8. The Schmitt trigger circuit:

\[ \text{Vin} \rightarrow M \rightarrow \text{Vout} \]

Since the output resistance of the buffer is 700 ohms and its input resistance is roughly \( \infty \), it's obvious that the 5kΩ input constraint is met when \( R_1 + R_2 = 5000 \).

In the condition where the output is 3.3V and the input voltage has just reached the lower threshold, we have:

\[ \text{Vin} \rightarrow M \rightarrow 1.65V \rightarrow 4V \]

By superposition:

\[ \text{Vin}' = \frac{R_2}{R_1 + R_2} \text{Vin} + \frac{R_1}{R_1 + R_2} \text{Vout} \]

With the constraint of \( R_1 + R_2 = 5000 \) and the given thresholds, for the case where the input has fallen to the lower threshold we have:

\[ 1.65 = \left( \frac{R_2}{5000} \right) 1.25 + \left( \frac{R_1}{5000} \right) 3.3 \]

(\( R_2 = 4020 \Omega \))

8250 = 1.25R_2 + 3.3\( R_1 \)

In the other case where the input has just risen to the upper threshold:

\[ 1.65 = \frac{R_2}{5000} (2.05) + 0 \]

thus \( R_2 = 4020 \Omega \)

Solving for \( R_1 \) using (1):

8250 = 1.25(4020) + 3.3\( R_1 \)

\[ \frac{R_1}{9.77} \]

Our circuit is thus:

\[ \text{Vin} \rightarrow M \rightarrow 4020 \rightarrow 9.77 \rightarrow \text{Vout} \]