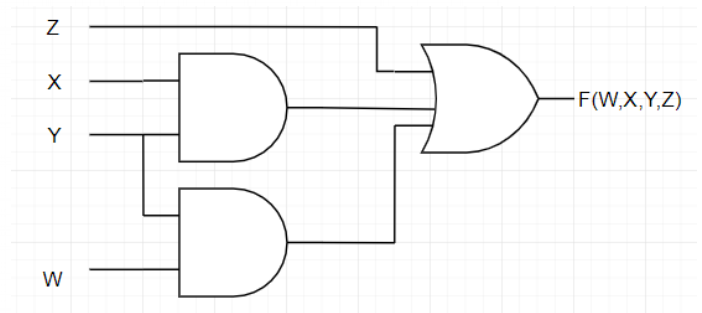


## 8.1 Sensor Detector

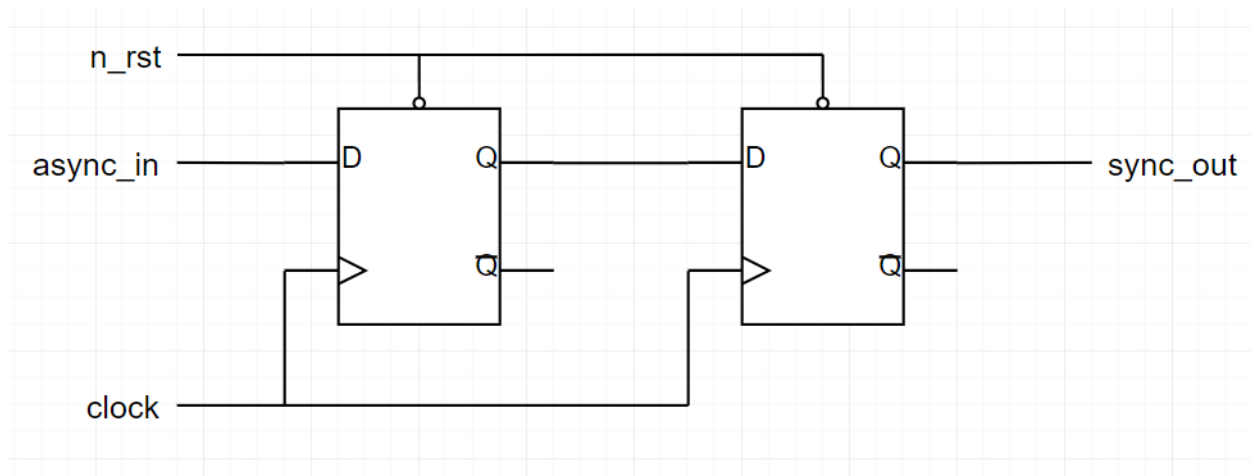
input 4	input 3	input 2	input 1 (high priority)	output
0	0	0	0	0
0	0	0	1	1
0	0	1	0	0
0	0	1	1	1
0	1	0	0	0
0	1	0	1	1
0	1	1	0	1
0	1	1	1	1
1	0	0	0	0
1	0	0	1	1
1	0	1	0	1
1	0	1	1	1
1	1	0	0	0
1	1	0	1	1
1	1	1	0	1
1	1	1	1	1

	W'		W		
Y'	0	0	0	0	Z'
	1	1	1	1	Z
Y	1	1	1	1	
	0	1	1	1	Z'
	X'	X		X'	

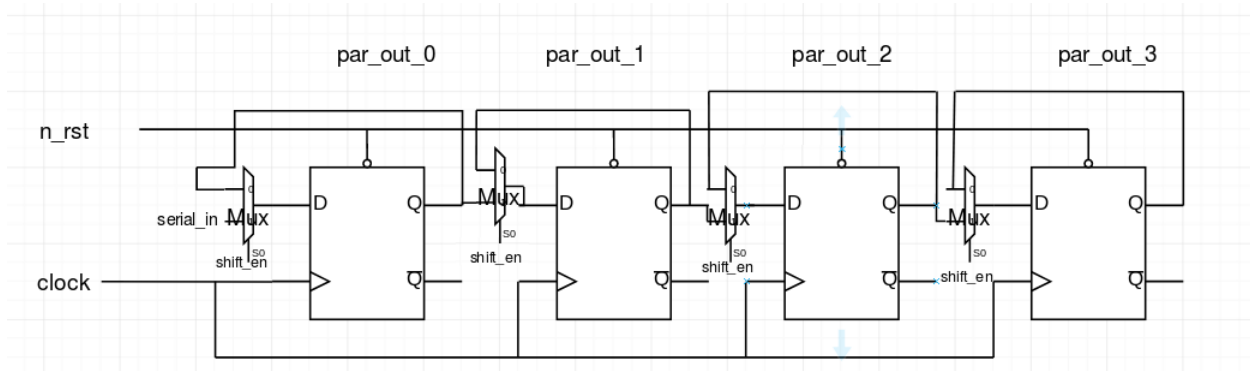
$$F(W,X,Y,Z) = Z + XY + YW$$



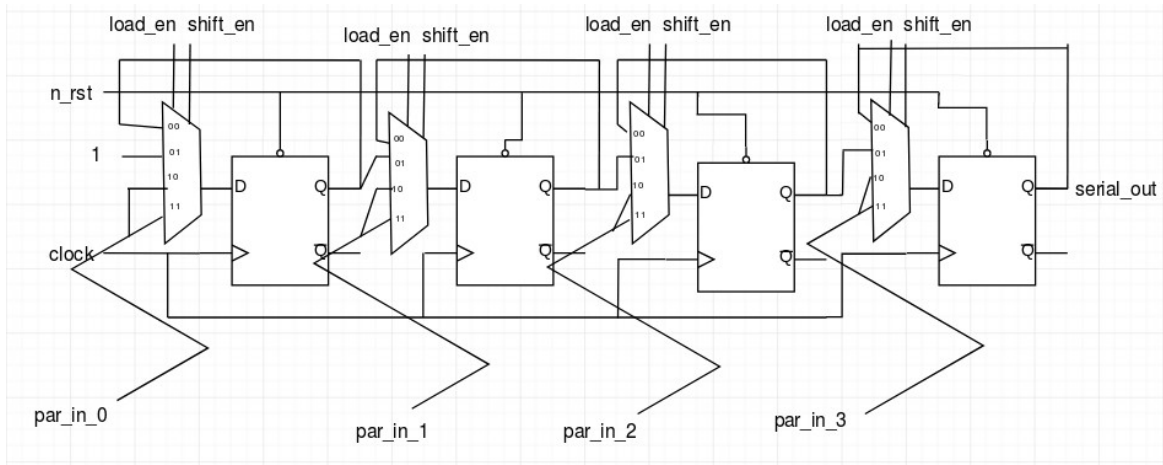
### 8.2.1 Synchronizer

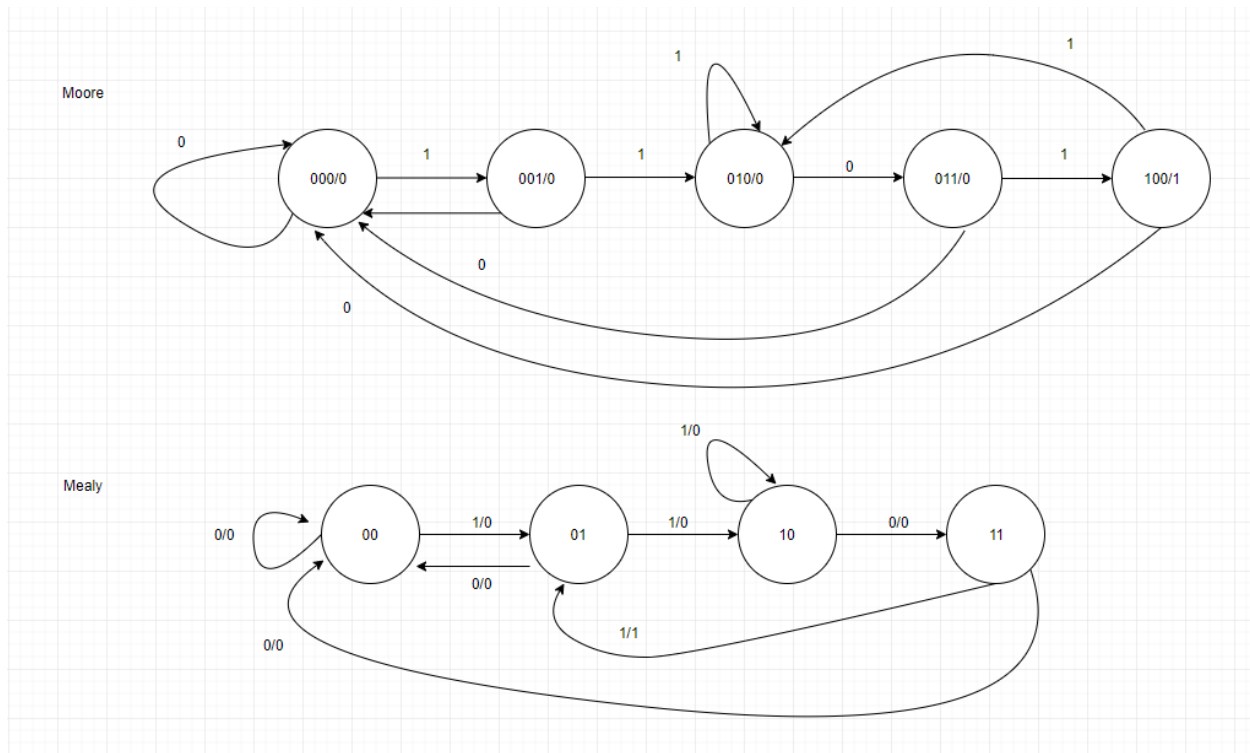


### 8.2.2 MSB First Serial to Parallel Shift Register



### 8.2.3 MSB First Parallel to Serial Shift Register



8.3 "1101" detector

The mealy model has one less state because the output of a mealy machine is a function of the present state and present inputs while the moore model output is a function of present state only.