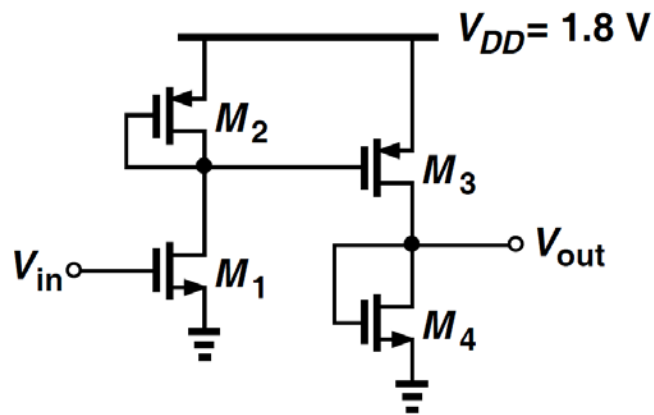


PSPICE Assignments #2

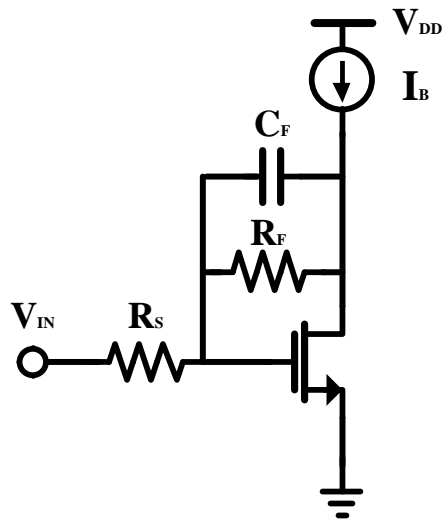
- Due: 2014/10/22(Wed) 3:30 PM
- Submit a hardcopy report.
- For any questions, send an e-mail to yhhwang@isdl.snu.ac.kr

1. Answer the following questions. ($W=10\mu\text{m}$, $L=0.18\mu\text{m}$)



- a) Select the input dc level to obtain an output dc level of 0.9V.
- b) Plot the frequency response and compute the low-frequency gain and the -3dB bandwidth.
- c) Calculate the dc gain using the simulation results (dc bias voltage, drain current) and compare the result of b). Assume $\lambda_p = 0.5$, $\lambda_n = 0.4$.

2. Answer the following questions. ($W=2\mu\text{m}$, $L=0.18\mu\text{m}$, $V_{DD} = 1.8\text{V}$, $I_B = 1\text{mA}$, $C_F = 50\text{fF}$, $R_F = 100\text{k}\Omega$, $R_S = 1\text{k}\Omega$)



- a) Plot the frequency response and compute the low-frequency gain and the -3dB bandwidth when $V_{IN, \text{bias}} = 0.7\text{V}$.
- b) Repeat a) when $V_{IN, \text{bias}} = 0.8\text{V}$. Explain what the difference between the results of a) and b) is.

<End of PSPICE Assginments #2>