



ENCS2110

Assignment No.2

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Student: Ghaith Haj-Ali → 1220612

Instructor: Dr. Nasser Ismael

T.A: Raneem

Section: 3

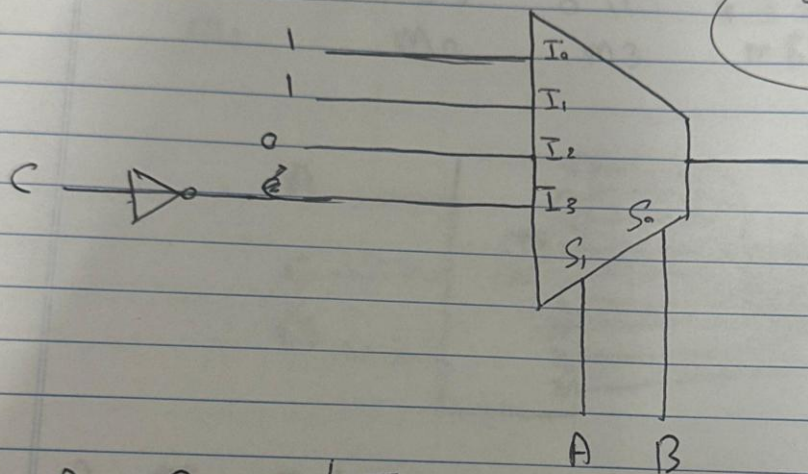
Q1:

Ghaith Hasi-Ali

Assignment-2

Q1) $F = A' + BC' + A'C$
 $F = A'(B+B')(C+C') + (A+A')BC' + A'C(B+B')$
 $F = A'BC + A'B'C + A'B'C' + A'B'C'' + ABC' + A'BC'$
 $F = A'BC + A'B'C + A'B'C' + ABC'$
 $\therefore m_3 + m_2 + m_1 + m_0 + m_6 \rightarrow \Sigma(0, 1, 2, 3, 6)$

4*1-MUX



A	B	C	F
0	0	0	1
0	0	1	1
0	1	0	1
0	1	1	1
1	0	0	0
1	0	1	0
1	1	0	1
1	1	1	0

Q2:

$$\begin{aligned}
 Q2) F &= A'C' + AC + BD + B'D \\
 &= \cancel{A'C'(B+B')} + \cancel{AC(B+B')} + \cancel{(A+A')(BD)} + \cancel{(A+A')(B'D)} \\
 &= \cancel{AB'C' + A'B'C' + ABC + AB'C + ABD}
 \end{aligned}$$

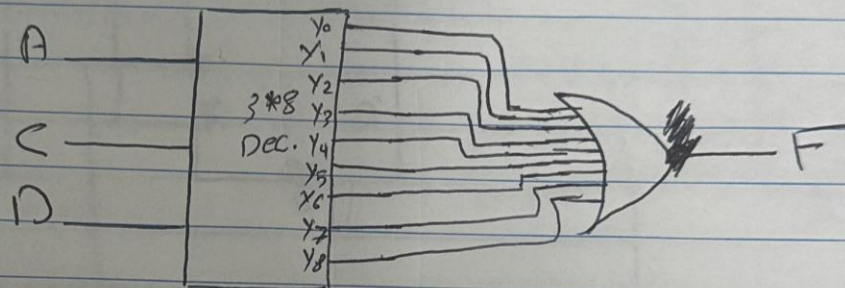
$$BD + B'D = D \therefore F = A'C' + AC + D$$

$$F = (D+D')A'C + (D+D')AC + (A+A')(C+C')D$$

$$\begin{aligned}
 F &= A'CD + A'CD' + ACD + ACD' + ACD + A'CD + AC'D \\
 &+ AC'D + A'CD + A'CD
 \end{aligned}$$

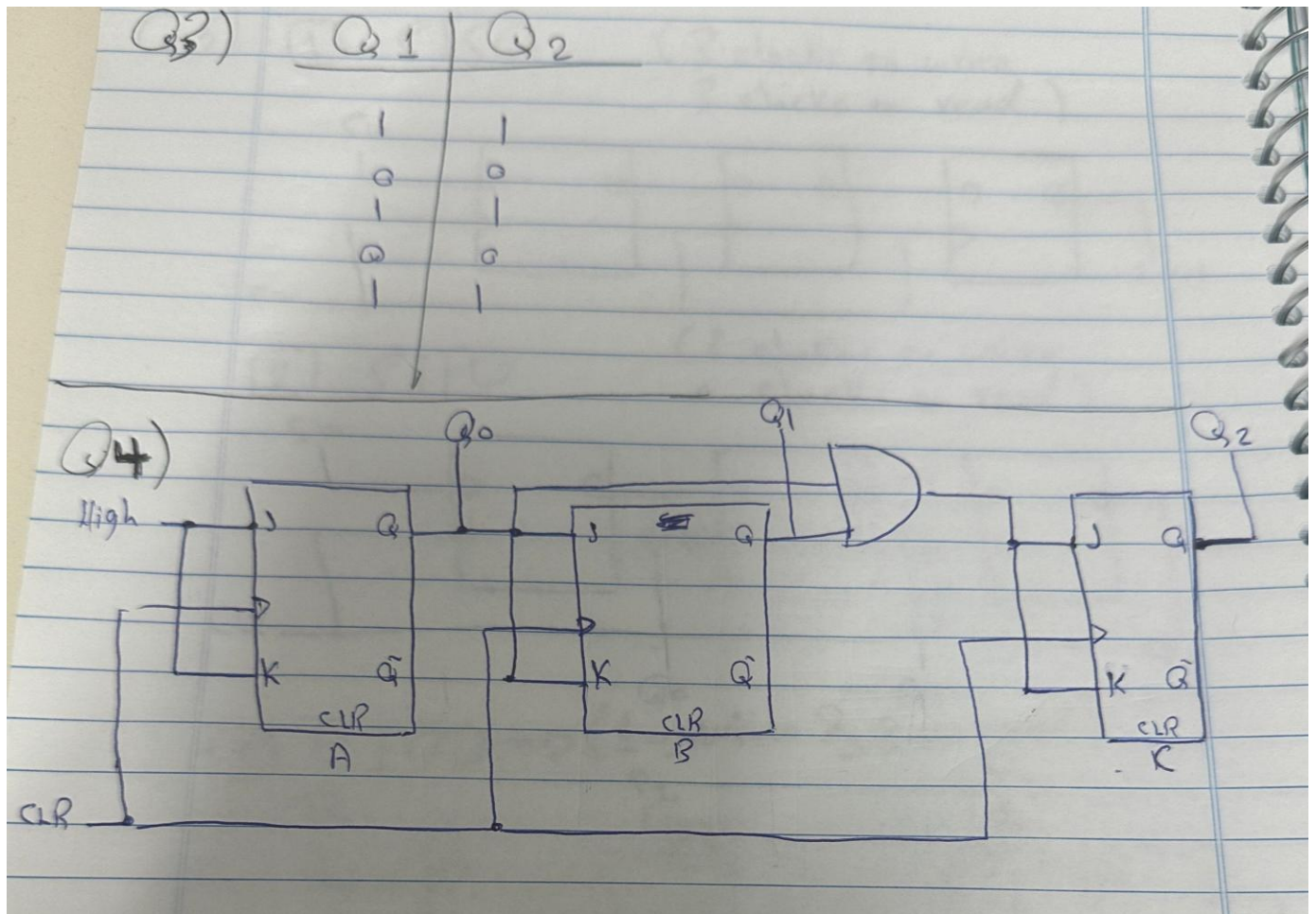
$$F = A'C'D + A'C'D' + A'CD + A'CD' + ACD + ACD'$$

$$\begin{array}{cccccc}
 001 & 000 & 011 & 100 & 111 & 110 \\
 m_1 & m_0 & m_3 & m_5 & m_7 & m_6
 \end{array}$$



A	C	D	F
0	0	0	1
0	0	1	1
0	1	0	0
0	1	1	1
1	0	0	0
1	0	1	1
1	1	0	1
1	1	1	1

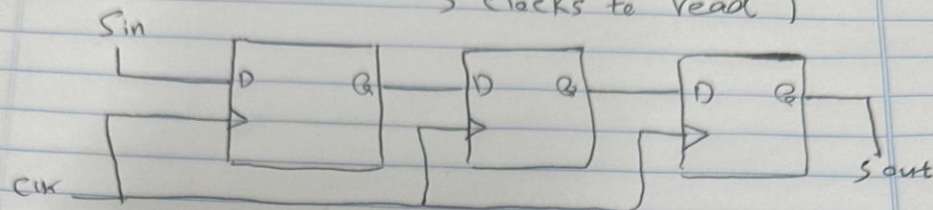
Q3+4:



Q5:

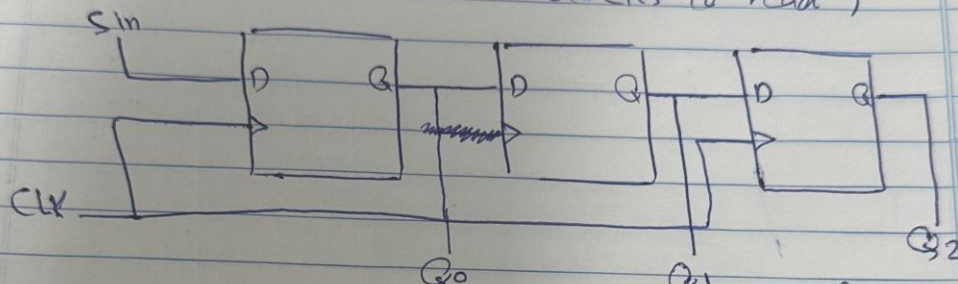
Q5) [1] SISO

(3 clocks to write
3 clocks to read)

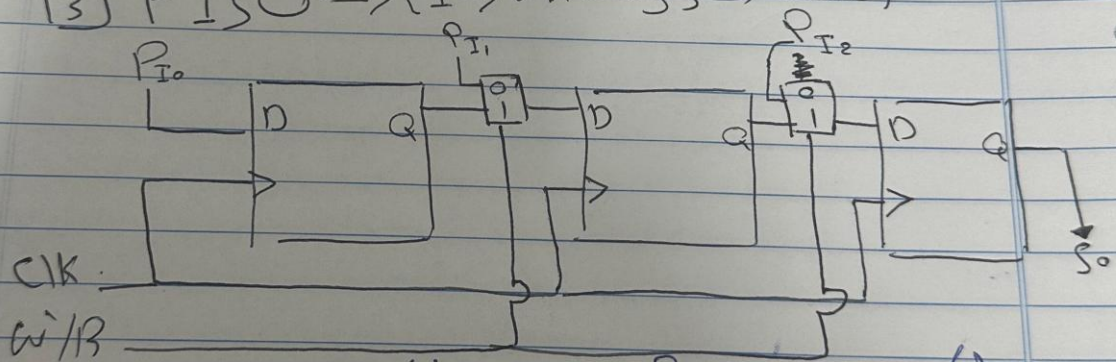


[2] SIPO

(3 clocks to write
0 clocks to read)



[3] PISO \Rightarrow (1 \Rightarrow write & 3 \Rightarrow read)



[4] PIPO \Rightarrow (1 \Rightarrow write & 0 \Rightarrow read)

