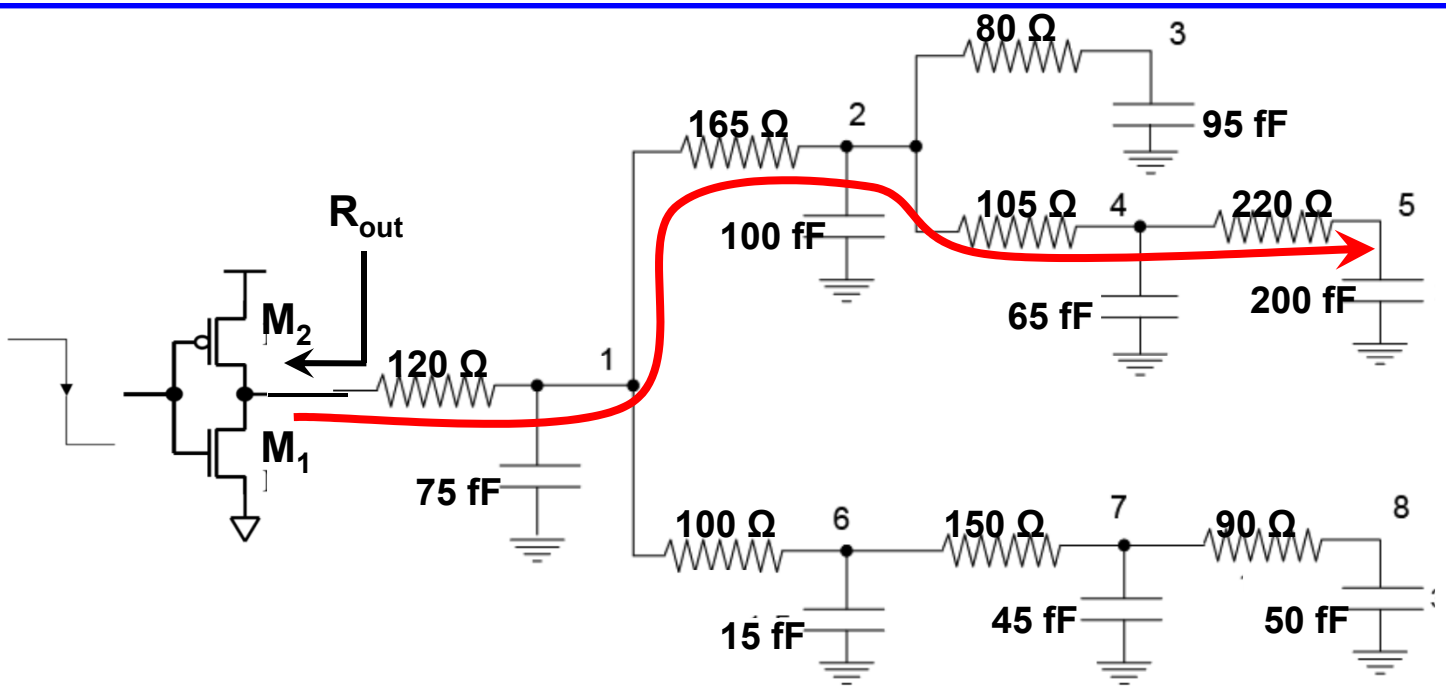
Homework 10



- Assume that V_{DD}=1.5 V, K'_n=100 uA/V^2, Vt_n=0.4 V, λ_n=0.1 V^{-1}, $(W/L)_n$=10, K'_p=60 uA/V^2, Vt_p=-0.4 V, λ_p=0.2 V^{-1}, $(W/L)_p$=17. Find R_{out}. Hint: connect a load of 100fF to the gate, calculate the LH propagation delay (t_{pLH}) using average current technique, then equate the propagation delay to a simple RC network and find R_{out}. This will effectively be R_{out}(LH).
- Use Elmore technique to compute the time constant and LH propagation delay (t_{PLH}) of the above network from the gate input to node 5.