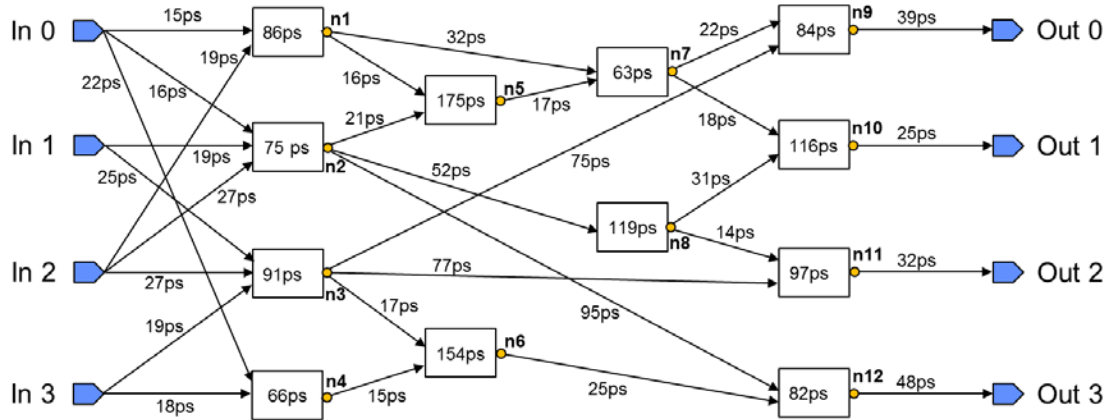


Homework Assignment 7

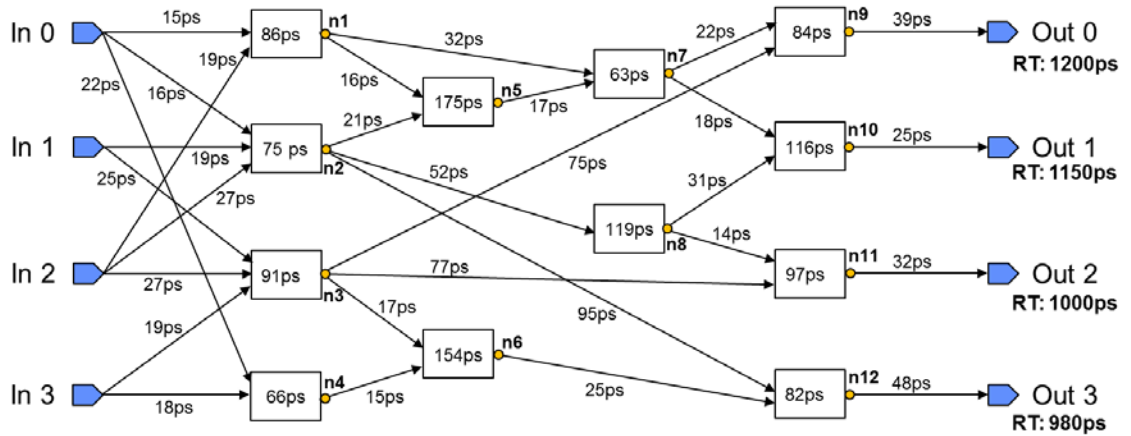
(Due Apr. 1st at the beginning of the class)

1. [Timing Analysis, **10 points**] The following shows the delay of each net and cell. Compute arrival time at each node (n1 ~ n12, Out 0 ~ Out 3) shown below. Arrival time at each input pin is zero.



	Arrival time		Arrival time
n1	105ps	n9	484ps
n2	102ps	n10	512ps
n3	118ps	n11	384ps
n4	88ps	n12	396ps
n5	298ps	Out 0	523ps
n6	289ps	Out 1	537ps
n7	378ps	Out 2	416ps
n8	273ps	Out 3	444ps

2. [Timing Analysis, **10 points**] The following shows the delay of each net and cell and the required time at each output. Compute required time at each node (n1 ~ n12, In 0 ~ In 3).



	Required time		Required time
n1	720ps	n9	1161ps
n2	686ps	n10	1125ps
n3	654ps	n11	968ps
n4	656ps	n12	932ps
n5	911ps	In 0	568ps
n6	825ps	In 1	538ps
n7	991ps	In 2	536ps
n8	857ps	In 3	544ps