**Announcements**

- Homework #6 due today
- Homework #7 due next Thurs.
- Project #1 out next Thurs.

**SRAM Column**

**SRAM Operation**

- Write
- Hold
**SRAM Operation**

**Read**

- \( Q_b \) will get pulled up when WL first goes high
- Reading the cell should not destroy the stored value

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**CMOS SRAM Analysis (Write)**

\[
I_{II} = \frac{I_{DE}}{2} \left[ \frac{I_{DE} - I_{DE} \Delta V}{I_{DE} - I_{DE} \Delta V + \frac{C_{W}}{C_{M}}} \right] = \frac{I_{DE} \left(I_{DE} \Delta V - \frac{\Delta V}{2} \right)}{2}
\]

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**CMOS SRAM Analysis (Read)**

\[
\text{SNM} \text{ Obtained by breaking the feedback between the inverters}
\]

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**Read Static Noise Margin**

Voltage Rise (\( V \))

Voltage Rise (\( V \))

Cell Ratio (CR)

\[
CR = \frac{V_{I}}{V_{IL}}
\]
Write Static Noise Margin

Alternate Definition for Write Margin

Next Lecture

- Power Revisited