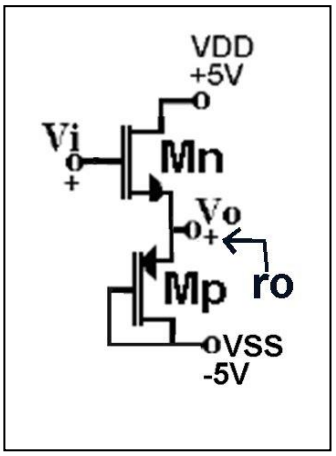
ELECTRONICS II_metinyazgi	Spring-2021	Quiz-2

P1 MOS transistors in the circuit are complemantry ($\beta_N = \beta_P$, $|V_{THP}| = V_{THN}$). $I_{DN} = I_{DP} = 1mA$ is given for Vi=0V.

a) Find β_N (= β_P).(20P)

b) Find the ac gain (vo/vi).(20P)

c) Find ro.(20P)



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P2 $\beta_F = 200$, $|V_{BE}| = 0{,}6V$, $V_T = 25mV$, $V_A = \infty$ are given for transistors in the figure. $\mathbf{g_{m4} = 4g_{m1}}$ for Vi=0 (**bias point**). ac gain of the circuit (**vo/vi**) is measured as **-50**.
Find R2 and R1.(**40P**)