→ All information about office hours, grading, exam schedules, assignments and project deadlines and course topics are in greensheet (see lecture 1 notes)

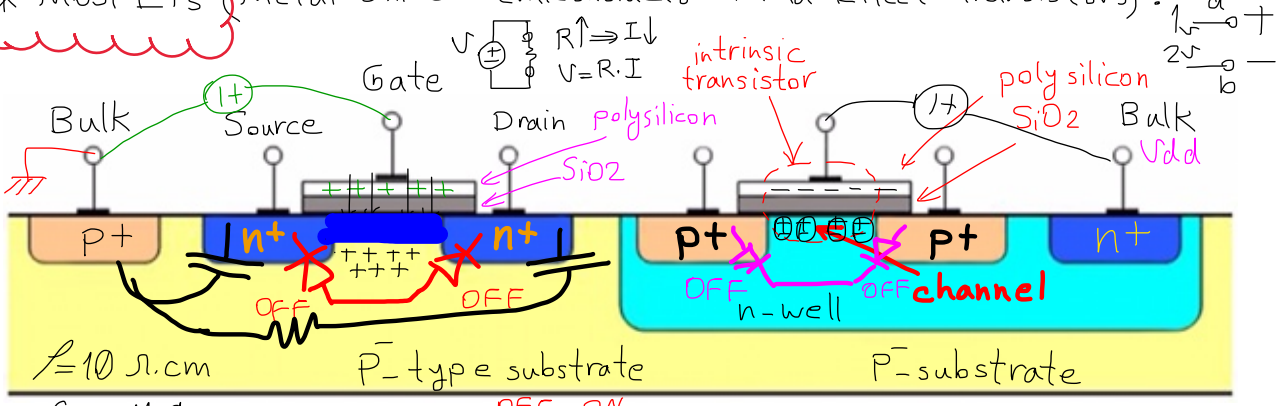
→ There are two Cadence TAs helping students with assignments and project

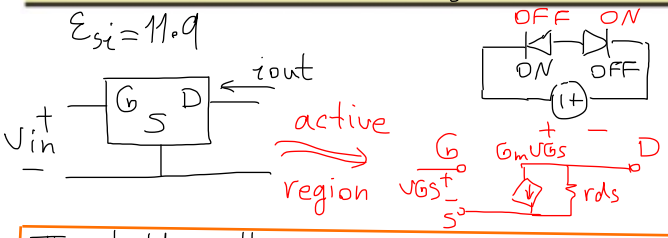
TA #1: Aarthi Ramadhas <aarthivijay04 @ gmail.com>, Tuesdays 1pm-4pm, E289
TA#2: Shilp Mehta <shilpmehta007@ gmail.com>, Thursdays, 1pm-4pm, E289

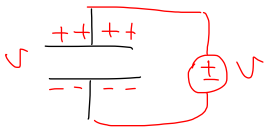
→ Assignment (more than 100 questions) are distributed in the classroom during first lecture. They might be part of exam questions.

→ Course materials are in
www.ics.sjsu.edu/EE223
username: Student
password: 22911

* MOSFETs (Metal Oxide Semiconductor Field Effect Transistors):

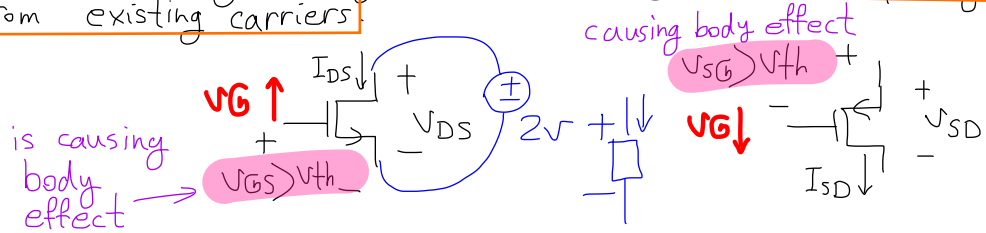






increasing positive voltage applied to the gate depletes the channel from existing holes

* Threshold voltage: voltage applied to the gate that completely depletes channel from existing carriers



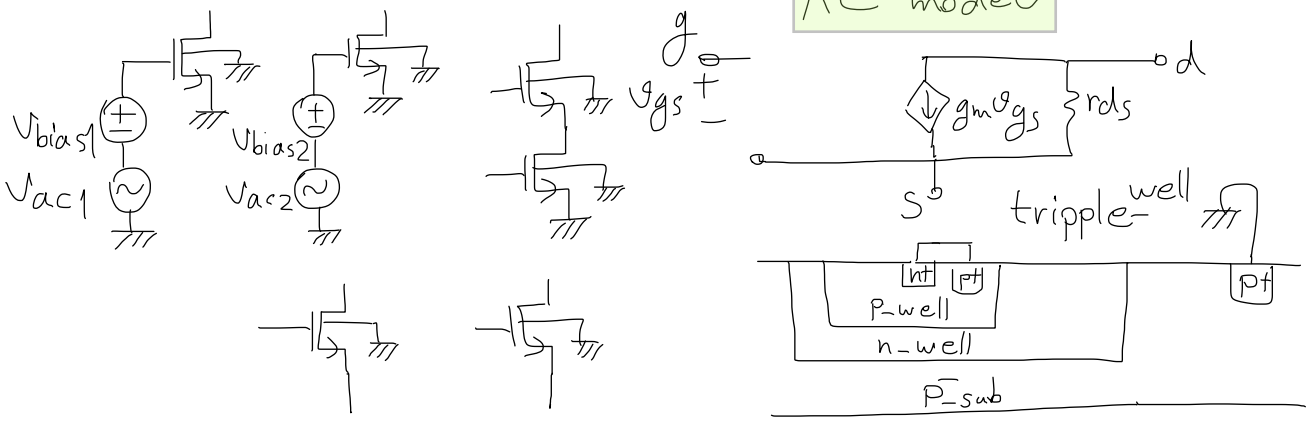
nmos

Source terminal has the lowest voltage compared with drain and gate

pmos

Source terminal has the highest voltage compared with drain and gate

AC model

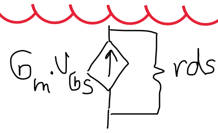


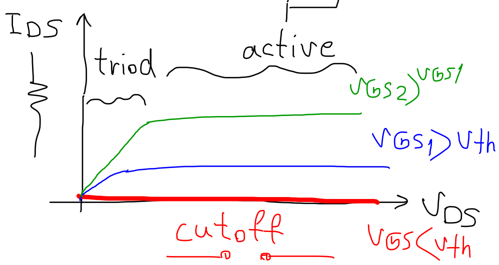
* Transfer Characteristics

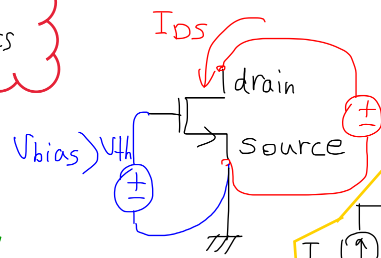
$I \propto V_G$

$I = G . V_G$

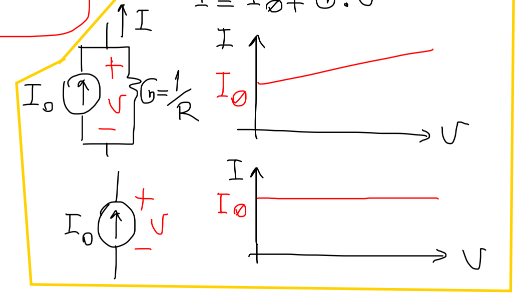
$G_m . V_{GS}$



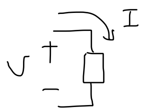




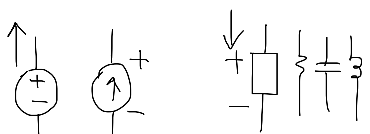
$I = I_0 + G . V$



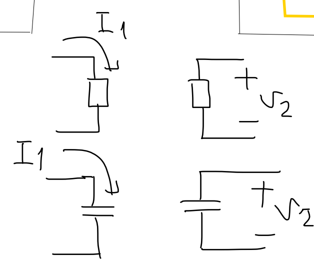
I_1 / V_2



$\text{conductance} = \frac{I}{V}$



$V = R . I$



$\text{transconductance} = \frac{I_1}{V_2}$

$\text{transcapacitance} = \frac{I_1}{j\omega V_2}$

$I = j\omega C . V$