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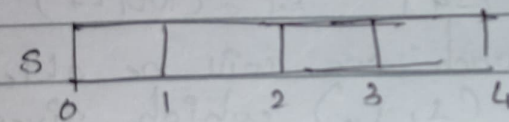
Pg- 1

Q1.

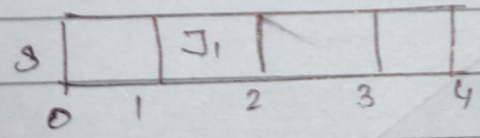
b. Sort all jobs in descending order of profit
So, P = {100, 27, 15, 10}, J = {J_1, J_4, J_3, J_2} and
D = {2, 1, 2, 1}, we shall select one by one job from the list of sorted jobs, and check if it is satisfies and deadline. If so, schedule the job in the latest free slot. If no such slot is found. skip the current job and process the next one.

Initially,



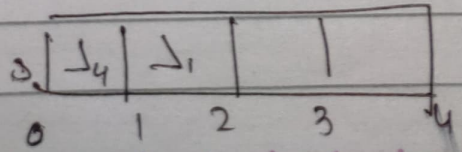
Profit of scheduled jobs, SP=0

Iteration 1
Deadline for job J_1 is 2, slot 2 (t=1 to t=2) is free, so schedule it in slot 2.
Solution set S = (J_1), and profit SP = {100}



Iteration 2
Deadline for job J_4, is 1, slot 1 (t=0 to t=1) is free, so schedule it in slot t.

Solution set S = (J_1, J_4) and profit SP = {100, 27}



(2)

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Iteration 3

Job J_3 is not feasable because first two slots are already occupied and if we schedule J_3 anyy time later $t=2$, it cannot be finished before its deadline 2, so job J_3 is discarded,

Solution set $S = \{J_1, J_4\}$ and $SP = \{100, 27\}$

Iteration 4

Job J_2 is not feasible because first two slots are already occupied and if we schedule J_2 any time later $t=2$, it cannot be finished before its deadline 1, so job J_2 is discarded

Solution set $S = \{J_1, J_4\}$ $SP = (100, 27)$

With the greedy approach we will be able to schedule two jobs (J_1, J_4) which gives a profit of $100 + 27 = 127$ units

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Q2)

A. stage 1:

Vertex 1 is connected to 2 and 3

cost [1] = min{ c [1,2], c[1,3] }

= min { 5,2 }

= 2

stage 2:

Vertex 2 is connected to 4 and 6

cost [2] = min { c [2,4) , c[2,6] }

= min { 3,3 }

= 3

Vertex 3 is connected to 4,5 and 6

cost [3] = min { c [3,4], c [3,5], c [3,6] }

= min { 6,5,8 }

= 5

stage 3:

Vertex 4 is connected 7 and 8

cost [4] = min { c [4,7], c [4,8] }

= min {1, 4}

= 1

Vertex 5 is connected to 7 and 6

cost [5] = min { c [5,7], c[5,8] }

= min [6,2]

= 2

Vertex 6 is connected to 8

cost [6] = min { c [6,8] }

= 2

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Stage 4:
Vertex 7 is connected to 9
cost[7] = {c[7,9]}
= 7

~~Vertex 8 is connected~~
cost[8] = {c[8,9]}
= 3

minimum cost path from s to t