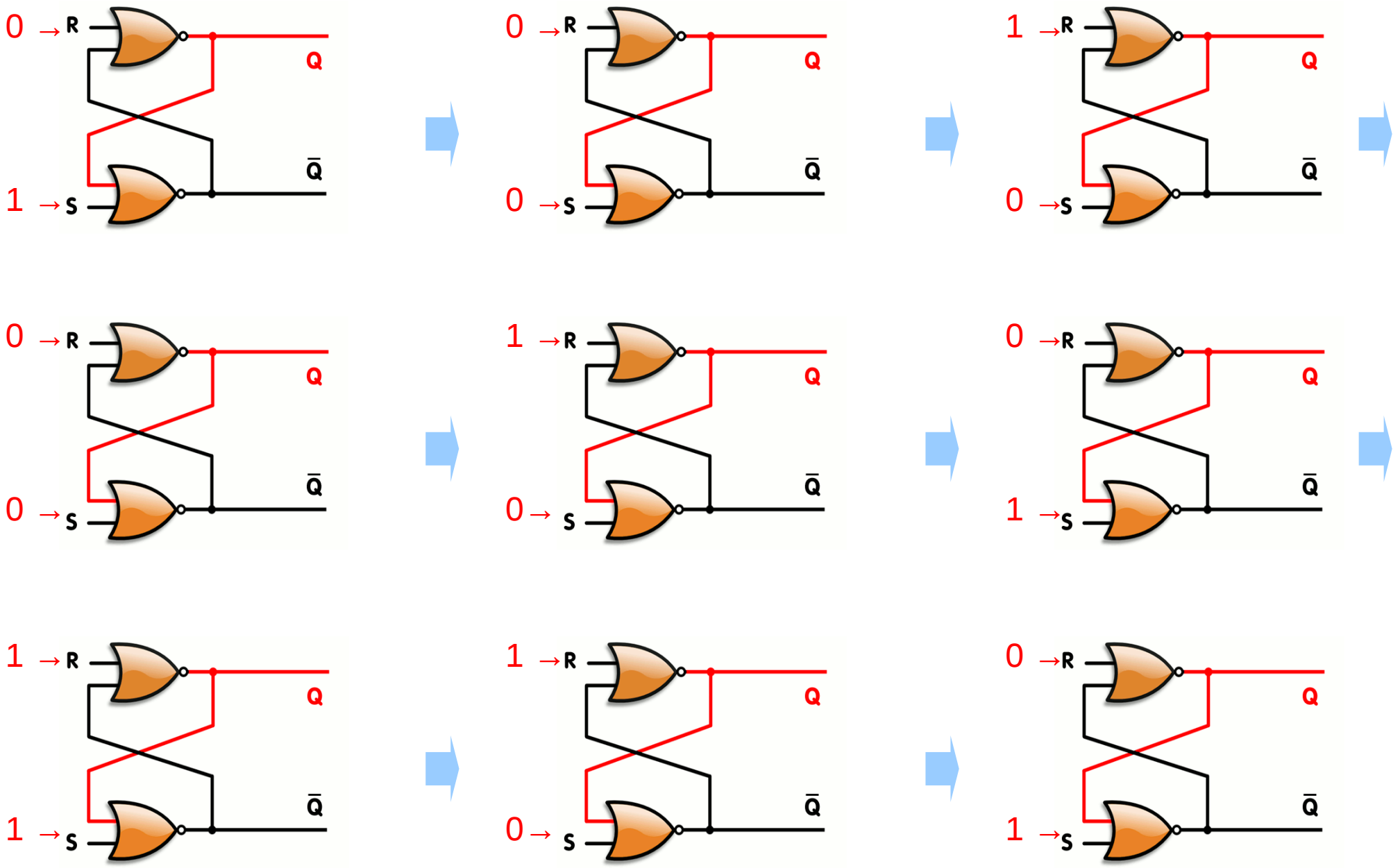
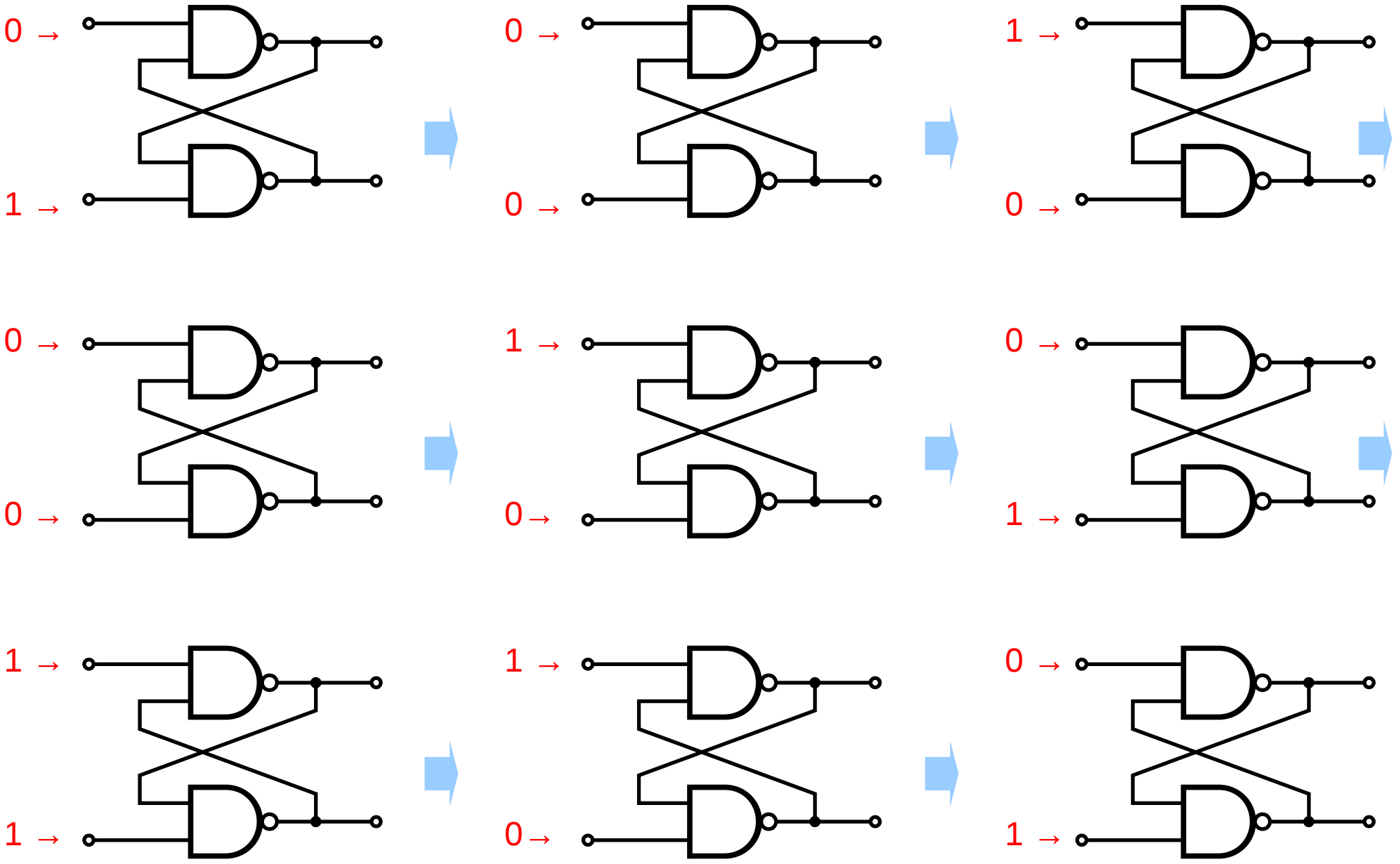
#1 NOR RS Latch - Find out Q, Q'



#2 NAND RS Latch - Find out Q, Q'



#3 **NOR** RS Latch

S waveform
(↑=0ns, Δ=1ns)
(↓=1ns, Δ=3ns)
(↑=4ns, Δ=2ns)
(↓=6ns, Δ=3ns)
(↑=9ns, Δ=1ns)
(↓=10ns, Δ=12ns)

R waveform
(↓=0ns, Δ=2ns)
(↑=2ns, Δ=1ns)
(↓=3ns, Δ=4ns)
(↑=7ns, Δ=1ns)
(↓=8ns, Δ=1ns)
(↑=9ns, Δ=3ns)

Find waveforms (S, R, Q, Q')

#4 **NAND** RS Latch

Using he inverted S, R waveform of #3,

Find waveforms (S, R, Q, Q')