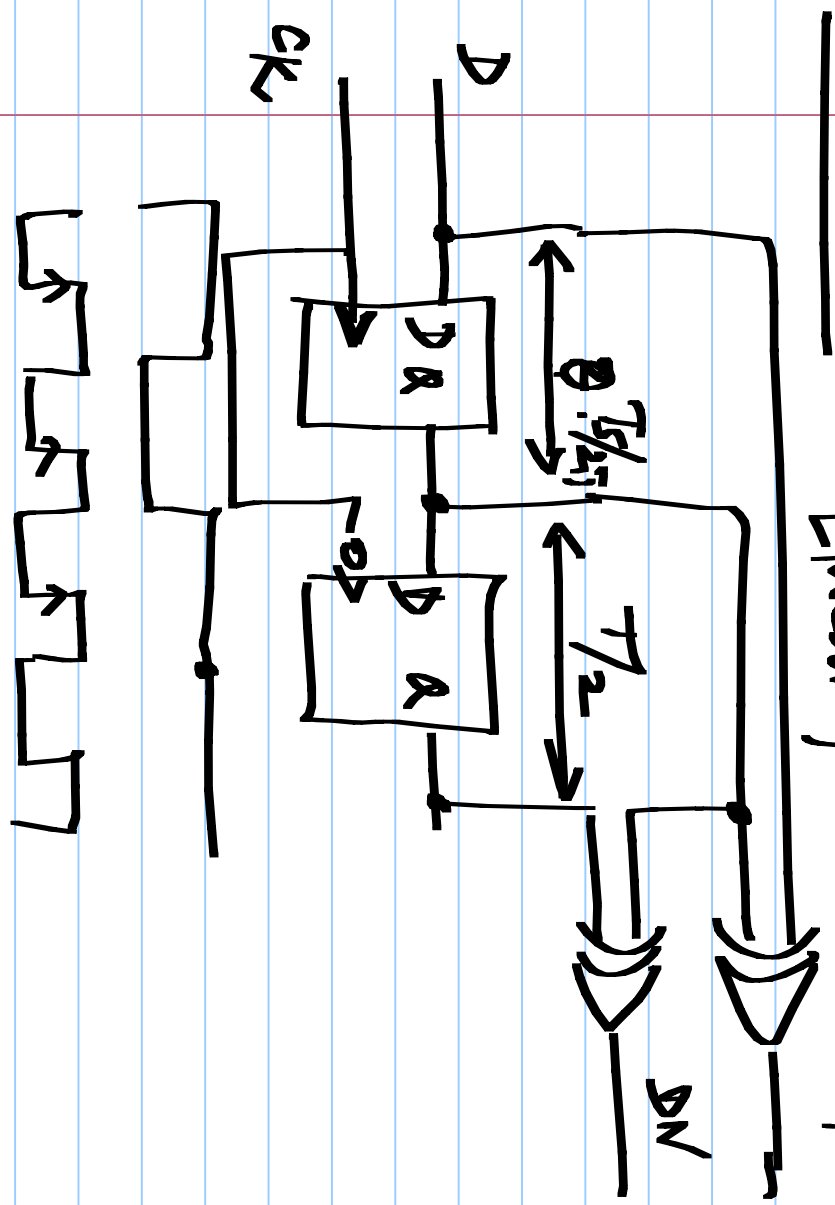


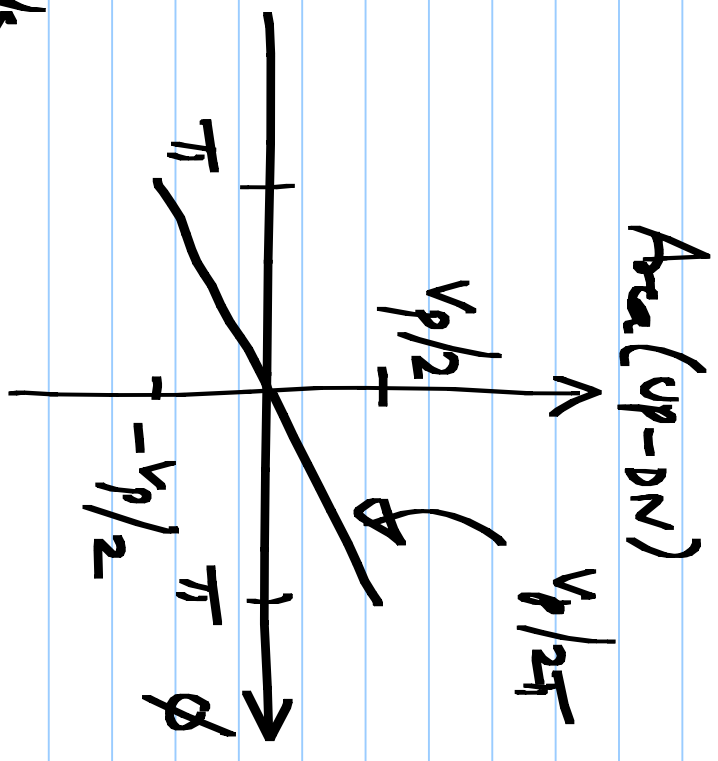
ECE 6322

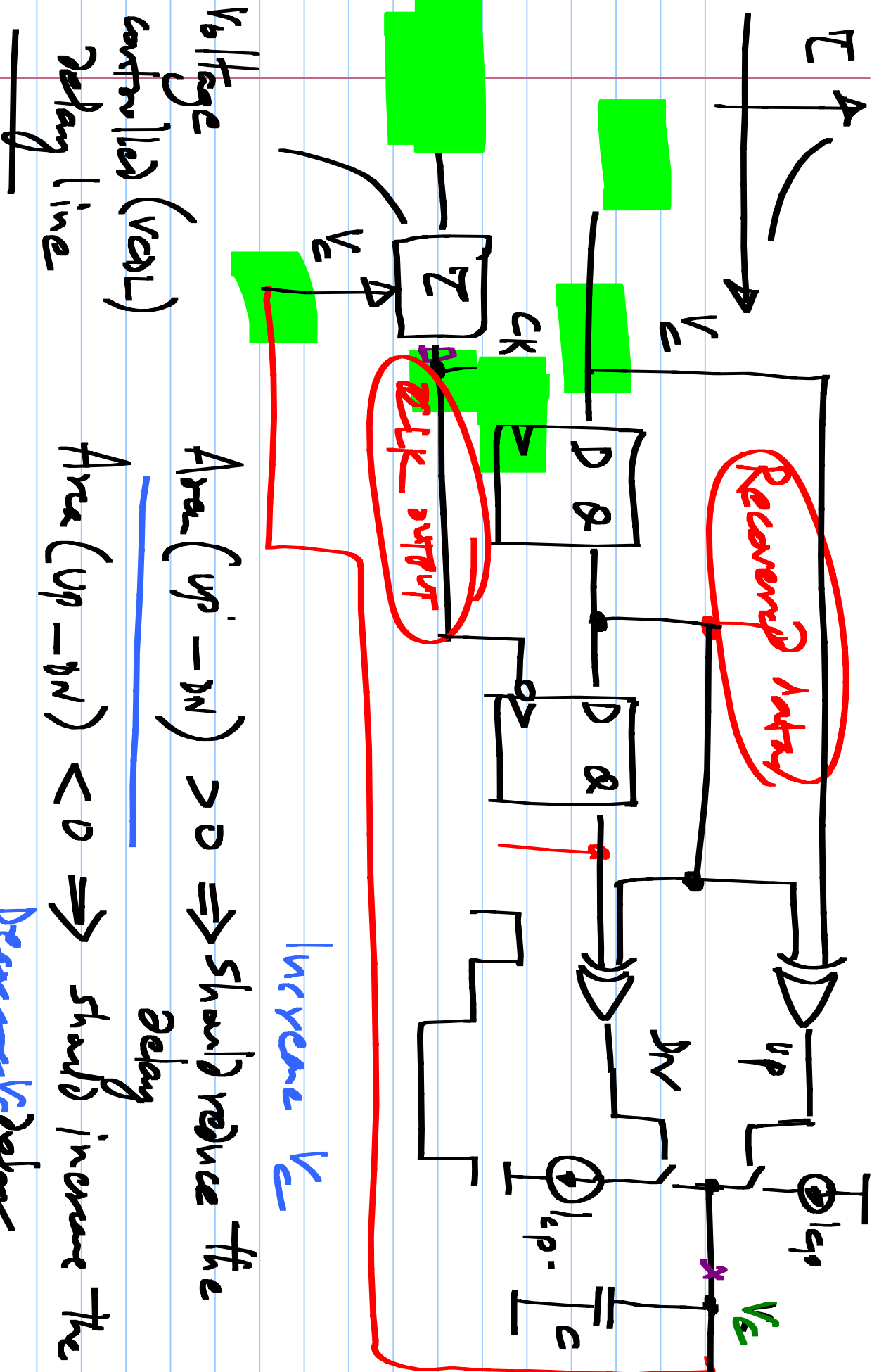
Hoge phase detector Linear phase detector

24/1/2018

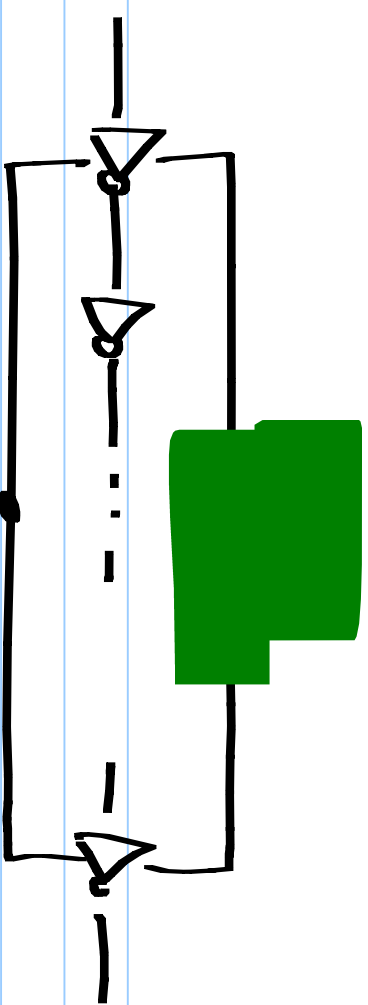


ϕ : Phase of data - phase of clock





Voltage controlled (VCL) delay line
 Area ($V_p - V_N$) $> 0 \Rightarrow$ should reduce the delay
 Area ($V_p - V_N$) $< 0 \Rightarrow$ should increase the delay
 Increase V_c
 Decrease V_c delay



V_{pp}

