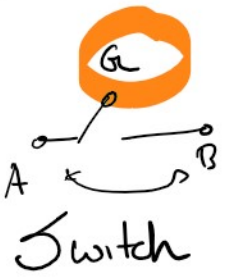
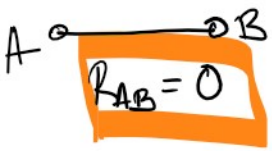
Lecture 9b

12 August 2024 03:12

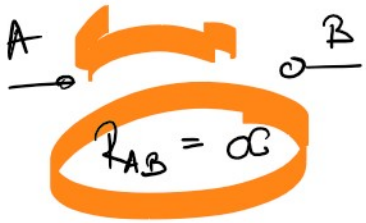


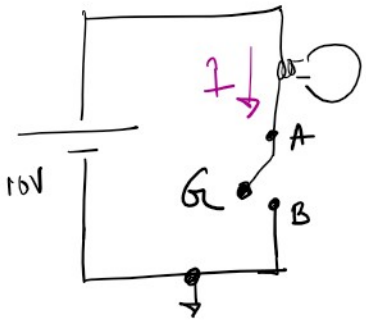
Switch

Switch on
(G = logical 1)

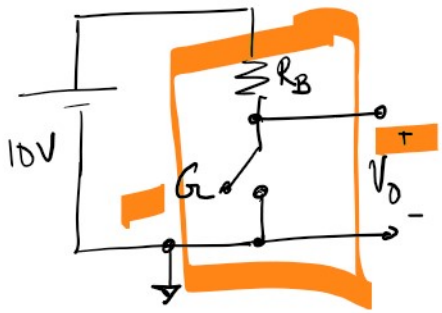


Switch off





G	1	Bulb
On (1)	High	On (1)
Off (0)	0	Off (0)



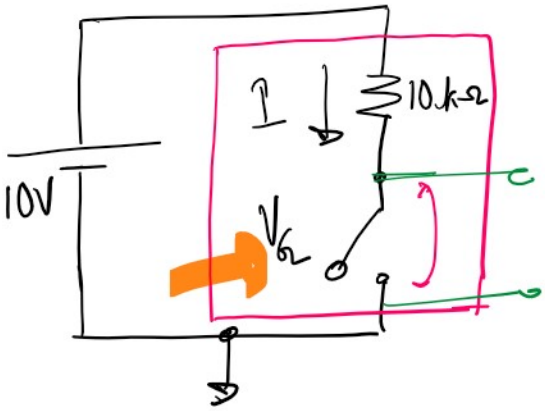
G	1	V_0(V)	
On (1)	High	0	(0)
Off (0)	0	10	(1)

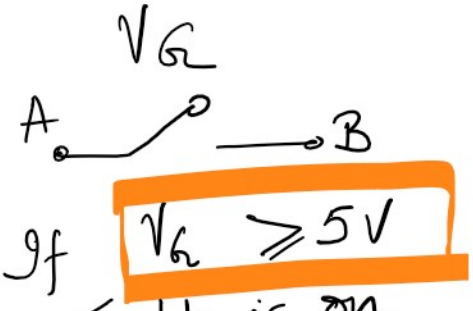
G	V_0
0	1
1	0

In practice G is a voltage

In practice G_i is a voltage

What is the I-V char of the NOT-gate.



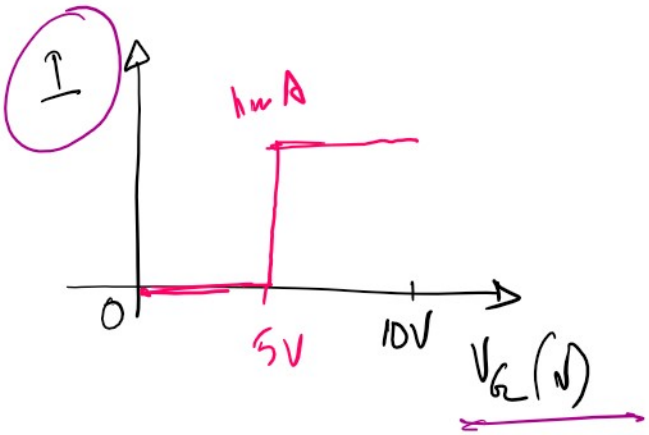


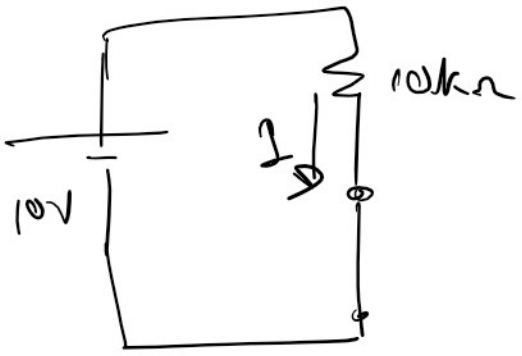
If $V_G \geq 5V$

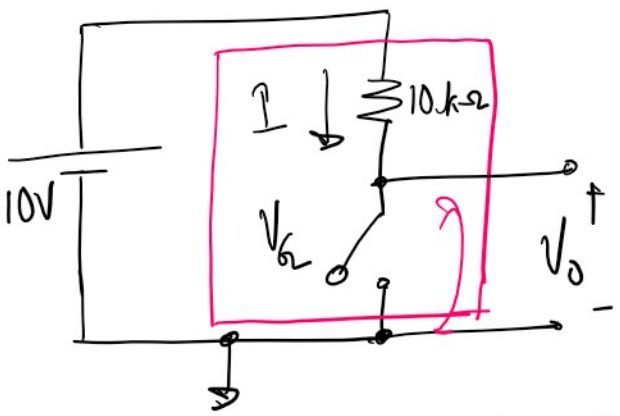
Switch is on

If $V_G < 5V$

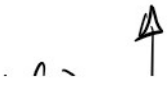
Switch is off.



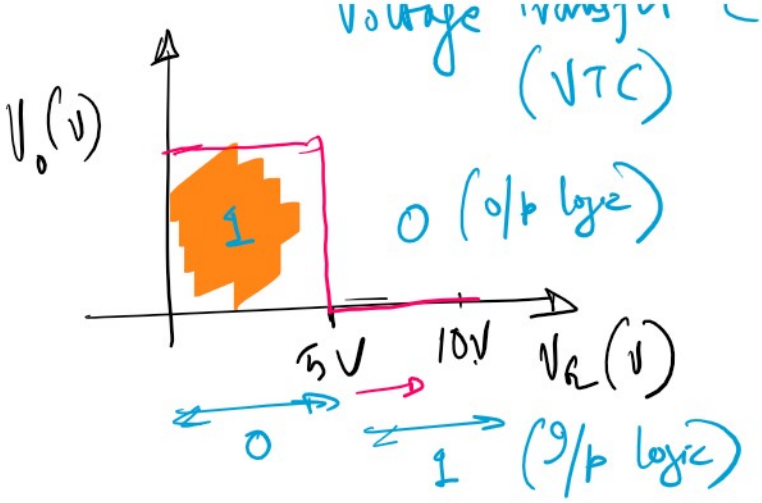


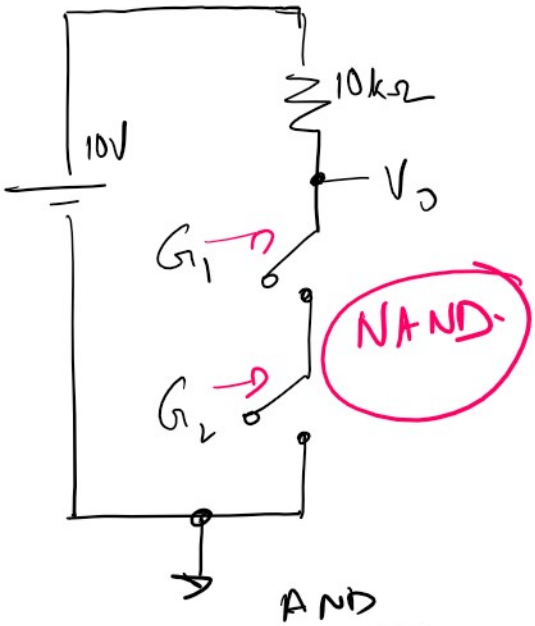


Voltage Transfer Char (VTC)



Voltage transfer characteristics (VTC)





if $G_1 = 0$ & $G_2 = 0$

$V_o = 10V$ (1)

if $G_1 = 0$ & $G_2 = 1$

$V_o = 10V$ (1)

if $G_1 = 1$ & $G_2 = 0$

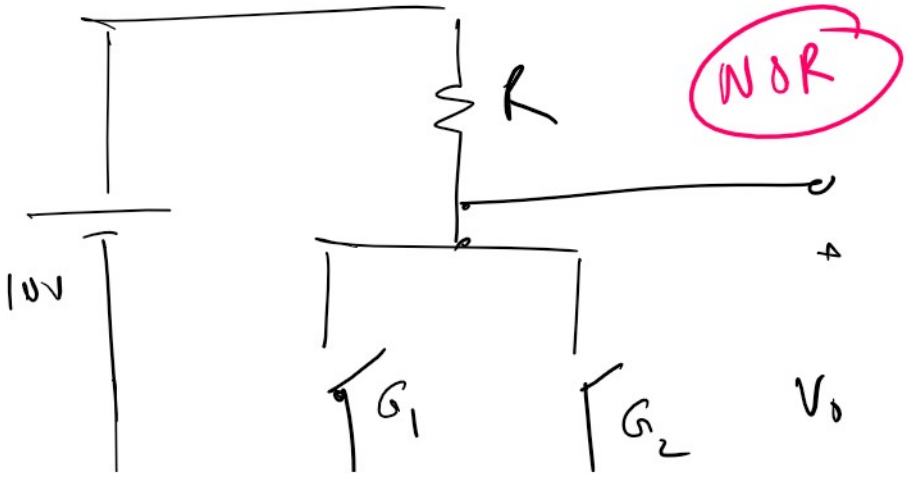
$V_o = 10V$ (1)

if $G_1 = 1$ & $G_2 = 1$

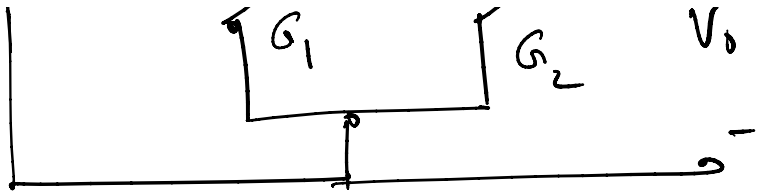
$V_o = 0$ (0)

AND

x_1	x_2	Y
0	0	0
0	1	0
1	0	0
1	1	1



G_1	G_2	V_o
0	0	1
0	1	0
1	0	0
1	1	0



X_1	X_2	Y
0	0	0
1	0	1
0	1	1
1	1	1