

RocketChair SA

The company RocketChair SA produces all kind of wheelchairs for all the hospitals located in the province of Barcelona. They have been told that the Government of Catalonia is thinking about renewing some medical equipment, wheelchairs included. After a few weeks the Government set a meeting with the CEO of the company and they agreed to produce wheelchairs for 8 hospitals, with the condition that the time to delivery is one month per hospital, so in 8 months every hospital will have to be in condition to use its new wheelchairs.

The demand for every hospital (from 1 to 8) is this:

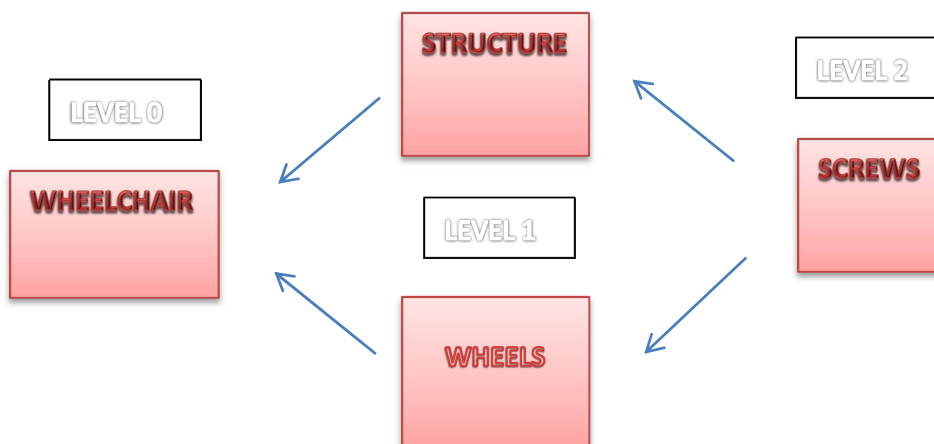
HOSPITAL	1	2	3	4	5	6	7	8
DEMAND	50	50	80	45	55	70	100	30

The needed inputs to produce the wheelchairs are:

- Structure: 1 per wheelchair
- Wheels: 4 per wheelchair (two big wheels and two little ones, but we will treat them the same way)
- Screws: 6 per structure and 4 per wheels.

ELEMENTS	Stock of security	Initial stock	Orders to arrive	Lot size	Lead Time
Wheelchair	10	40	30 in the first month-- 30 in the second month	-	1
Structure	10	60	-	-	1
Wheels	20	20	200 in the first month – 160 in the second month	4	2
Screws	300	400	1000 in the first month	10	1

COMPUTE THE QUANTITY OF THE ORDERS, NET REQUIREMENTS AND STOCK AVAILABLE OF THESE ELEMENTS WITH THE MRP METHOD



In the next tables there are the solutions of the quantity, order, and stock needed of every element of the wheel chair in the eight periods (1 hospital per period).

The point of the exercise is to know that the gross requirement of the structure will be determined by the orders of the wheelchairs, the gross requirement of the wheels will be determined by the orders of the wheelchairs (x4) and the gross requirements of the screws will be determined by the orders of the structure (x6) and the orders of the wheels (x4).

Product/		Week:	1	2	3	4	5	6	7	8
WHEELCHAIR		Gross requirement	50	50	80	45	55	70	100	30
Initial Stock	40	Planned Reception	30	30	-	-	-	-	-	-
		Available Stock	30	10	0	0	0	0	0	0
Security Stock	10	Net requirement	0	10	80	45	55	70	30	30
Lead Time	1	Reception	-	10	80	45	55	70	100	30
		Order	10	80	45	55	70	100	30	-

Product/		Week:	1	2	3	4	5	6	7	8
STRUCTURE		Gross requirement	10	80	45	55	70	100	30	-
Initial Stock	60	Planned Reception	-	-	-	-	-	-	-	-
		Available Stock	50	40	0	0	0	0	0	0
Security Stock	10	Net requirement	0	40	45	55	70	100	30	-
Lead Time	1	Reception		40	45	55	70	100	30	-
		Order	40	45	55	70	100	30	-	-

Product/		Week:	1	2	3	4	5	6	7	8
WHEELS		Gross requirement	40	320	180	220	280	400	120	-
Inicial Stock	20	Planned Reception	200	160	-	-	-	-	-	-
		Available Stock	0	160	0	0	0	0	0	-
Security Stock	20	Net requirement	0	0	180	220	280	400	120	-
Lead Time	2	Reception	-	-	180	220	280	400	120	-
		Order	180	220	280	400	120	-	-	-

Product/		Week:	1	2	3	4	5	6	7	8
SCREWS		Gross requirement	960	1150	1450	2020	1200	180	-	-
Inicial Stock	400	Planned Reception	1000	-	-	-	-	-	-	-
		Available Stock	100	140	0	0	0	0	-	-
Security Stock	300	Net requirement	0	1010	1450	2020	1200	180	-	-
Lead Time	1	Reception		1010	1450	2020	1200	180	-	-
		Order	1010	1450	2020	1200	180	-	-	-

