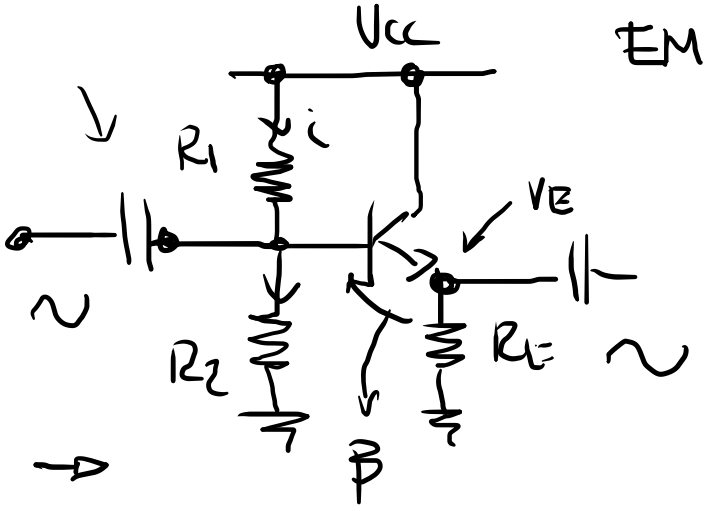
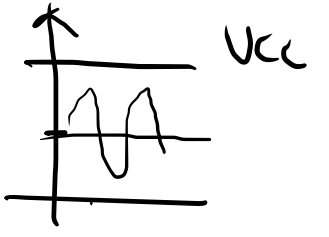


EMITTER FOLLOWER

BUFFER $G \simeq 1$

$V_{CC} = 10V$ $\quad \beta = 100$

$I_C = 1mA$



$R_{in} = \beta R_E$

$V_E = \frac{V_{CC}}{2} = 5V$

$R_E : V_E / I_C$ $\quad R_E = \frac{V_E}{I_C} = \frac{5V}{1mA} = 5k\Omega$

$V_B = V_E + V_{BE} = 5 + 0{,}6 = 5{,}6\ V$

$V_{CC} = i R_1 + i R_2$

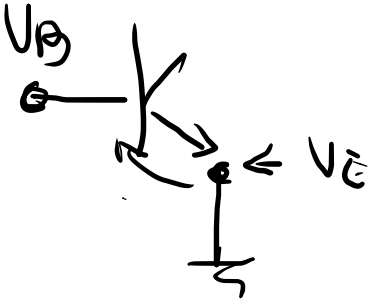
$i = \frac{V_{CC}}{R_1 + R_2}$

• R_2 : $V_B = V_{R_2} = i \cdot R_2 = \frac{V_{CC}}{R_1 + R_2} \cdot R_2$

• R_1 : $V_{CC} - V_B = i \cdot R_1 = \frac{V_{CC}}{R_1 + R_2} \cdot R_1$

$$\frac{V_{CC} \cdot R_2}{R_1 + R_2} = V_B$$

$$\frac{V_{CC}}{R_1 + R_2} \cdot R_1 = V_{CC} - V_B$$



$$\frac{R_2}{R_1} = \frac{V_B}{V_{CC} - V_B} \rightsquigarrow \underline{R_1 \cong R_2}$$

100 kΩ ◁

$R_{in} = \beta \cdot R_E = 5K \cdot 100 = 500K \rightsquigarrow 100K$ /5