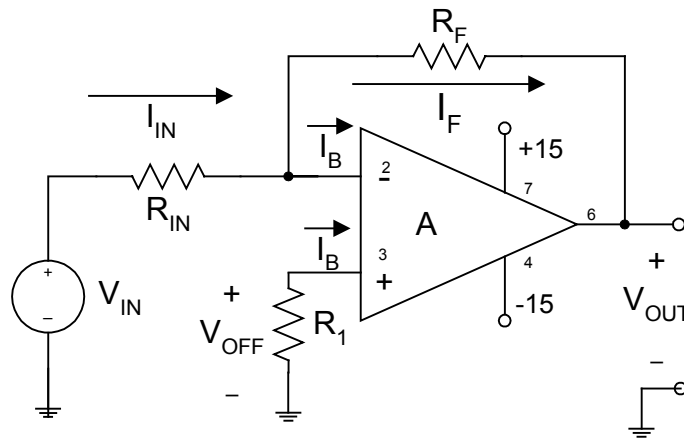


## INVERTING AMPLIFIER OFFSET DUE TO BIAS CURRENT



$$I_{IN} - I_B - I_F = 0$$

$$V_{OFF} = -R_1 I_B$$

$$\frac{V_{IN} - V_{OFF}}{R_{IN}} - I_B - \frac{V_{OFF} - V_{OUT}}{R_F} = 0$$

but with no input signal,  $V_{IN} = 0$ , and we want  $V_{OUT} = 0$ , so :

$$-I_B = V_{OFF} \left[ \frac{1}{R_{IN}} + \frac{1}{R_F} \right]; \quad -I_B = -R_1 I_B \left[ \frac{1}{R_{IN}} + \frac{1}{R_F} \right]$$

thus :  $\left[ \frac{1}{R_{IN}} + \frac{1}{R_F} \right] = \left[ \frac{1}{R_1} \right]$  as a condition for no offset at  $V_o$ .

