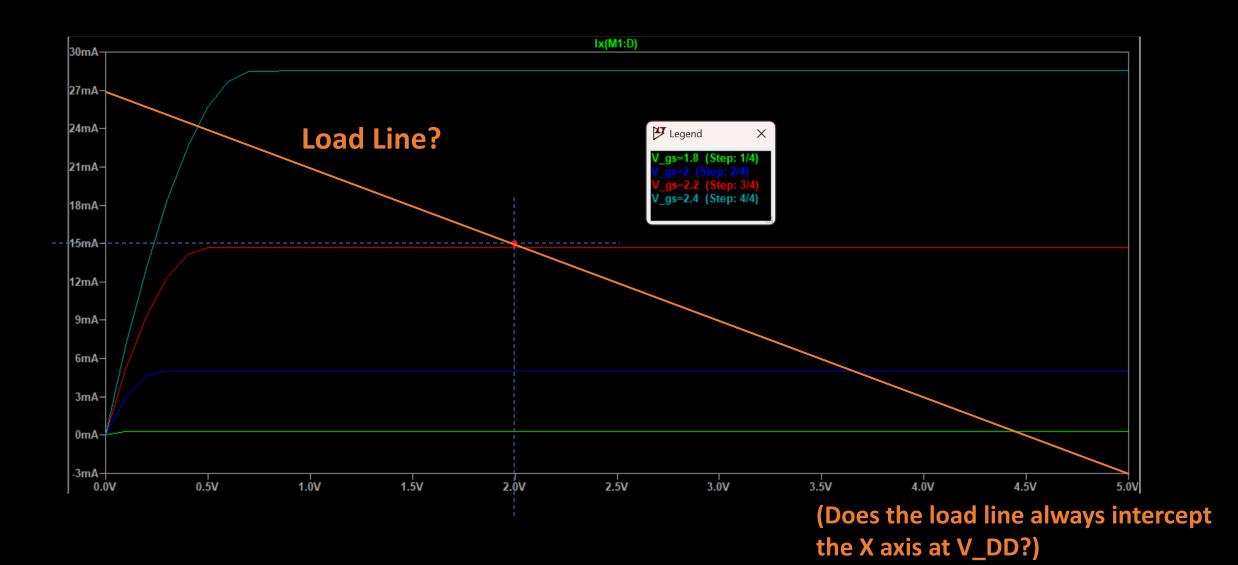
Exercise E11



Exercise E11

- Max voltage swing at drain: $V_D = 0.5V_{DD} = 2.5V$
- Thus $R_S = \frac{V_D V_{DS}}{I_D} = 33.33 \Omega$, and $R_D = \frac{V_{DD} V_D}{I_D} = 166.67 \Omega$
- $V_G = V_{GS} + V_S = V_{GS} + I_D R_S = 2.7V$
- Since also $V_G=rac{R_2}{R_1+R_2}V_{DD}$, given $R_2=1M\Omega$, we have $R_1=0.852M\Omega$

• Presumably $1M\Omega$ is just chosen because it has a large resistance, and thus eliminating any current at gate.