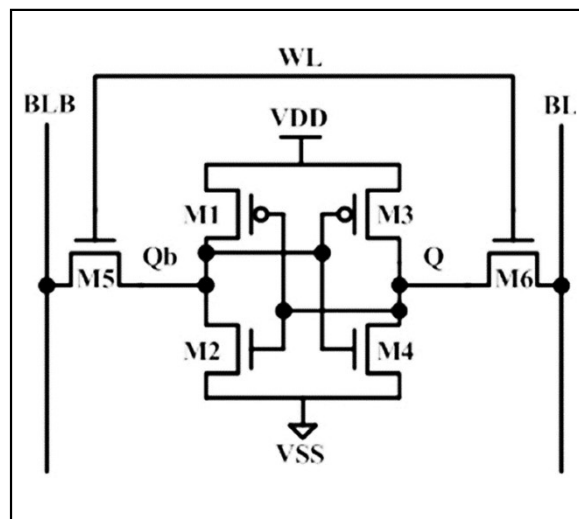
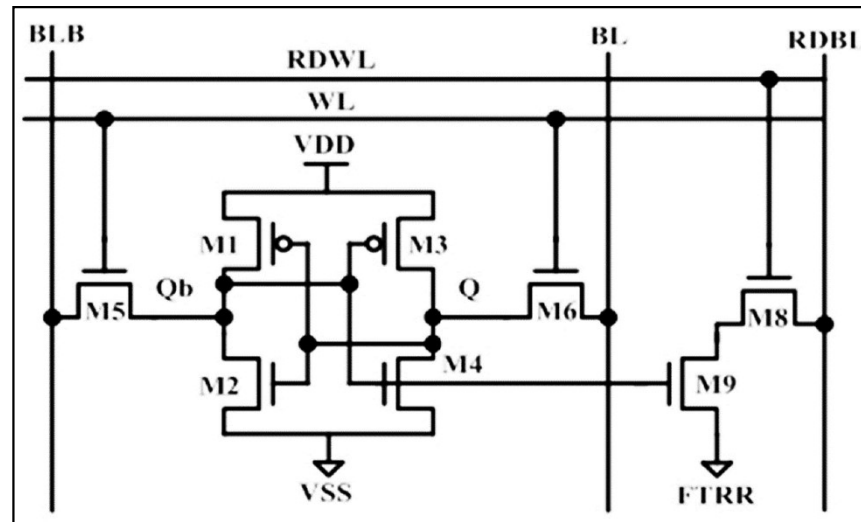


Homework #2: Comparisons of 6T and 8TSRAM cell

- DC Analysis:** Please compare the curves of RSNM and WNM for 6T, 8T SRAM cell with different $V_{DD} = 1V, 0.8V, 0.6V,$ and $0.4V$. Also, with different $V_{DD} = 1V, 0.8V, 0.6V,$ and $0.4V$, please extract the values of the RSNM and WNM, which are defined as the diagonal line of the maximal square between two curves of RSNM or WNM plots.
- AC Analysis:** Please show the BL (BLB) voltage transient curves of 6T, 8T SRAM during READ and WRITE. You may need to apply appropriate pulses on the WL or BL to READ or to WRITE the cells with $V_{DD} = 0.8V$ and the pulse width equivalent to 2ns.
- Power Analysis:** Please show the BL (BLB) power transient curves of 6T, 8T SRAM during READ and WRITE. The power transient curves can be calculated by multiplication of voltage and current transient curves. ($P = I \times V$) You may need to apply appropriate pulses on the WL or BL to READ or to WRITE the cells with $V_{DD} = 0.8V$ and the pulse width equivalent to 2ns.



a. 6T SRAM



b. 8T SRAM

An Assignment of Homework #2

- a. Format: please submit the results of your HW by the PDF format.
- b. Codes: please submit the results of your HW with the figures and the spice codes.
- c. Due date: 23:59, 16th, Nov. , 2023.
- d. Where to submit: new eeclass