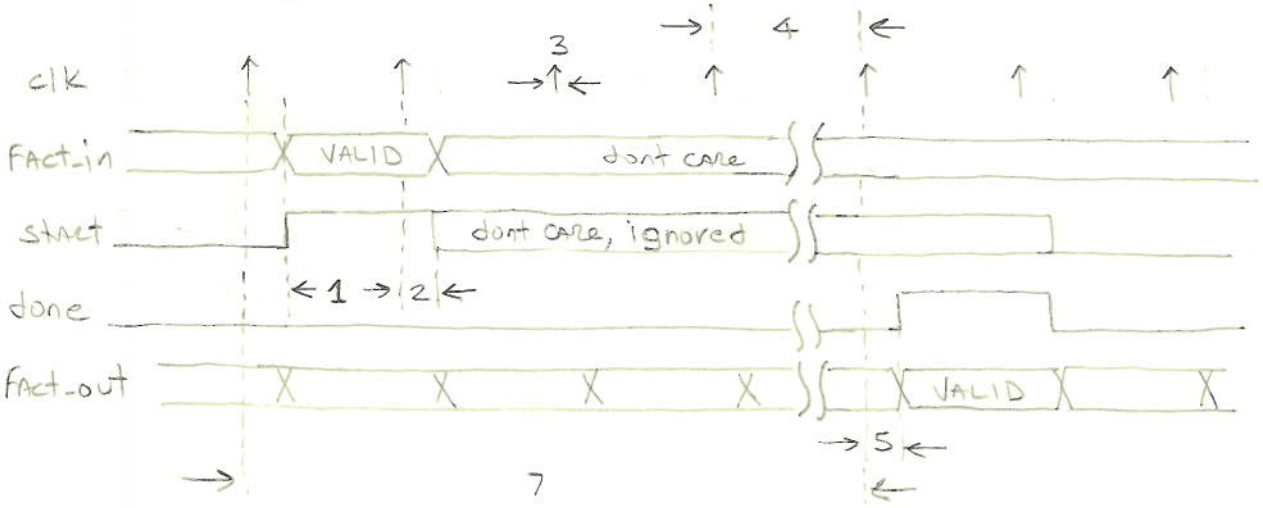
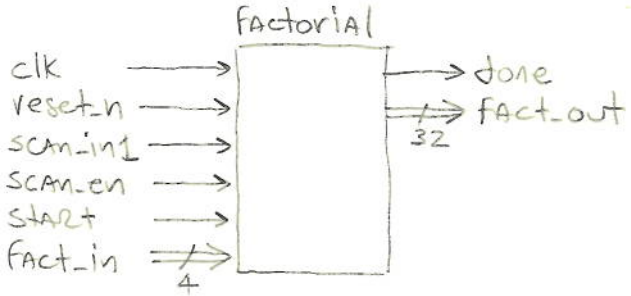
Factorial design

I/O data timing -



1 setup time to any input : 1ns
2 hold time to any input : 150ps
3 clock uncertainty : +/- 20ps
4 clock cycle time : 4ns (MAX)
5 output delay to any output : 3ns
6 output hold time to any output : 150ps
7 computation cycles : if FACT_in = n, then n+4 cycles MAX

Entity:



* Allowed values for FACT_in are $0 - 12_{10}$.
* scan_output will be FACT_out[0]
* For input of n, the block computes n! where $n! = \prod_{k=1}^{n} (k)$