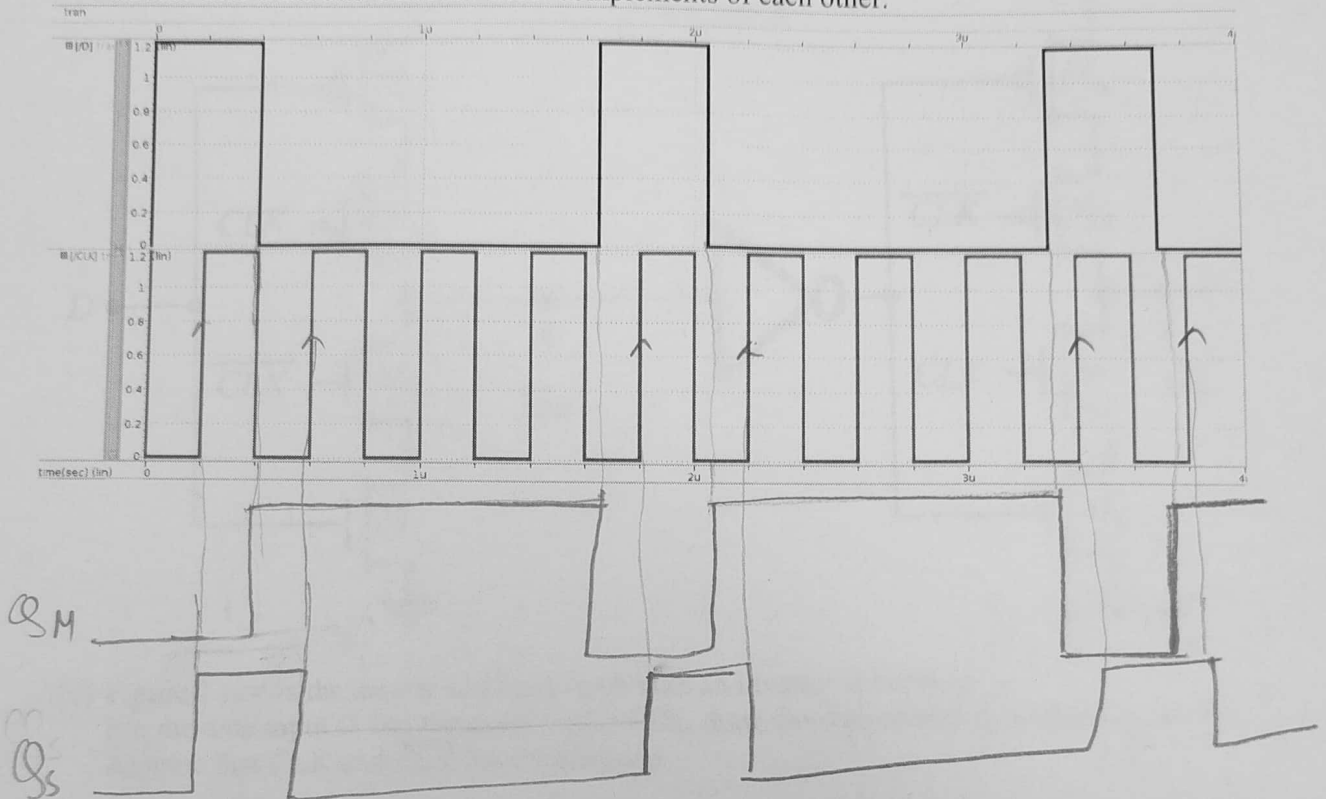


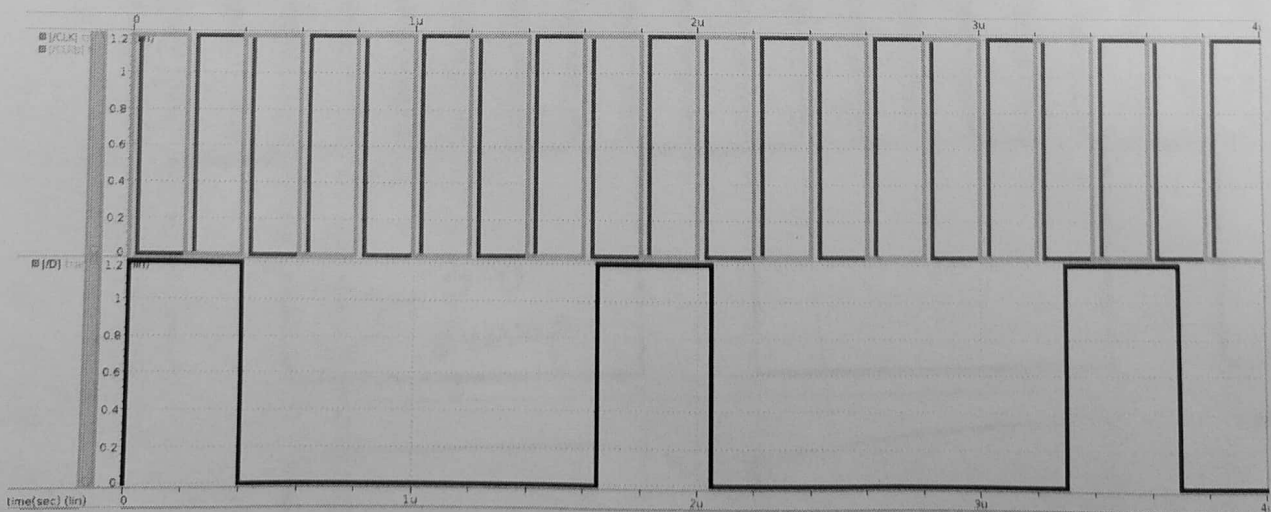
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Complete the timing diagrams below for the schematic.

- (a) For the data input D and the clock signal CLK, draw the corresponding outputs Q_M and Q_S . Assume that CLK and \overline{CLK} are exact complements of each other.

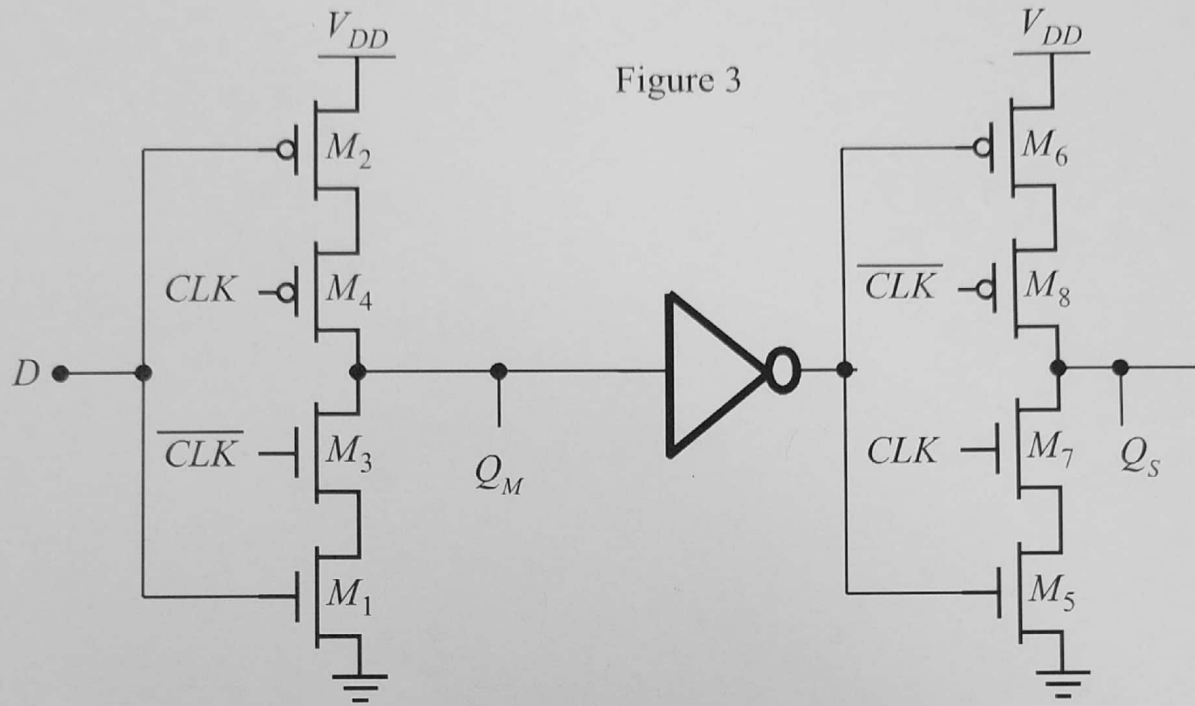


- (b) For the data input D and the clock signal CLK, draw the corresponding outputs Q_M and Q_S . This time assume that CLK and \overline{CLK} have an overlap. CLKB is the same as CLK in Figure 1.



same as (a). CMOS is immune to clock overlaps.

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- (c) Figure 3 shows the master and slave latch with an inverter in between. For the data input D and the clock signal CLK , draw the corresponding outputs Q_M and Q_S . Assume that CLK and \overline{CLK} have an overlap.

