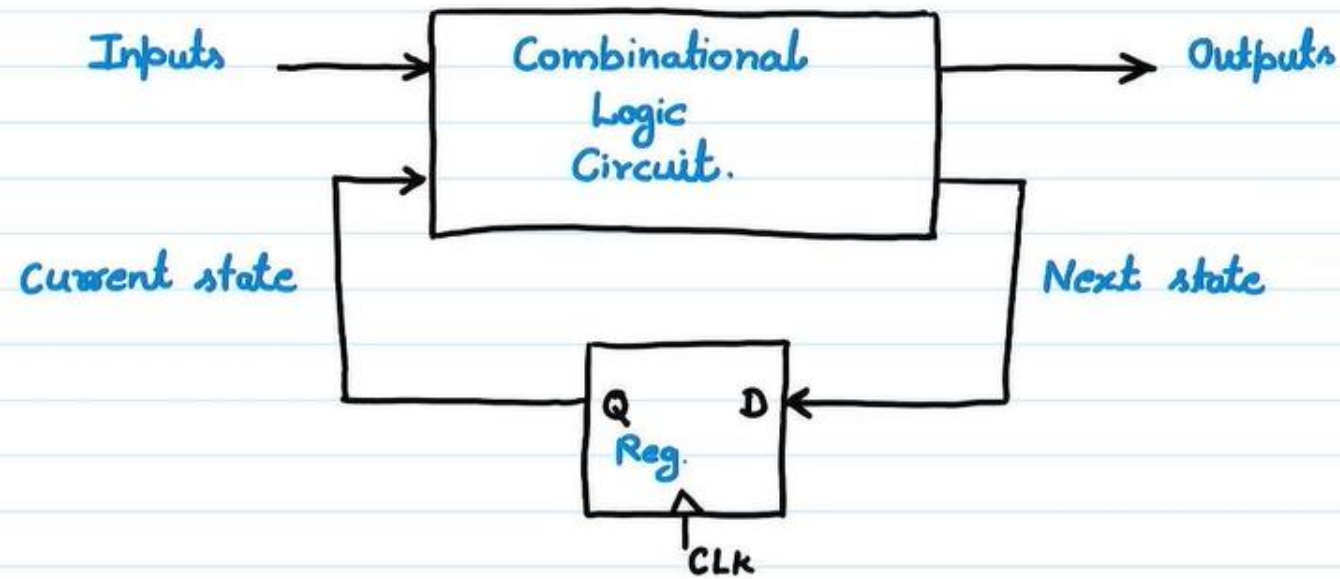
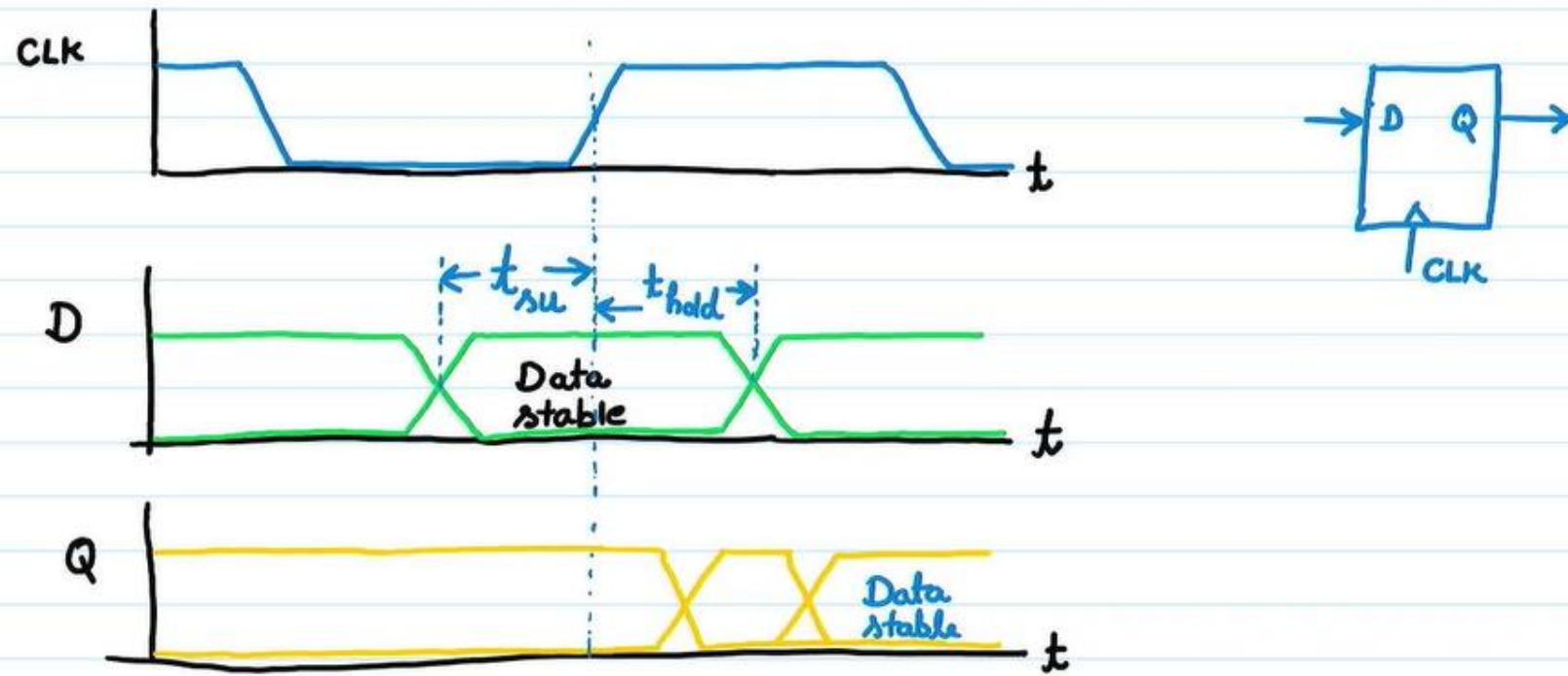


## Sequential Logic :



- A Latch : is level sensitive .
- A Register : is edge triggered .

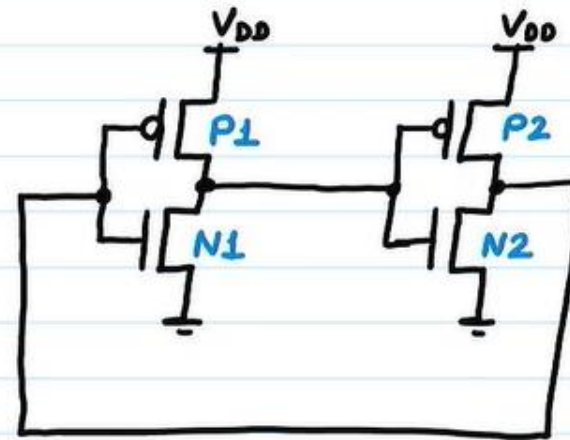
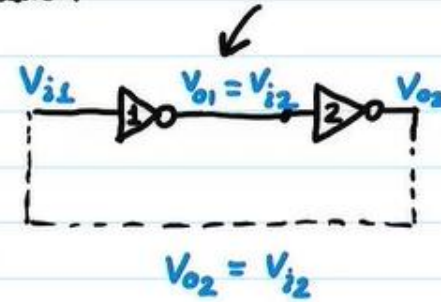
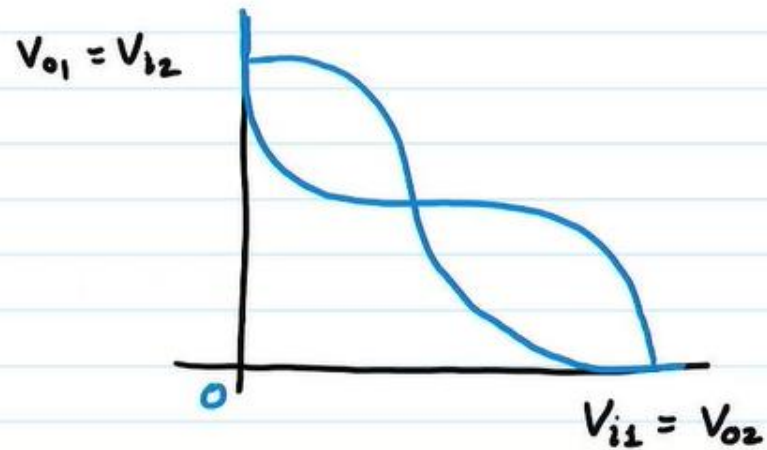
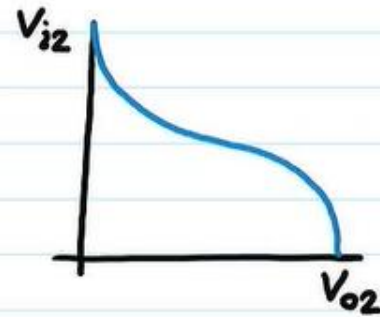
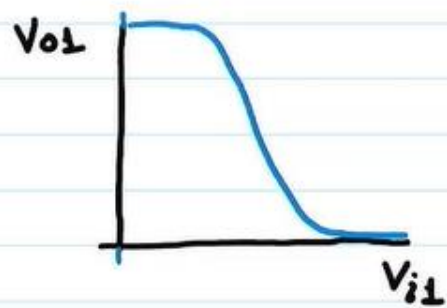
Timing Definitions : Timing is synchronized through clock signal.



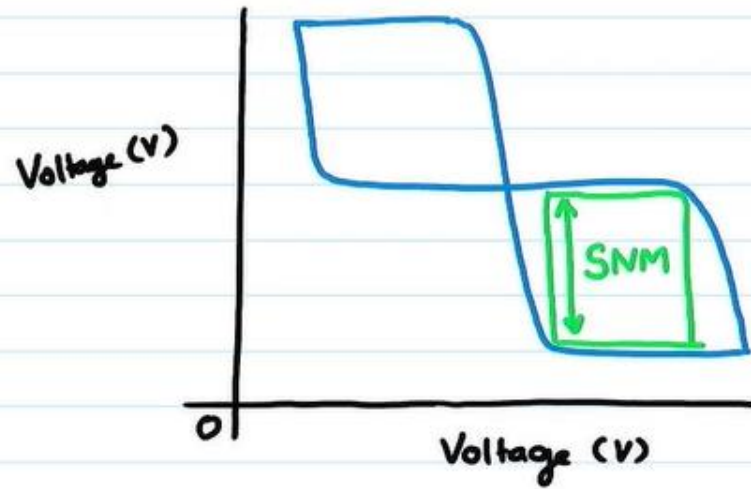
Setup-Time : The minimum amount of time before the clock edge that the data input must be stable.

Hold-Time : The minimum amount of time after the clock edge that the data input must remain stable.

Positive Feedback : Bi-Stability in CMOS circuits.

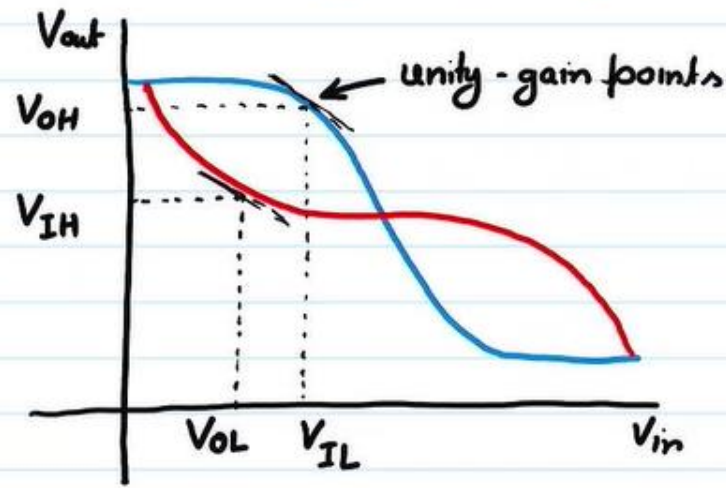


## Meta-stability



SNM : Static Noise Margin is a major parameter in the design of a Static Random Access Memory (SRAM) cell.

it helps a designer determine the ratio of pull-up, pull-down and passgate transistors.



$V_{IH}$  ,  $V_{IL}$

$V_{OH}$  ,  $V_{OL}$

## CMOS Schmitt Trigger :

