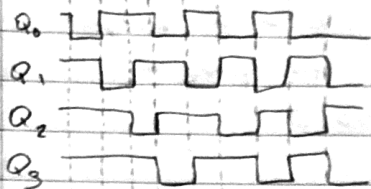


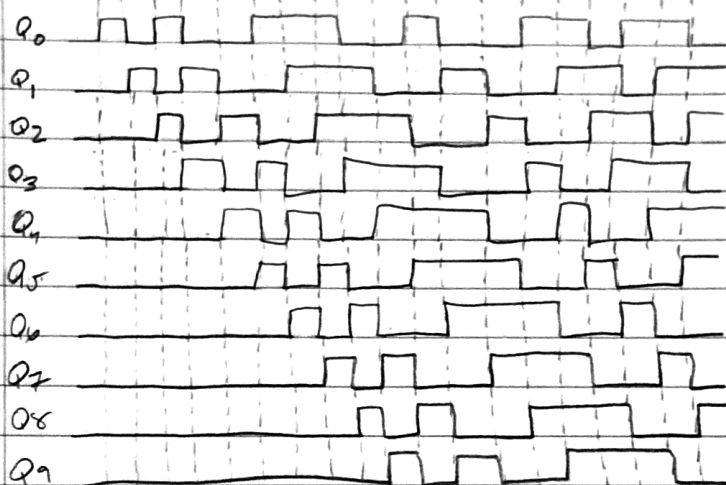
8.2 6, 8, 10, 14
8.3 21
8.4 28

8.2

6) 011010100



8)



10) $D_{in} (01011011)_2$

$D_{out} (11011010)_2$
msb lsb

14) $Q_0=1, Q_1=0, Q_2=1, Q_3=0$

data out

21) 01001100 = 76 - initial

CLK 1 L 1001000

CLK 2 R 01001100

CLK 3 R 00100110

CLK 4 R 00010011

CLK 5 L 00100110

CLK 6 L 01001100

CLK 7 R 00100110

CLK 8 L 01001100

CLK 9 R 00100110

CLK 10 L 01001100

CLK 11 L 10011000

28. The counter sequence can be written going back from the last output that's shifting Q_9 which is a Q_8 output and Q_8 shifting is Q_7 output, etc. Thus the present value would be Q_0 of 0000100010