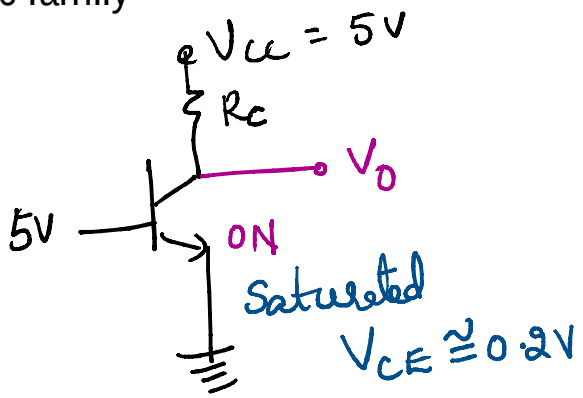


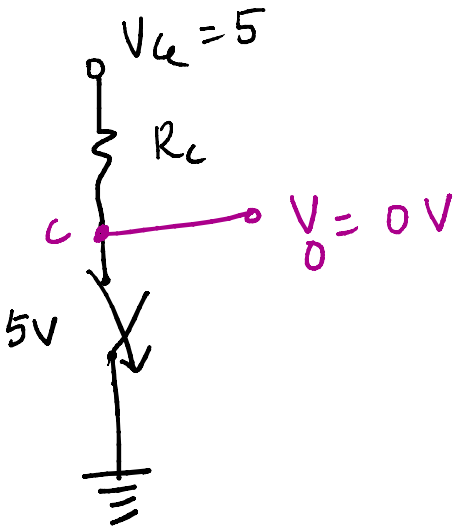
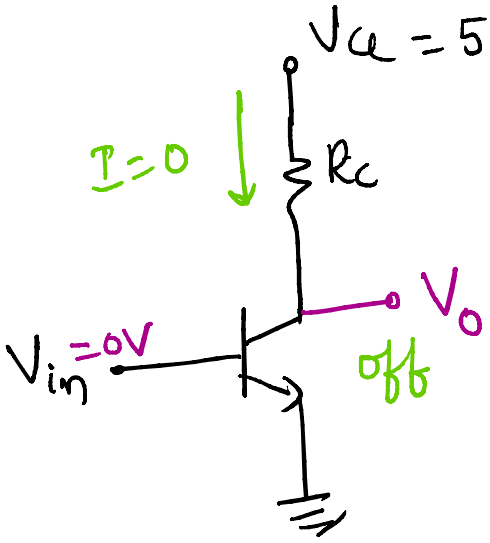


Fig: ON transistor



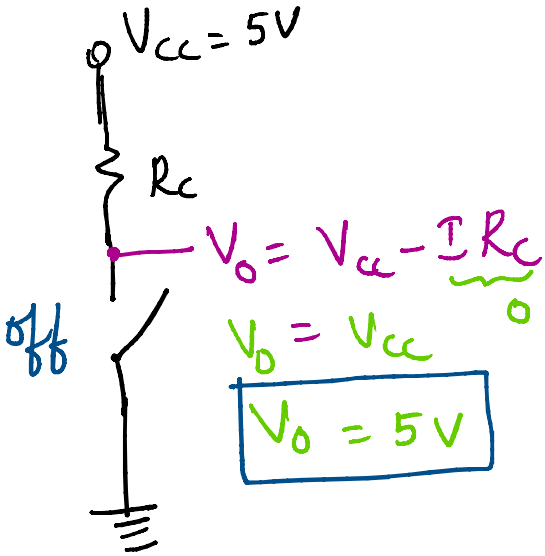
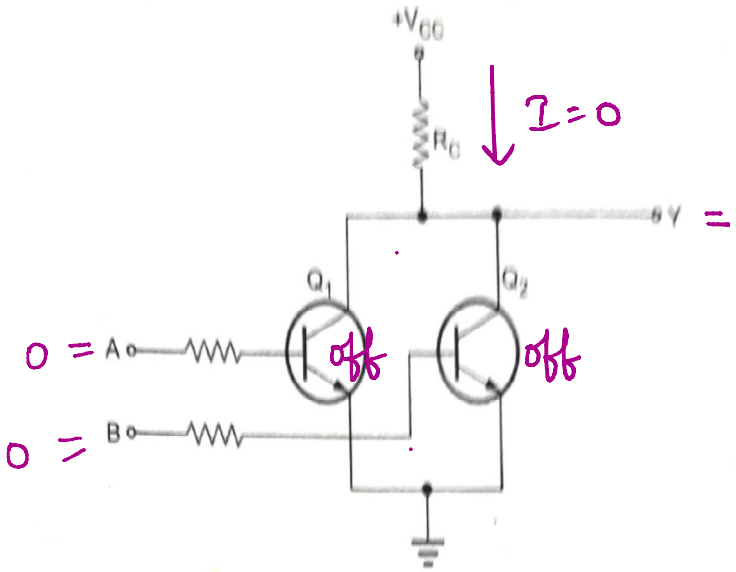
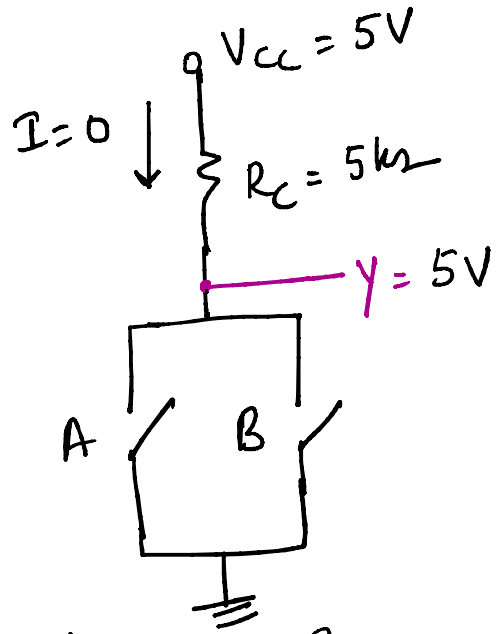


Fig: off transistor

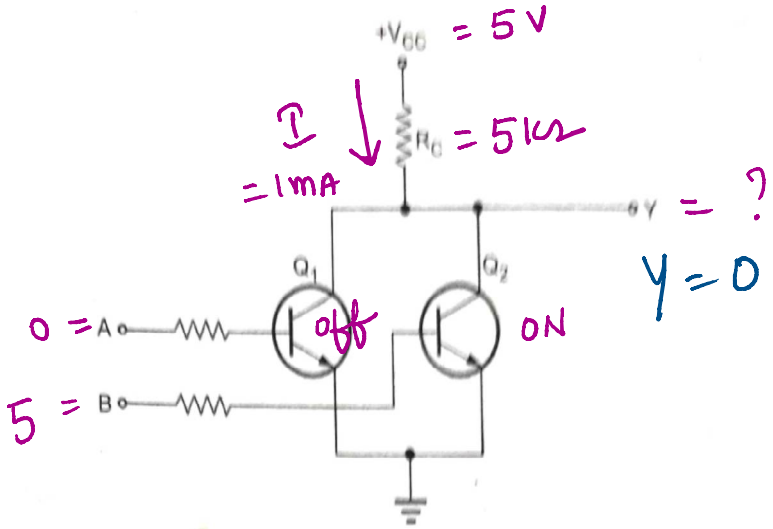
Vcc = 5V





$Y = V_{CC} - I_C R_C$

$= 5V - 0 = 5V$

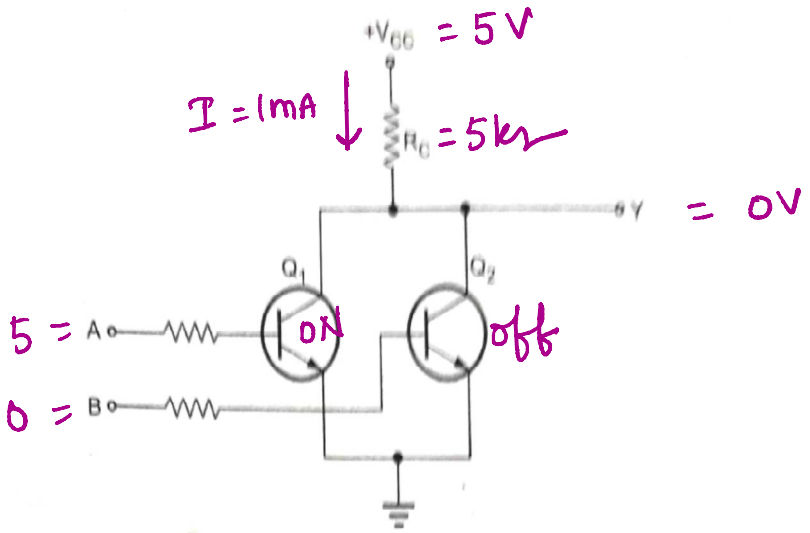


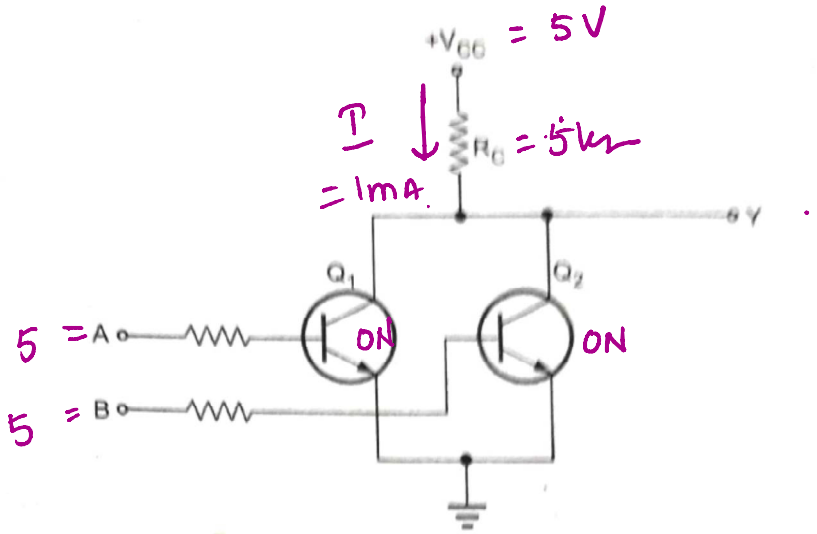
$Y = 0$

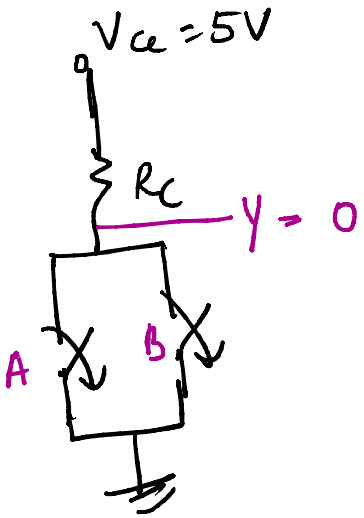
$Y = V_{CC} - I R_C$

$= 5 - 1mA \times 5k\Omega$

$= 0$







A	B	Y
0	0	5V
0	5	0
5	0	0
5	5	0

≅ NOR gate

A	B	Y
0	0	1
0	1	0
1	0	0
1	1	0

Parameter	Value
Propagative Delay	12 nsec
Power Dissipation	30-100 mW
Noise Margin	0.2 volts
Fan-out	4

min P_d → Speed ↑

less P_{diss}

High

Table 7.3 Specifications for RTL gate

7.3.4 Wire-AND Connection

The RTL has a capacity called **wire - AND**. Since the output is effectively a transistor, two outputs can be wired together. This is illustrated in Fig. 7.6.

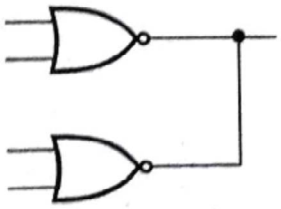


Fig. 7.6 Wired AND RTL NOR gates