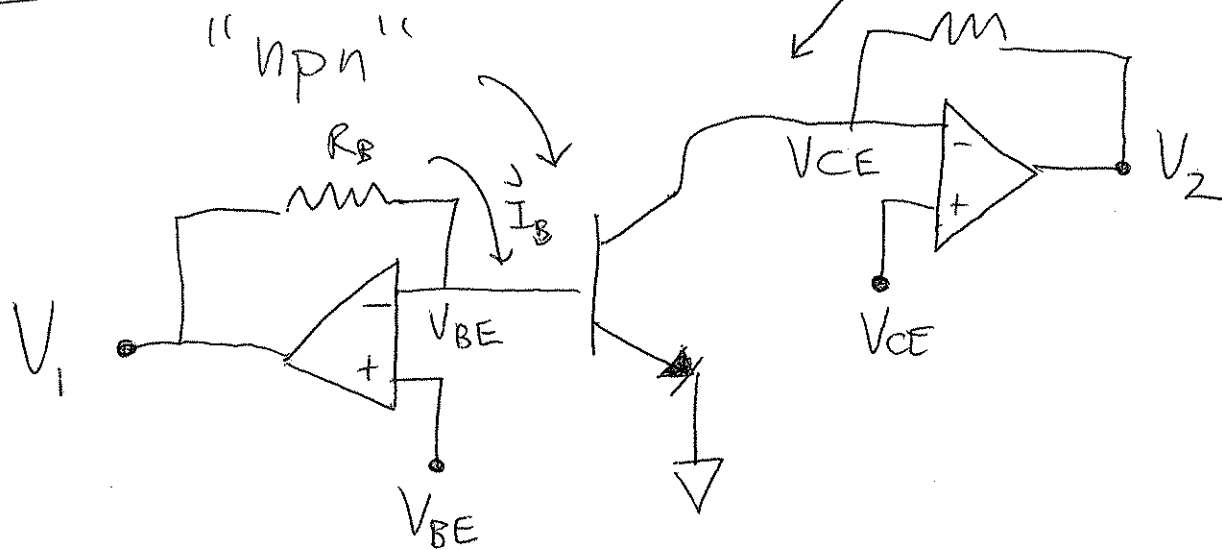


BJT $I(V)$ curves



(I conservation)

$$\frac{V_1 - V_{BE}}{R_B} = I_B$$

$$\frac{V_2 - V_{CE}}{R_C} = I_C$$

$$\beta = \frac{I_C}{I_B} = \frac{(V_2 - V_{CE}) R_B}{(V_1 - V_{BE}) R_C} = \beta$$

- (a) Vary I_B measure β for some V_{CE}
- (b) $I_{BE} = I_0 (e^{\alpha V_{BE}} - 1)$ (find, (I_0, α))
- (c) find Z_{BE}, β
- plot $(I_C \text{ vs. } V_{CE}), (I_C \text{ vs. } I_B)$
for $V_{CE} \geq 1V$