MCP361 : Industrial Engineering Lab: Assignment 4

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Assumptions(also given in the problem pdf) :

- Lot-for-lot sizing
- Zero Lead time

If these two assumptions are not satisfied :

- If the **assumption of the lot for lot sizing is not satisfied** then, **newly scheduled Planned Order Receipts have to be calculated** according to the lot-sizing technique. According to the lot sizing policy chosen, we will get the orders for parent parts, following which these values would be used as the "demand" for the children's parts.
- If the **assumption of Zero lead time is not satisfied**, then a **quantity of Planned Order Releases has to be introduced and calculated** after **considering the finite lead time**. Based on the lead time, we place the orders that much time periods before the Planned Order Receipts

Hand Written final answer with steps on next page.

Hand Written answer matches with the code output.

ASSIGNMENT 4 MCP 361

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A).

Time period	1	2	3	4	5	6	7	8
Gross Req.	15	20	30	10	30	30	30	30
Scheduled R.	0	0	20	10	0	0	0	0
Adjusted SR	0	0	10	0	0	0	0	0
Inventory(I_0=3)	15	15	-5	0	0	0	0	0
Net Req	0	0	5	10	30	30	30	30

=> Net Requirement for A = [0,0,5,10,30,30,30,30]

B)

Net requirement for A = Gross Requirement

Time Period	1	2	3	4	5	6	7	8
Gross Req.	0	0	5	10	30	30	30	30
Adjusted SR	0	0	0	0	0	10	0	0
Inventory(I_0=60)	60	60	55	45	15	-5	0	0
Net Req.	0	0	0	0	0	5	30	30

=> Net Req. for B = [0, 0, 0, 0, 0, 5, 30, 30]

C)

Gross = (2 x Net R. of A) + (1 x Net R. of B)

Time Period	1	2	3	4	5	6	7	8
Gross Req.	0	0	10	20	60	65	90	90
Adjusted SRs	0	0	0	0	20+10	0	0	0
Inventory(I_0=60)	60	60	50	30	0	-65	0	0
Net Req.	0	0	0	0	0	65	90	90

=> Net. Req. for C = [0, 0, 0, 0, 0, 65, 90, 90]

Hence, this matches with my python code.