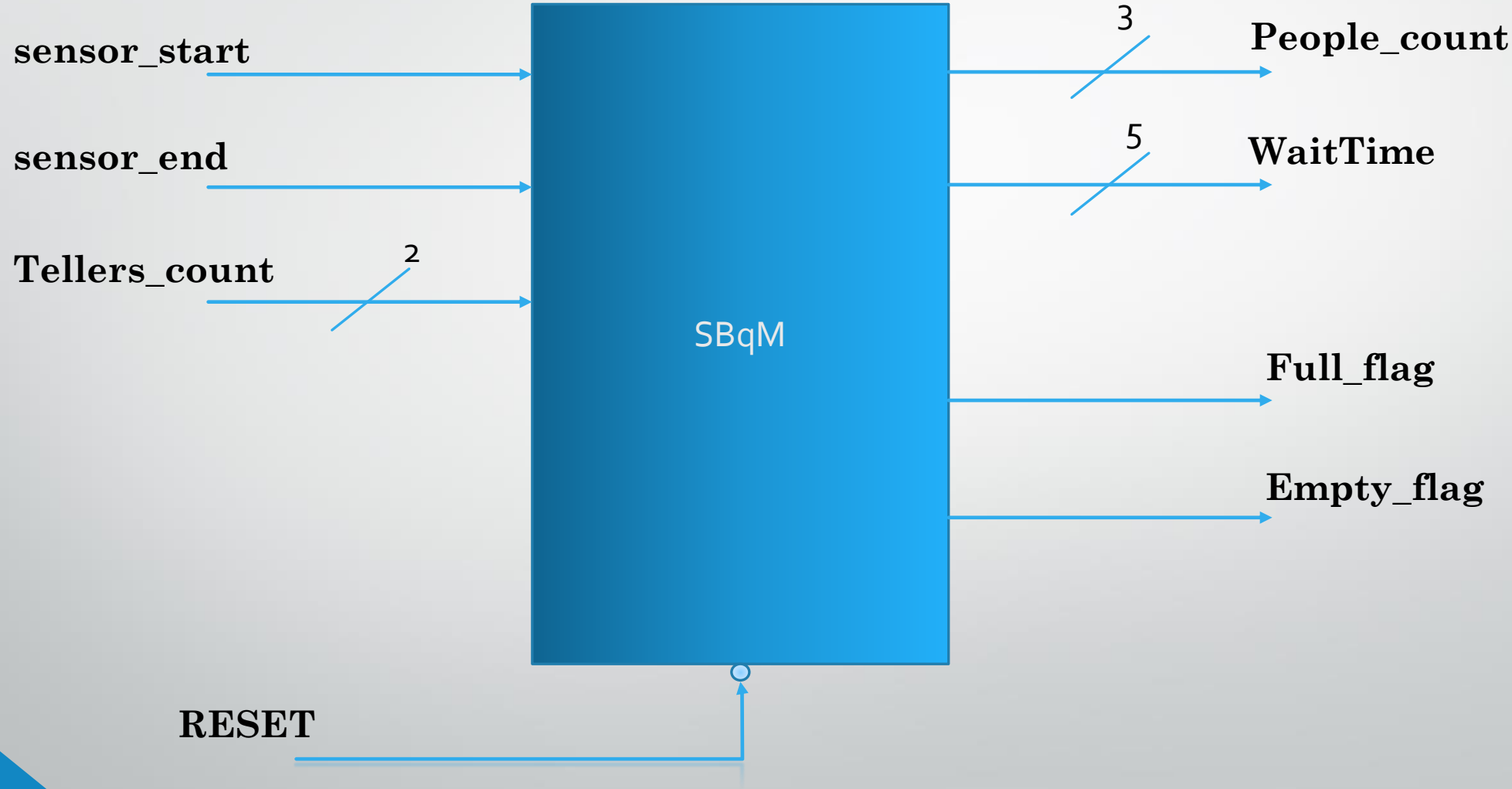
SBqM

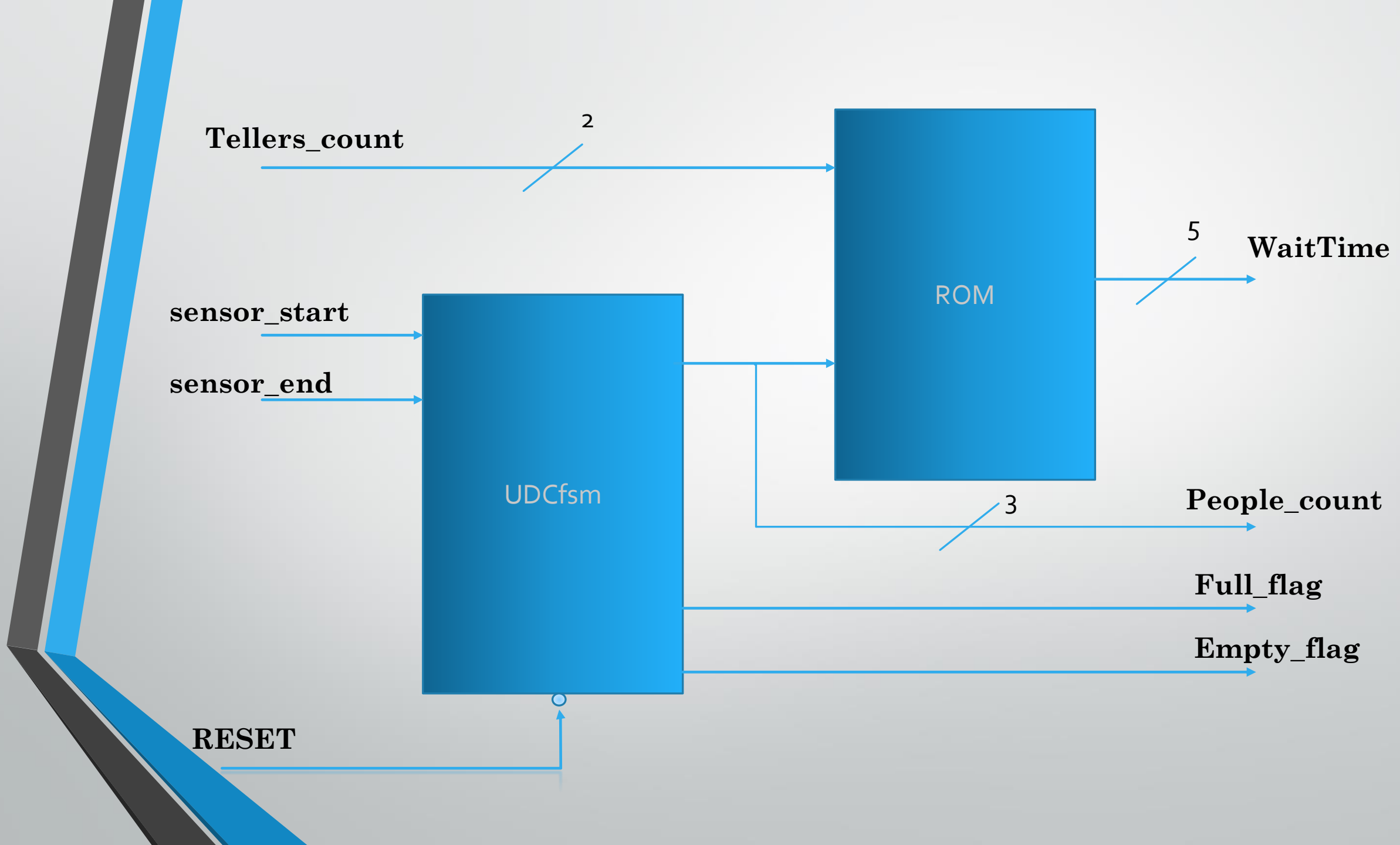
Report

Inputs				outputs			
Tellers _count	RESET	sensor _start	sensor _end	Full _flag	Empty_ flag	People_ count	WaitTime
01	0	0	0	0	0	0	[0,21]
10	1	1	1	1	1	1	[0,12]
11						2	[0,9]
						3	
						4	
						5	
						6	
						7	

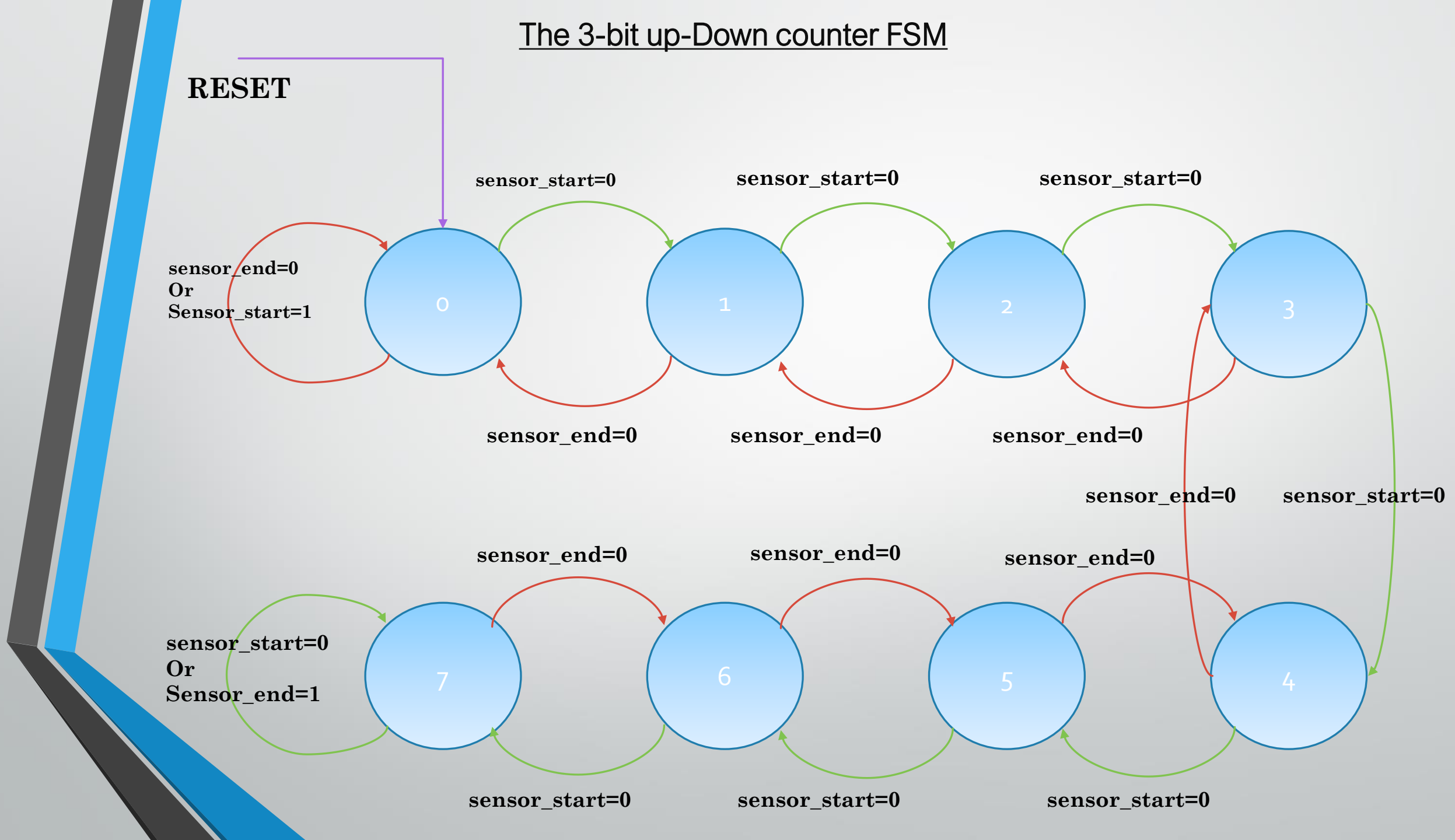
Pcount	Wait time @ TC=01	Wait time @ TC=10	Wait time @ TC=11
0	0	0	0
1	3	3	3
2	6	4	4
3	9	6	5
4	12	7	6
5	15	5	7
6	18	10	8
7	21	12	9

- **Tellers_count: represents the number of tellers available.**
- **sensor_start: represents the entry gate photocell sensor.**
- **sensor_end: represents the exit gate photocell sensor.**
- **RESET: sets the program to its default.**
- **Full_flag: indicates if the queue is full.**
- **Empty_flag: indicates if the queue is empty.**
- **People_count: represents the number of clients within the queue.**
- **WaitTime: represents the time each clients should wait before gets served, and it corresponds to the tellers' number.**


sensor_start
sensor_end
Tellers_count
2
SBqM
RESET
3
People_count
5
WaitTime
Full_flag
Empty_flag


Tellers_count
2
ROM
5
WaitTime
sensor_start
sensor_end
UDCfsm
3
People_count
Full_flag
Empty_flag
RESET

The 3-bit up-Down counter FSM



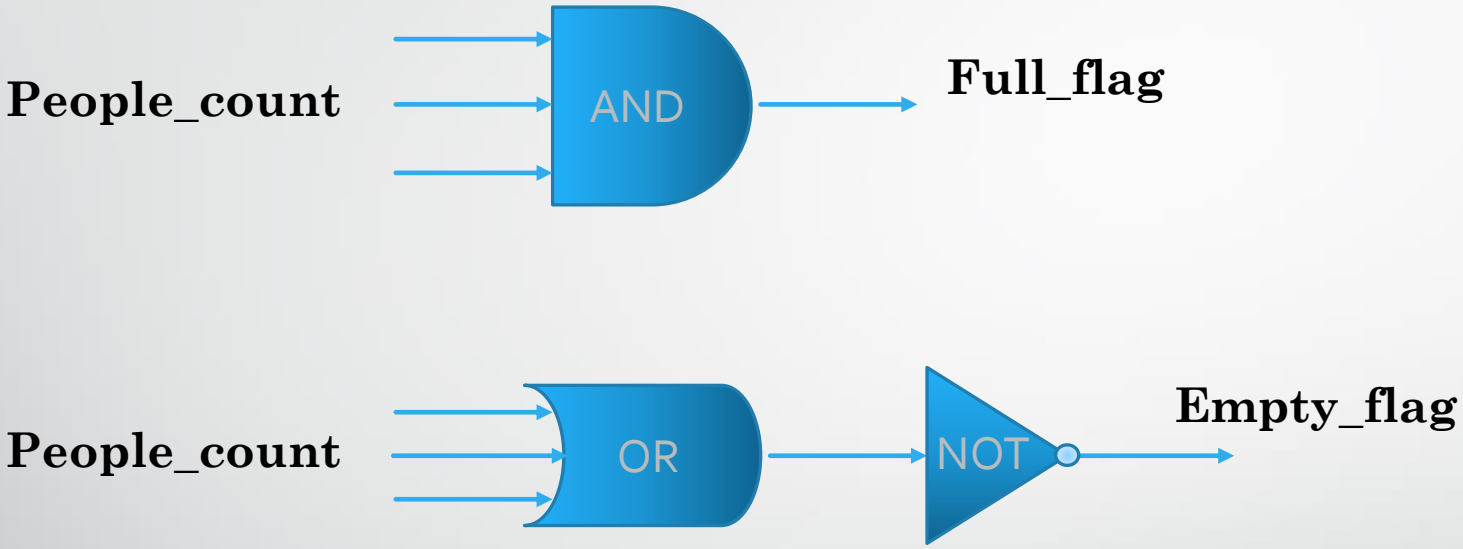
Note that:

For Up counting

For Down counting

- ✓ For up-count: in any case if the sensor_start=1 it stays at the same case.
- ✓ For down-count: in any case if the sensor_end=1 it stays at the same case.

For flags synthesis:



Just thought it’s cool ☺