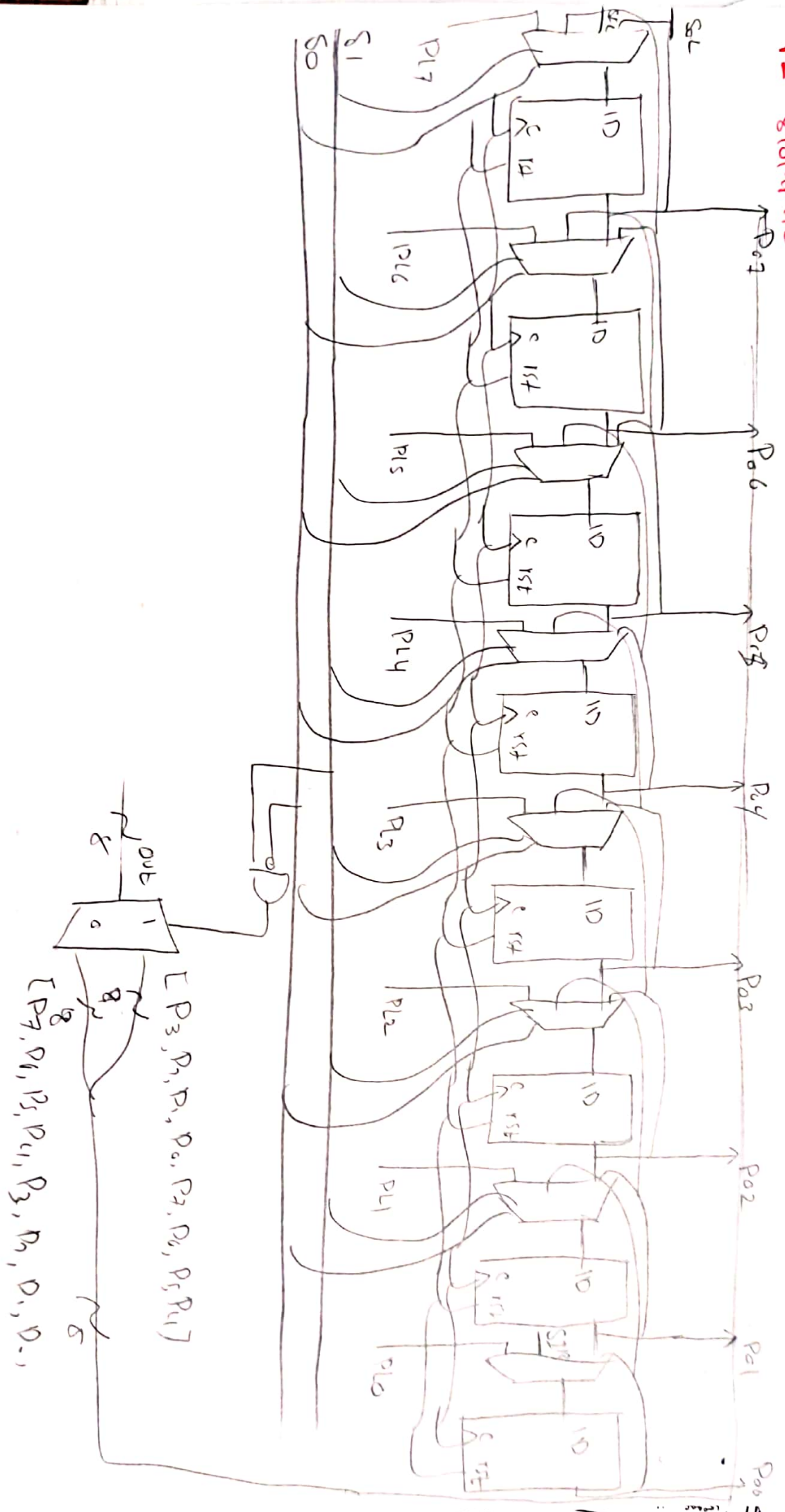
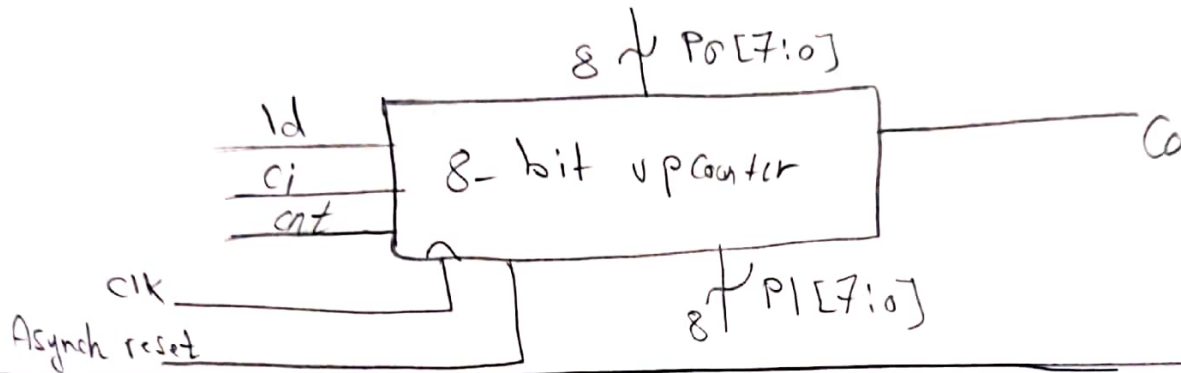


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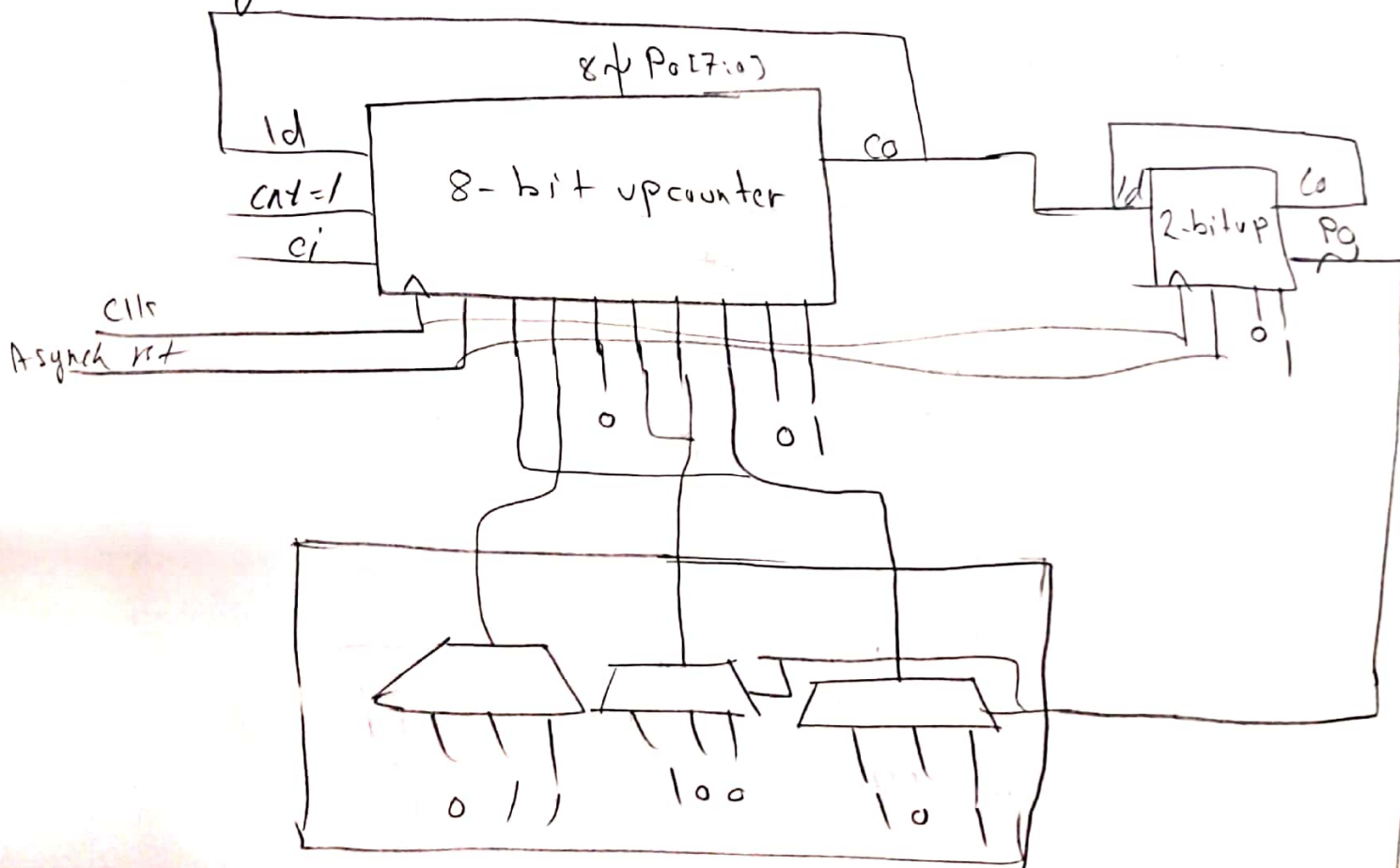
2- the 8-bit upcounter is as follows:



3- Similar to the problem discussed in the lecture, we have.

$$\begin{cases} 256 - 59 = 197 = 11000101 \\ 256 - 191 = 65 = 01000001 \\ 256 - 99 = 157 = 10011101 \end{cases}$$

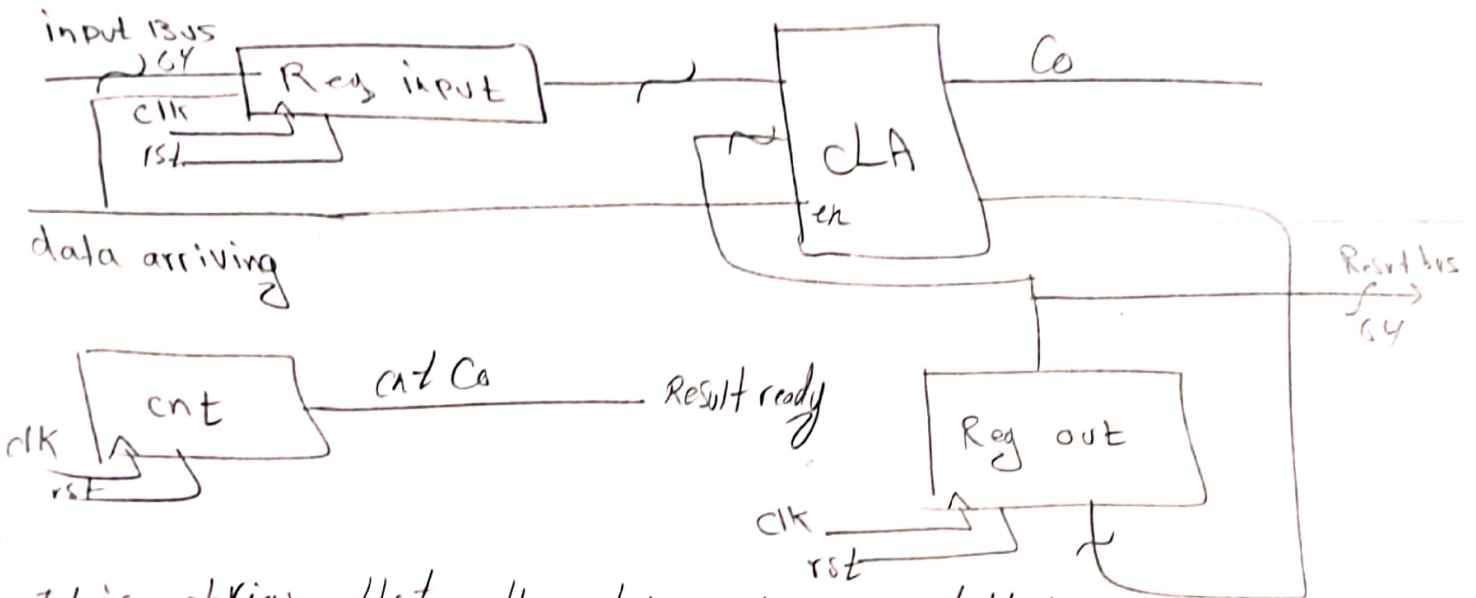
The Diagram



HW1

4. This is an RTL methodology problem, we need a register for the input, a counter, a CLA, a register for the result.

a)



It is obvious that the clocks and resets should be connected.

b)

