

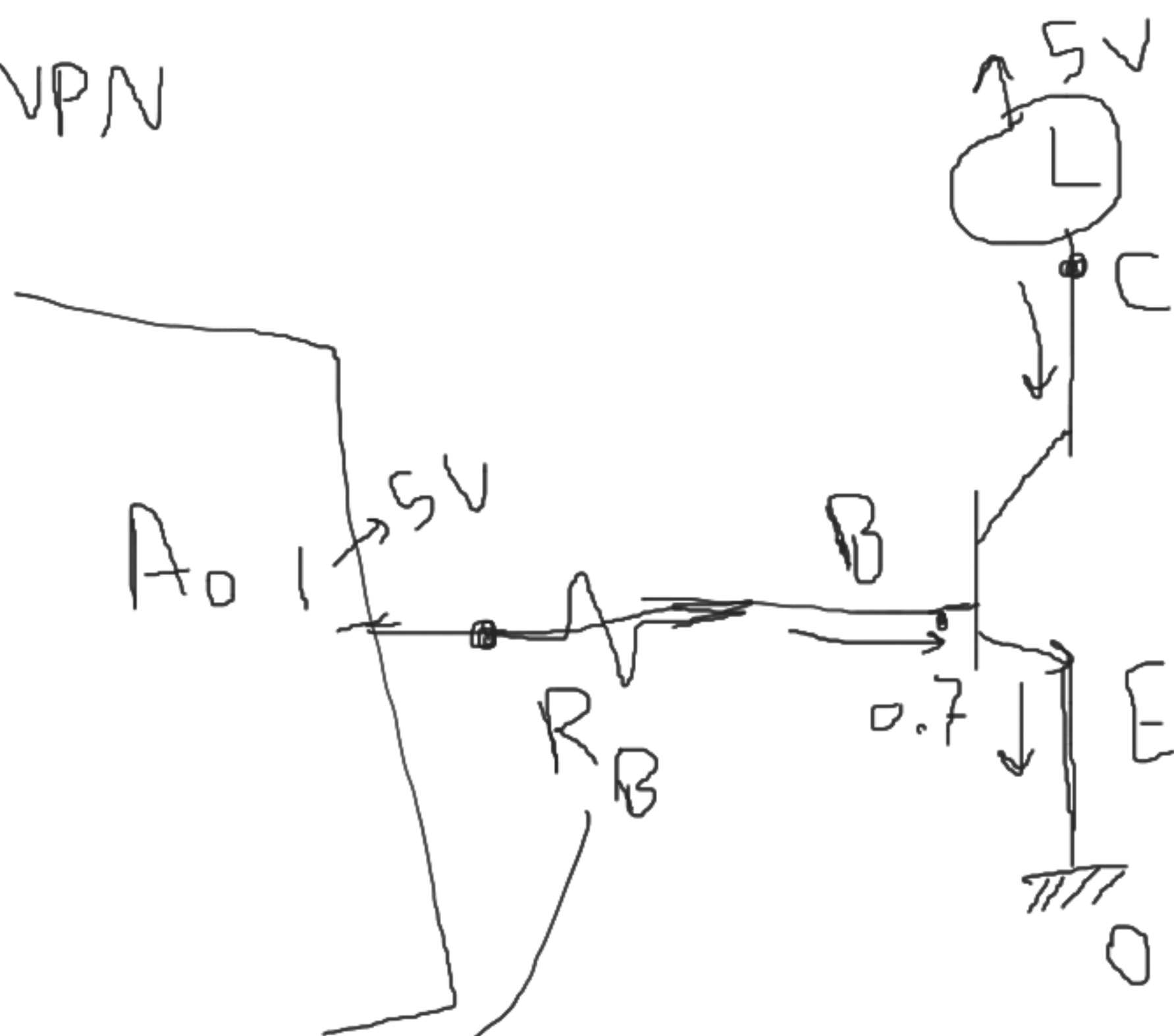
ON

$$V_{BE} = 0.7$$

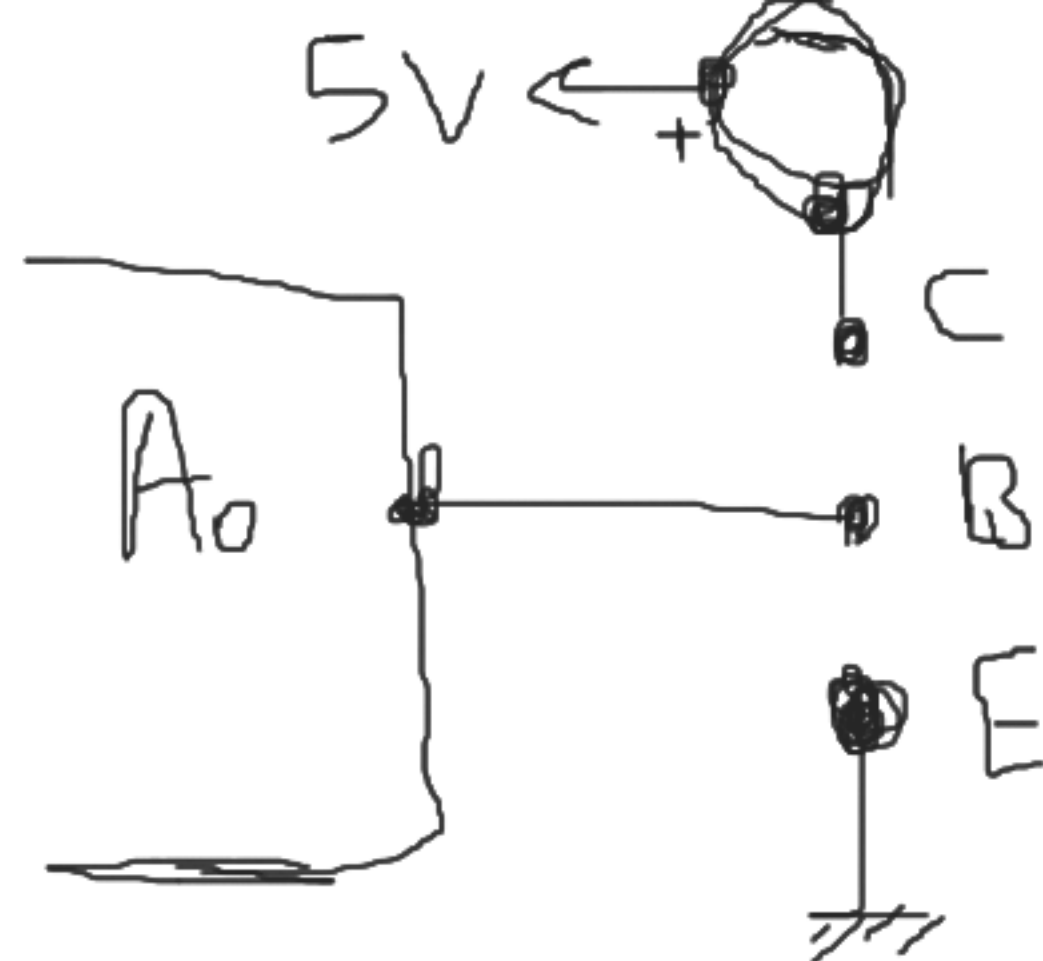
OFF

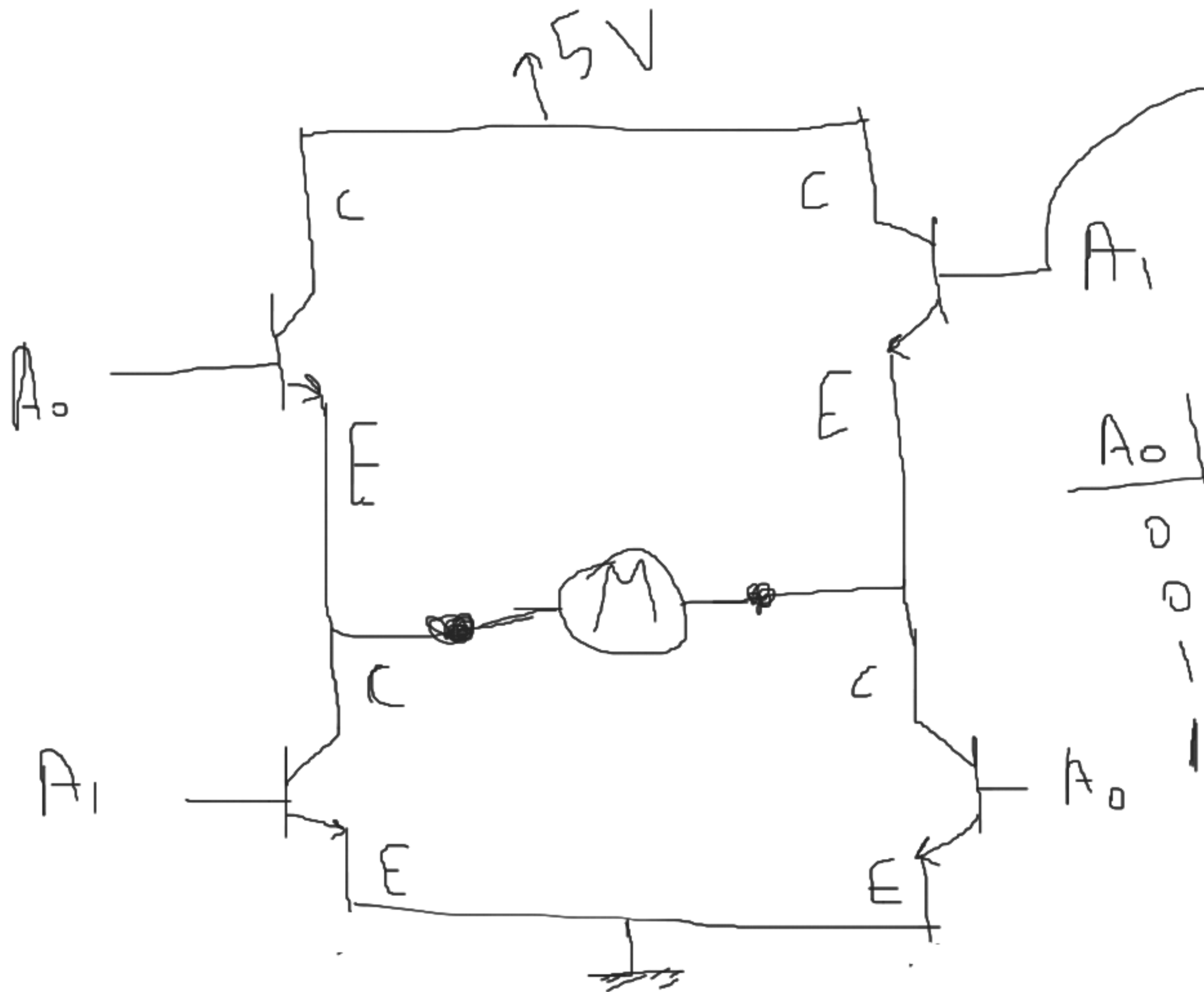
$$V_{BE} = 0$$

NPN

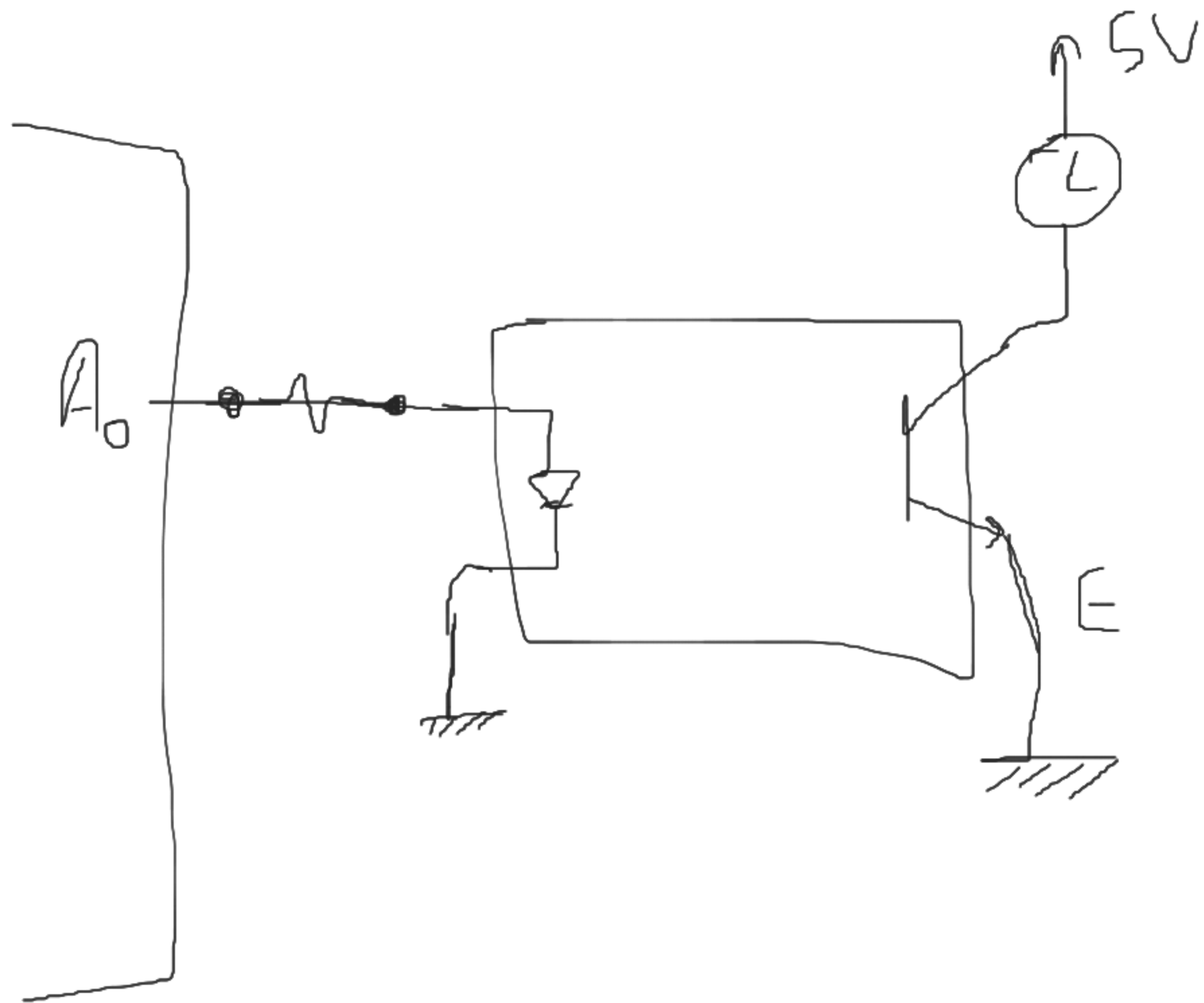


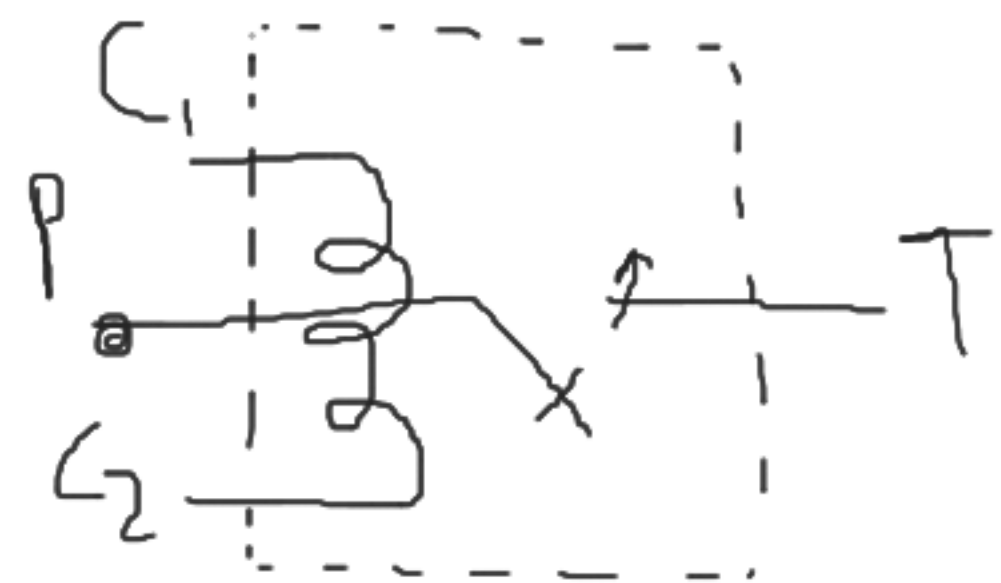
$$R_B = \frac{V}{I_{Bsat}} = \frac{5 - 0.7}{15 \text{ mA}} = 286 \Omega$$



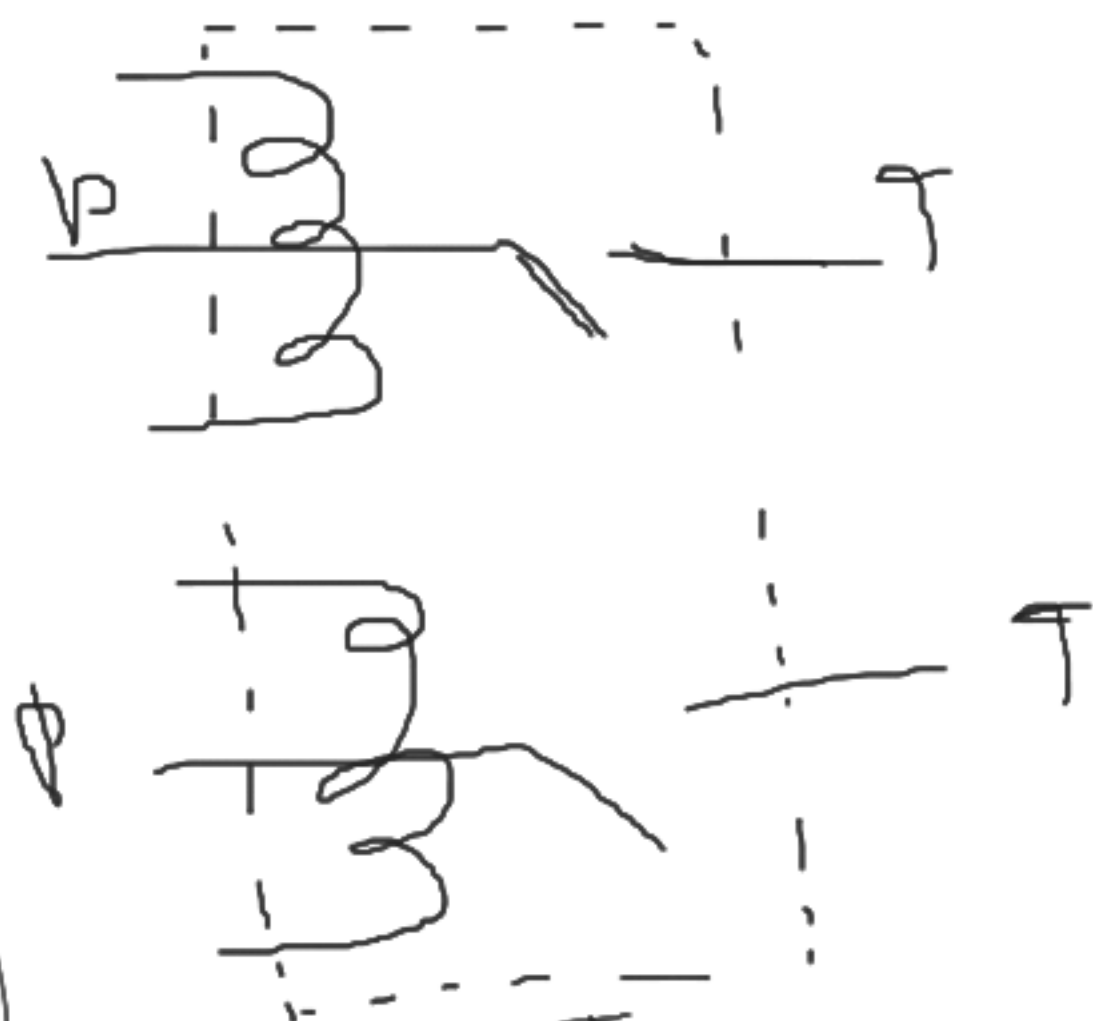


$A_0$	$A_1$	
0	0	top
0	1	CW
1	0	ACW
1	1	bottom

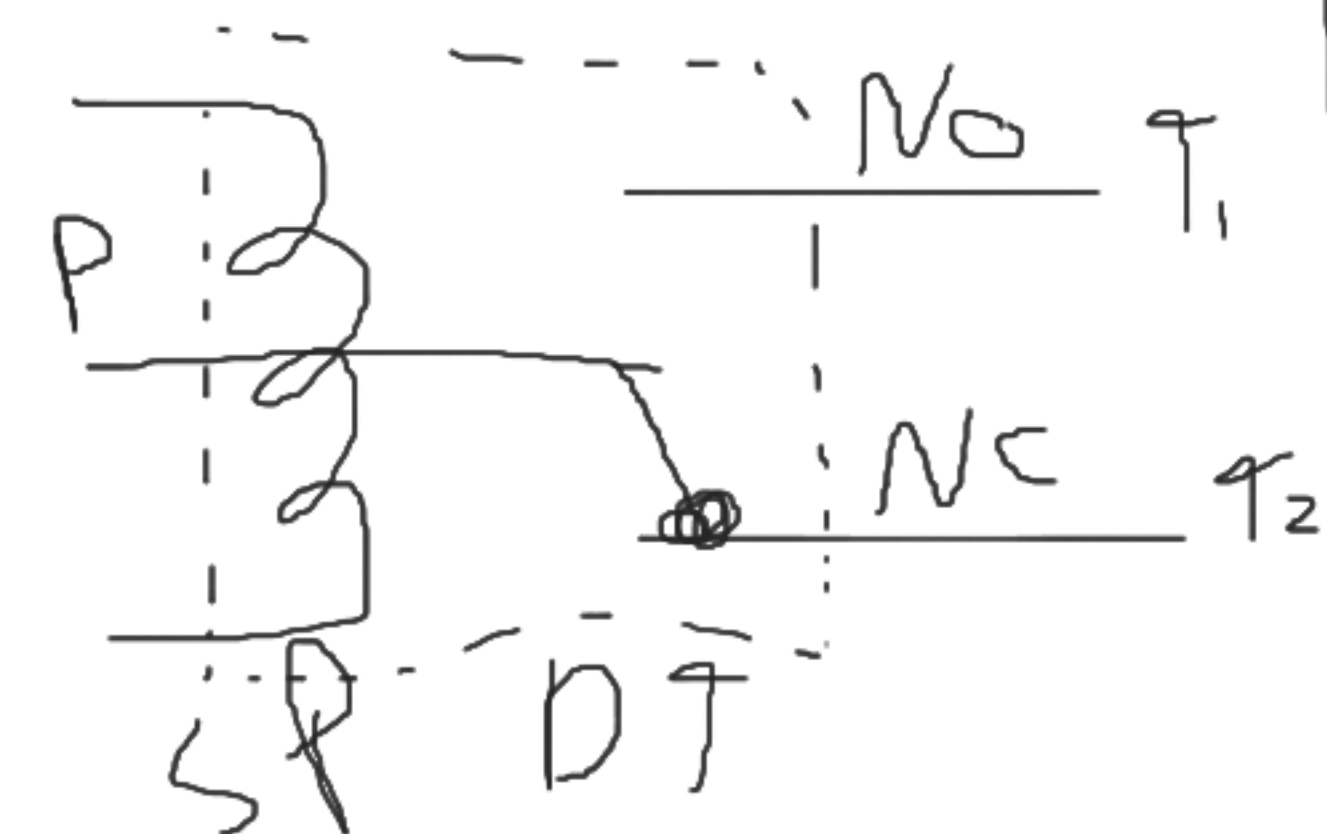




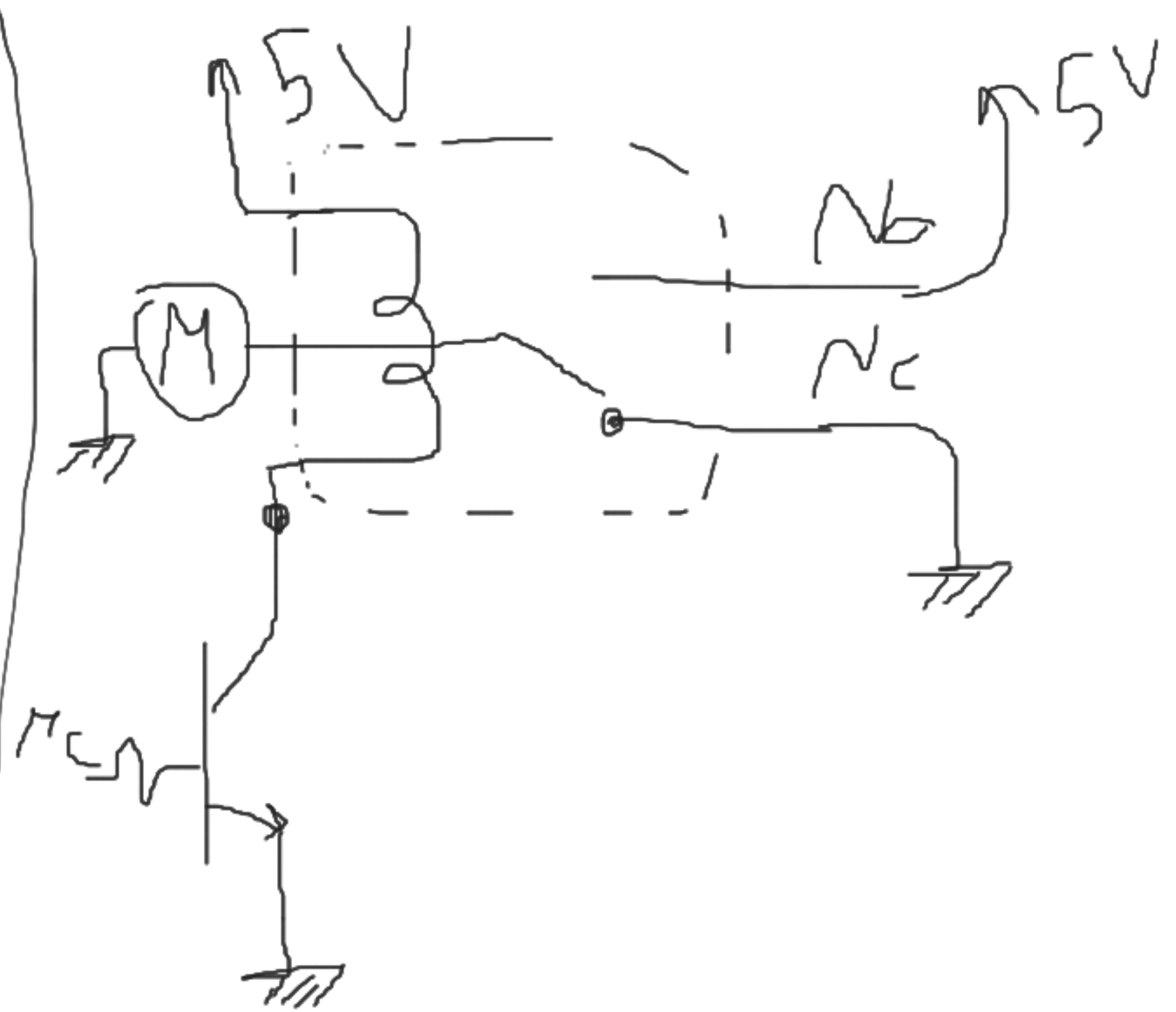
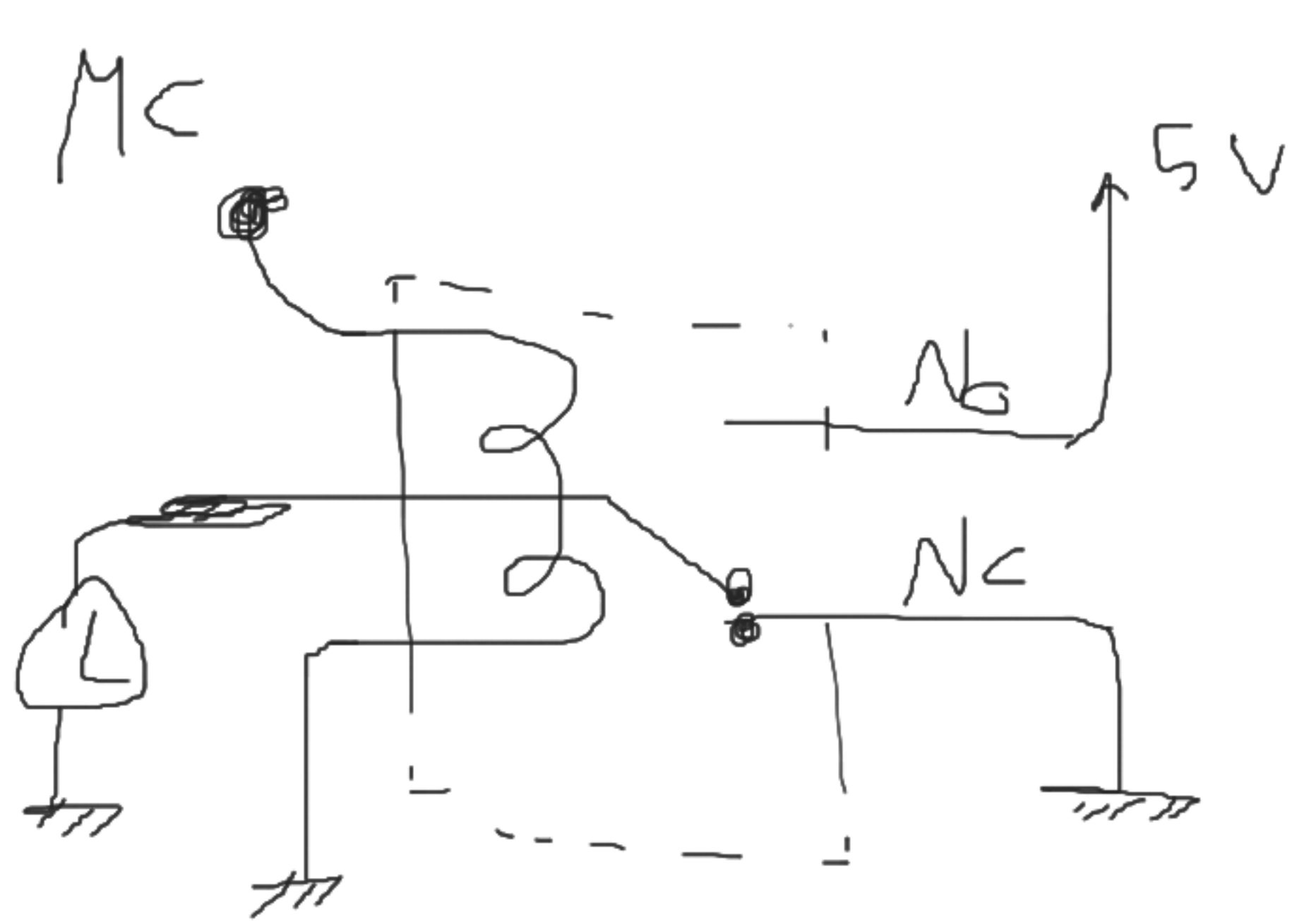
SPST

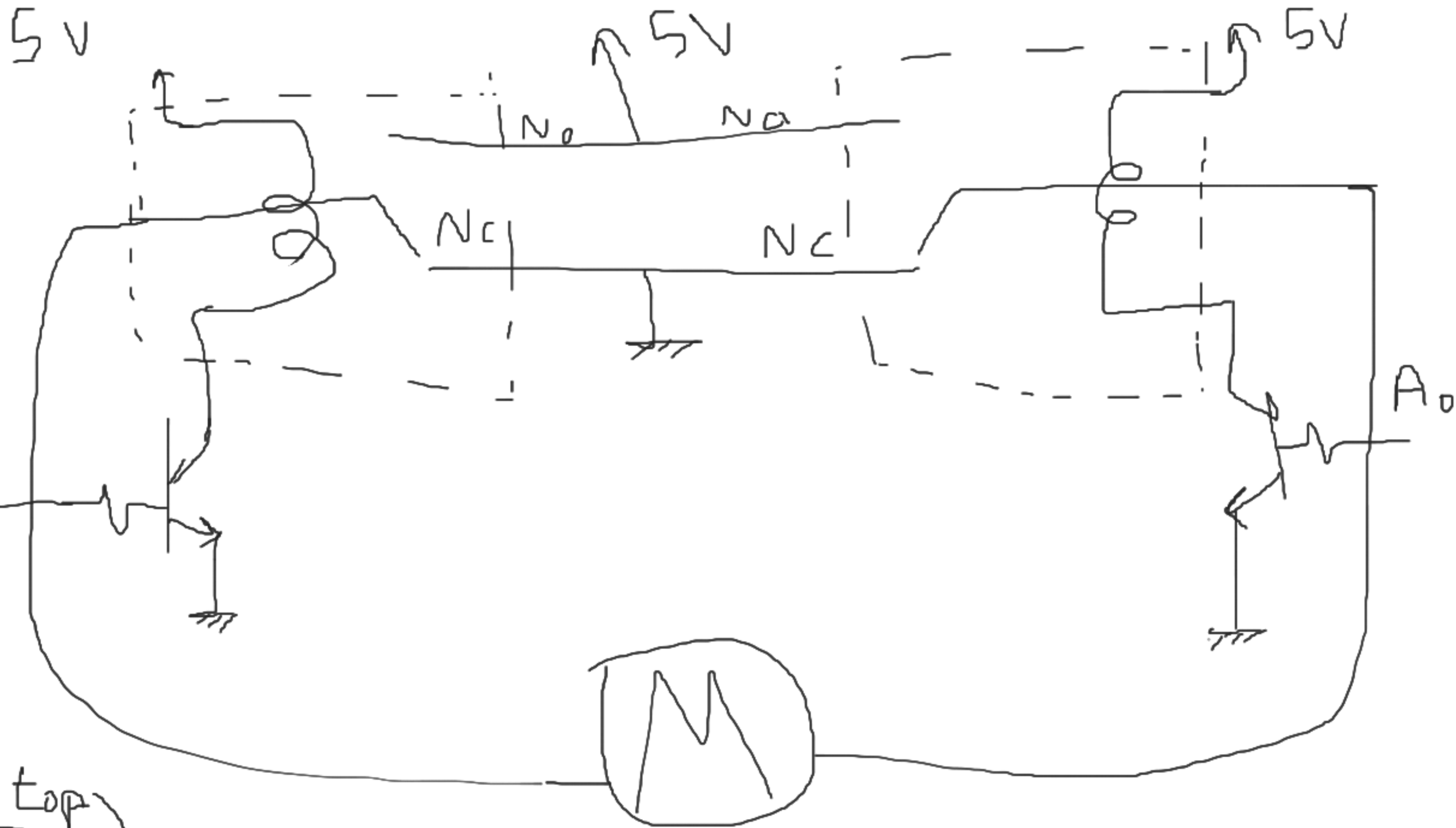


DPST



DPPT





$A_2$	$A_1$	
0	0	Stop
0	1	CW
1	0	CW
1	1	