HWK 3 Notes

Reg bit

\[
\begin{array}{ccc}
\text{IN} & \text{BIT} & \text{out} \\
\text{reg}_r & \text{bit} & \text{reg}_w \\
\text{IF (w) reg}_r & \text{BIT} = \text{IN} & \text{OUT = BIT} \\
\text{ELSEIF (w) this is up to you} & \\
\end{array}
\]

Important NOTE:

\text{staticizer}

\[
\begin{array}{ccc}
\text{This is how BIT is stored} & \\
\text{weak} & \text{w} & \text{MOS: 3x wide x \geq2L long} \\
\end{array}
\]

\text{PMOS: 3x wide x 8L long}

There are many ways to implement a regbit (shown in lecture notes), all are valid.
Register Control

Note:
You get PHIO, PHI_0, PHI_1, PHI_2

\[ \text{reg}_r = r \land \text{PHI}_1 \]
\[ \text{reg}_w = w \land \text{PHI}_0 \]

Hierarchy

\[ \text{regbit} \cdot \text{cast} \]
\[ \text{ONE} \]
\[ \text{regcontrol} \cdot \text{cast} \]
\[ N \text{ of them} \]
\[ \text{REGISTER} \ (\text{INSIZED}) \]
\[ N = B \]
\[ \text{reg} - B - \text{cast} \cdot \text{cast} \]