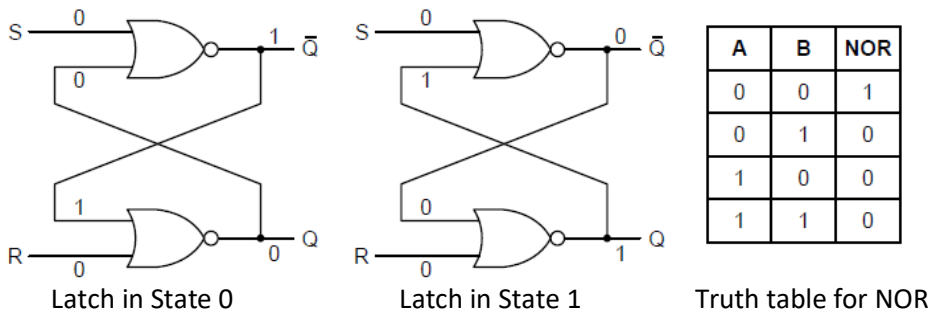


# CS 210: Principles of Computer Organization

## Memory

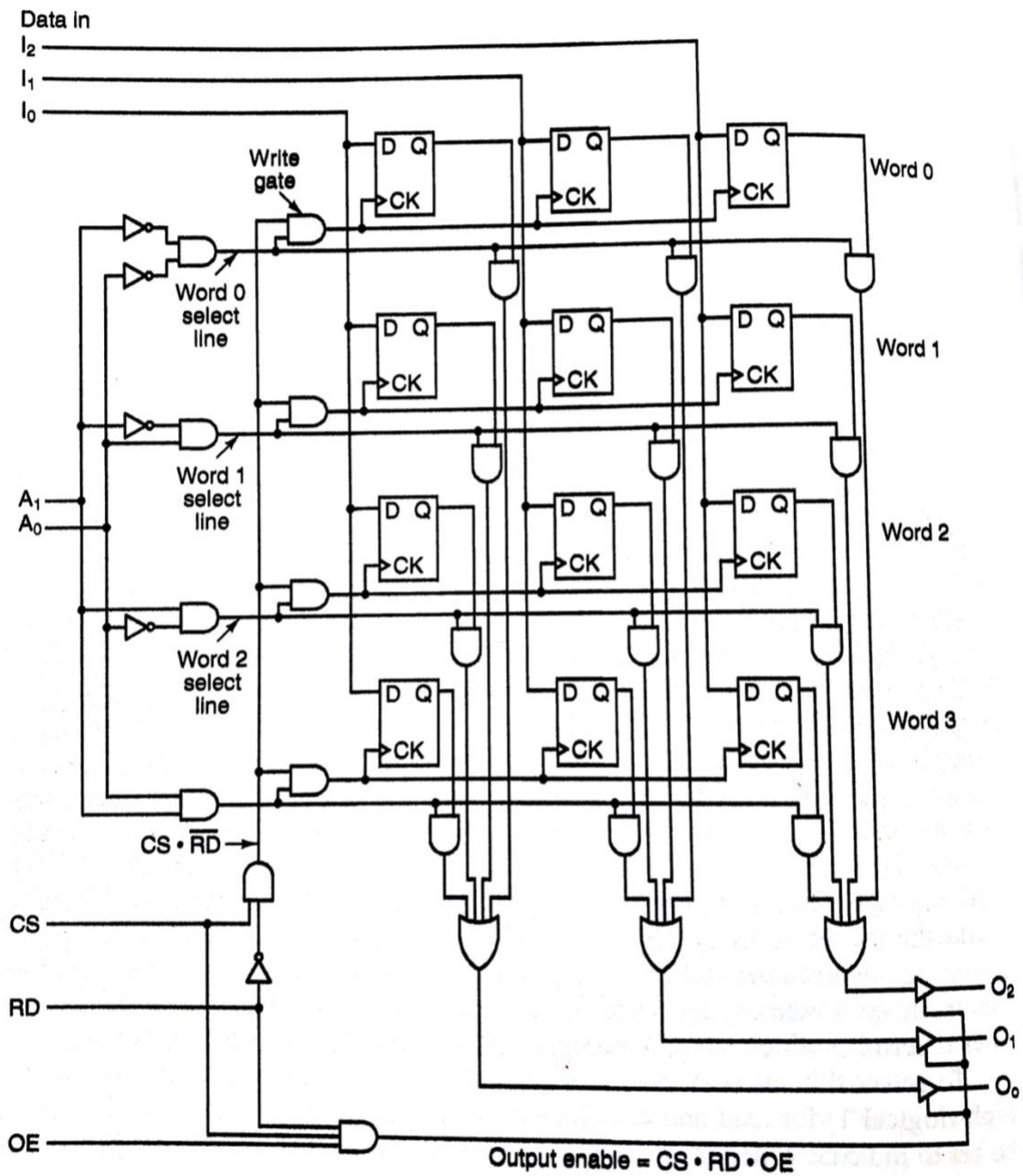
SR Latch: the state of the latch is determined by the output Q



### Questions:

- When the **latch is in state 0**, what happens (to the state of the latch) when **S is set to 1**?
- When the **latch is in state 0**, what happens (to the state of the latch) when **R is set to 1**?
- When the **latch is in state 1**, what happens (to the state of the latch) when **S is set to 1**?
- When the **latch is in state 1**, what happens (to the state of the latch) when **R is set to 1**?
- What happens if both S and R are set to 1?

## Memory Organization



**Figure 3-28.** Logic diagram for a  $4 \times 3$  memory. Each row is one of the four 3-bit words. A read or write operation always reads or writes a complete word.

This is from page 176 of your book. Assume  $OE=1$ ,  $RD=1$ , and  $CS=1$ . What happens when  $A_0=1$  and  $A_1=0$ ? Describe briefly, as "read from the word \_\_\_ and output to the pins \_\_\_" OR "write from pins \_\_\_ to the word \_\_\_".