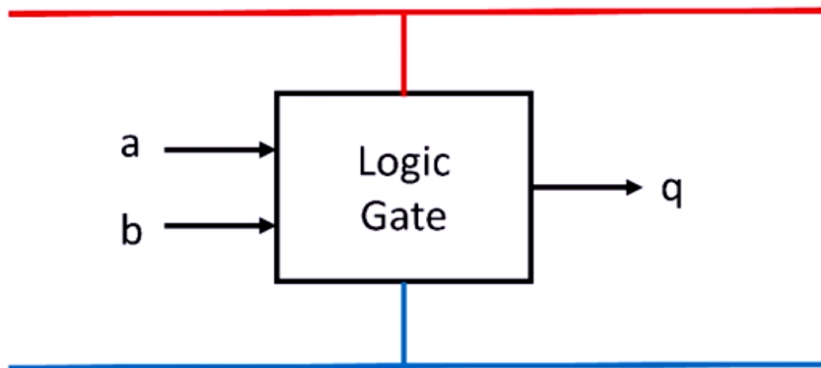


Logic Gates

- smallest functional unit
 - combination of [[Transistors]] for [[Logische Verknüpfungen]]
 - functional completeness can be achieved with NAND only
- input and outputs resembled by voltage
 - comparable to [[Funktionen]]

("Vdd", "high", "1")



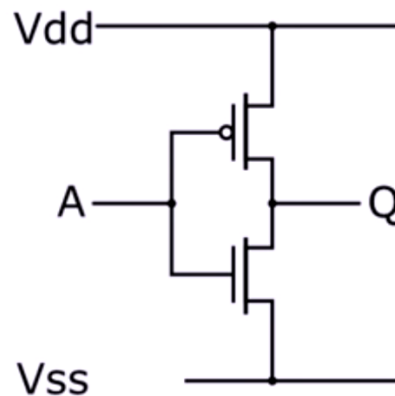
("GND", "Vss", "low", "0")

- design principle
 - complementary pull up and pull down networks
 - pulled either up or down

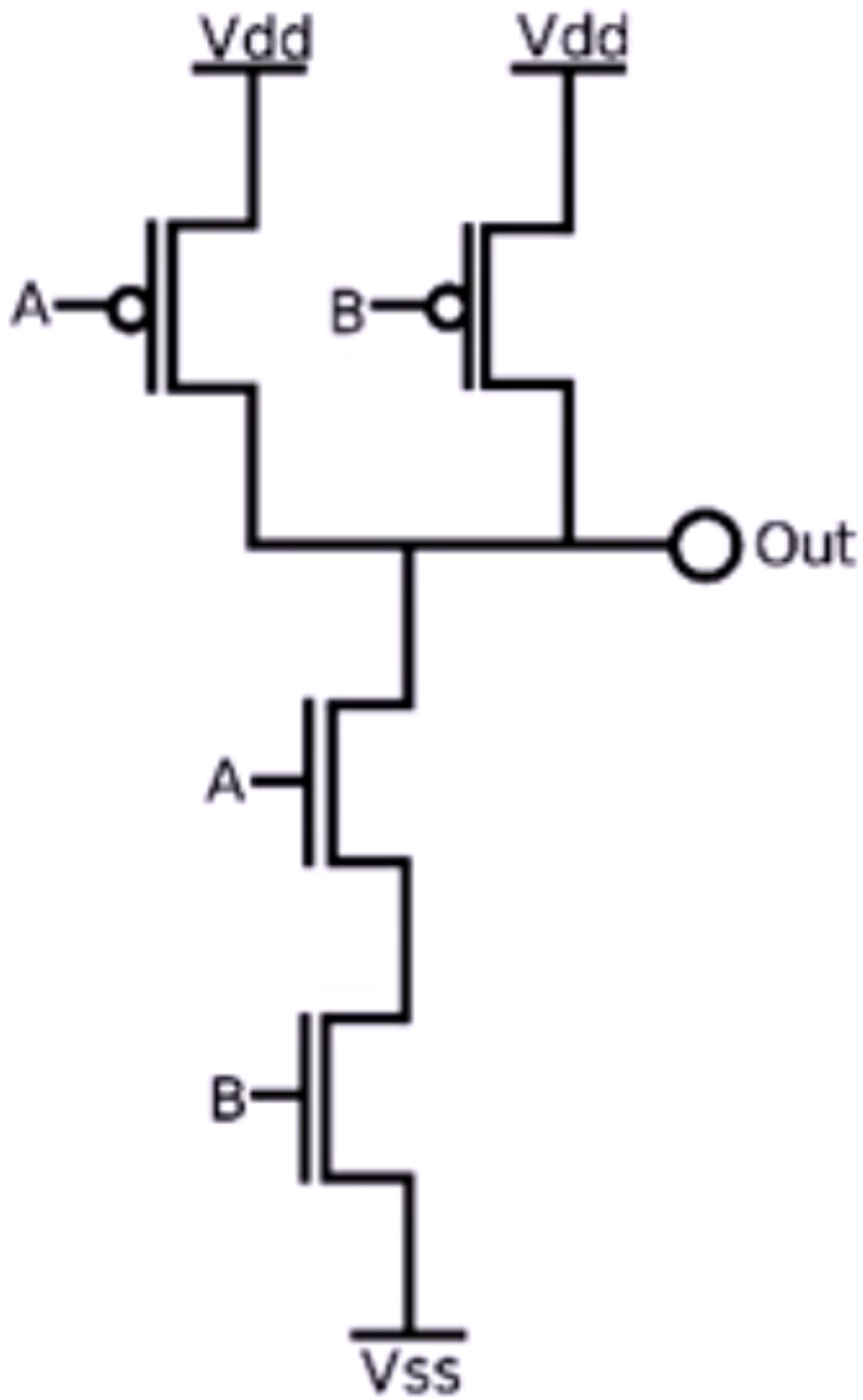
Common functions

- CMOS inverter

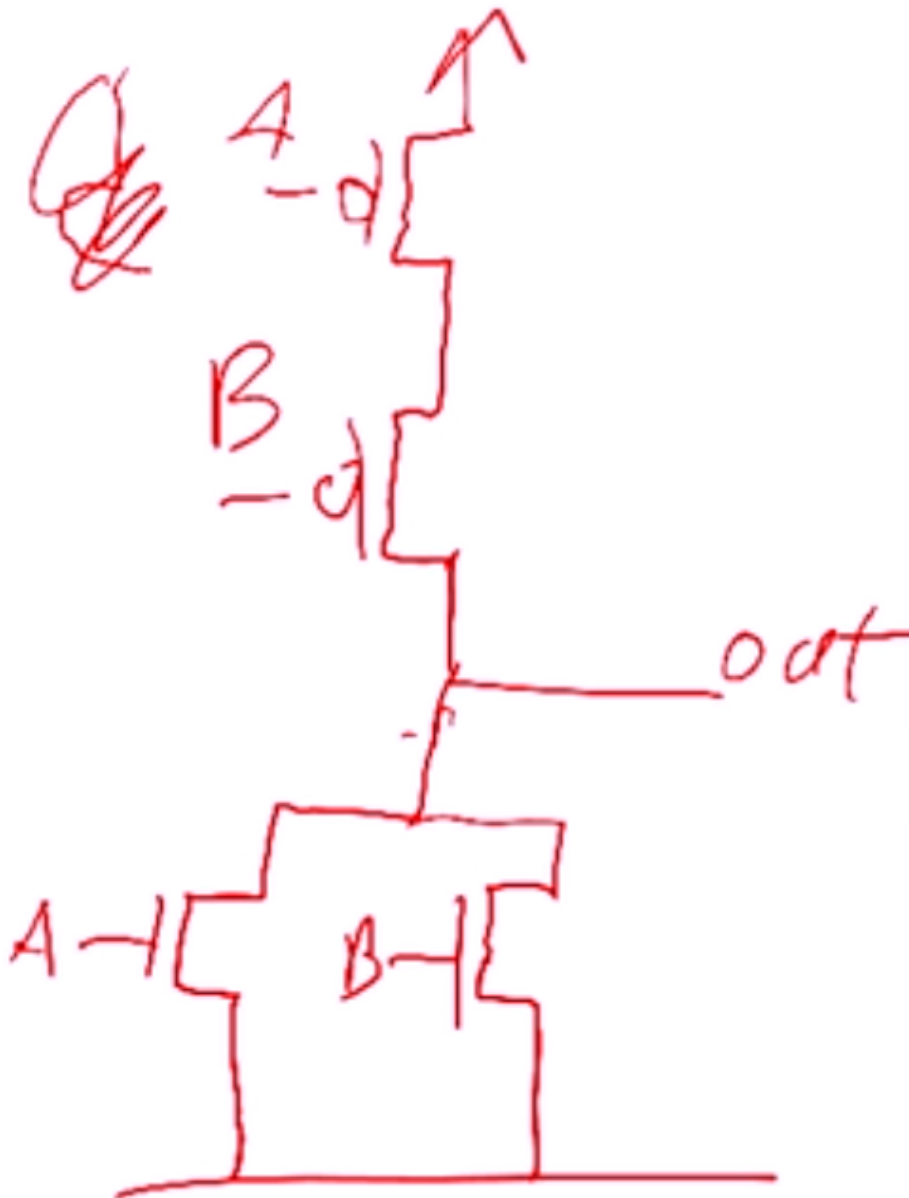
A	Q
High (1)	Low (0)
Low (0)	High (1)



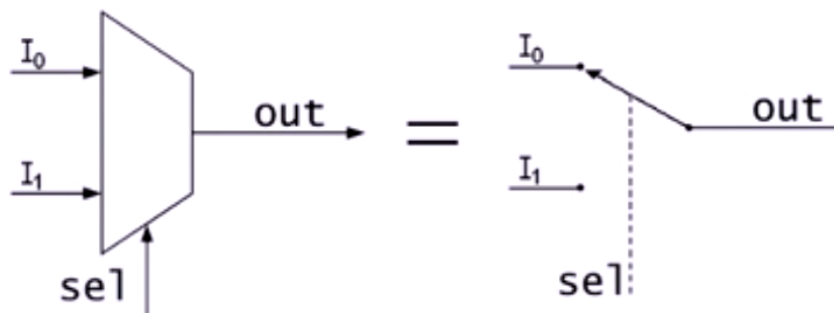
- NAND



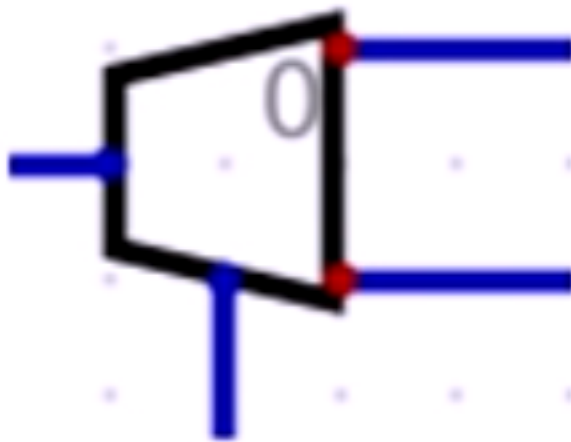
- NOR



- Multiplexer MUX

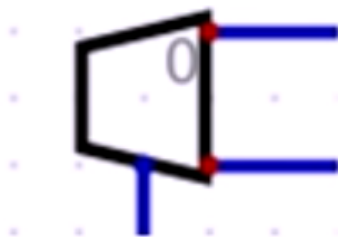


- Demultiplexer DEMUX

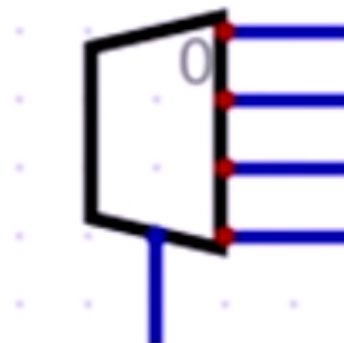


1to2 DEMUX

- Decoder



1to2 Decoder



1to4 Decoder