Job Sequencing with Deadline Problem

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Q. For the following sequence of job, give the snapshot of execution which will achieve maximum profit.

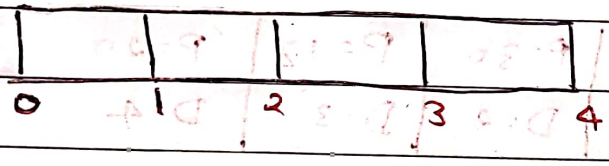
Job	1	2	3	4	5	6	7
Profit	3	5	20	18	0	6	30
Deadline	1	3	4	3	2	1	2

Sol^n:

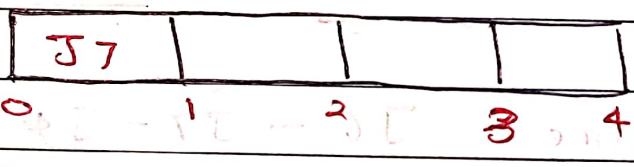
① Sort the job in descending order other profit value.

Job	7	3	4	6	2	1	5
Profit	30	20	18	6	5	3	0
Deadline	2	4	3	1	3	1	2

② Select maximum Deadline : D = 4



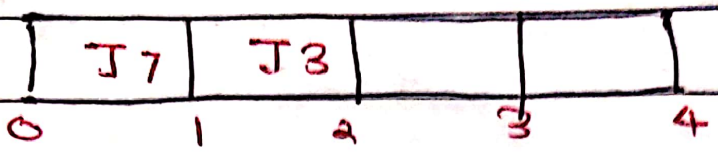
③ Select job J7 = 30 ; D = 2



P = 30

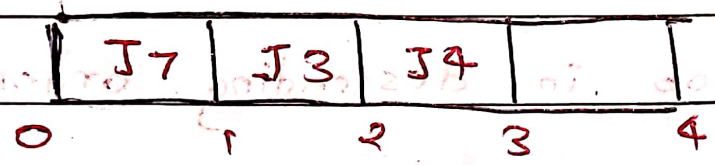
D = 2

④ Select Job J3 = 20 ; D = 4



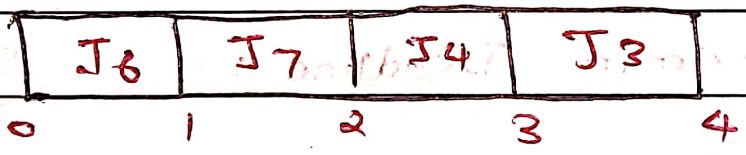
P = 30	P = 20
D = 2	D = 4

⑤ Select job J4 = 18 ; D = 3



P = 30	P = 20	P = 18
D = 2	D = 4	D = 3

⑥ Select job J6 = 6 ; D = 1



P = 6	P = 30	P = 18	P = 20
D = 1	D = 2	D = 3	D = 4

Total Profit : 6 + 30 + 18 + 20

= 74

Job Sequence : J6 – J7 – J4 – J3

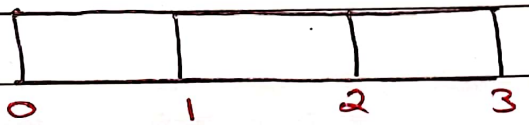
Q. For the following sequence of job, give the snapshot of execution which will achieve maximum profit

Job	1	2	3	4	5	6
Profit	20	15	10	7	5	3
Deadline	3	1	1	3	1	3

Soln:

① The given profit value of job is already in ascending order

② Select maximum deadline : D = 3

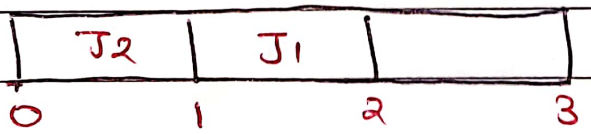


③ Select job J_1 = 20, D = 3

P = 20

D = 3

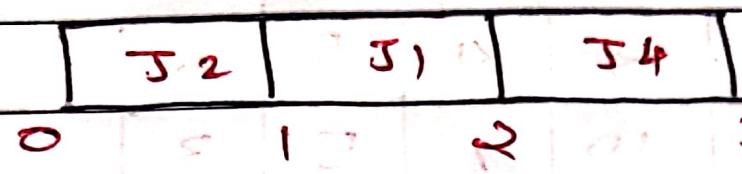
④ Select job J_2 = 20, D = 1



P = 15	P = 20
D = 1	D = 30

⑤ Reject J3

⑥ Select job J4 = 7 , D = 3



P=15	P=20	P=7
D=1	D=3	D=3

Total Profit: 15 + 20 + 7

= 42

Job sequence: J2 - J1 - J4