

	All and the state of the state
1	In guedy technique most of problem are
	having n inputs and our object is to find
	the subset of given input which will
	having n inputs and our object is to find the subset of given input which will stal satisfy our requirement.
1	
	n-input condition max profit
A STATE OF THE PARTY OF THE PAR	08 08
	constrant min cost
	Asido Csido Isido ido
-	Problem Defination
	understanding the medium clearly
-	Find solution space
	all possible solution for a given n'inputs
The latest of th	8-ido 0-ido 1-ido
	It is one of the solution from solution space.
-	It is one of the solution from solution space. Which will satisfy the condition
1	Optimal solution
-	It is the solution from solution which
-	It is the solution from solution which will give max. projet or min cost.
	Scride Scride Land
-	Application of greedy technique
	- greedy Knapsack
	- Job sequencing / scheduling problem with deadline
	- ontimal merge pattern
-	- Hallman codina
-	- Haffman soding - min sost spaning tree
1	The state of the s

- signal source shortest path

Problem = 50 Wi > M

Feasible - & wix Xi (M)

Optimal - Xi * Pi

Eg: n = 3 M = 20obj obj-1 obj-2 obj-3

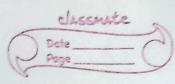
Profit 25 24 15

weight 18 15 10

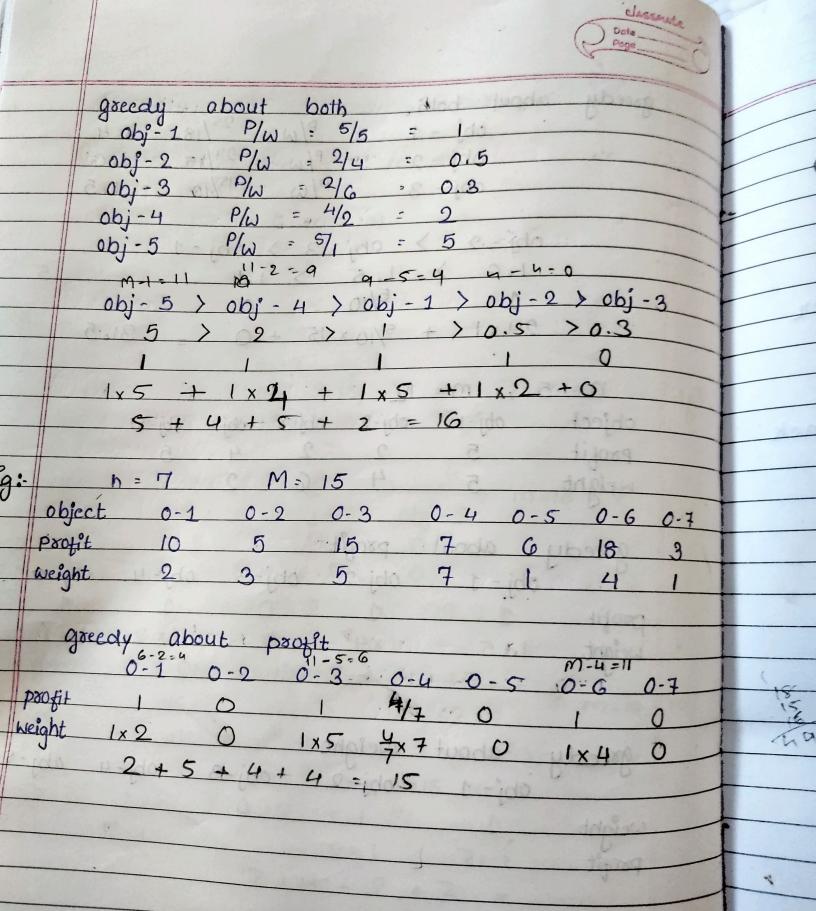
greedy about $p \times ofit$ obj-1 obj-2 obj-3 obj-1 obj-3 obj-3 obj-1 obj-2 obj-3weight $1 \times 2/15 = 0$ obj-3 o

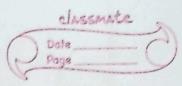
0 10 x 24's + 1 x 15

= 16 + 15 = 31



	greedy about both
	$0bj - 1$ $P/W = \frac{25}{18} = 104$
	0bj-2 $P/W = 24/15 = 1.6$
	0bj - 3 $P/W = 15/10 = 1.5$
	e e' 39 H-ido
	obj-2 > obj-3 > obj-1
	1.6 > 1.5 > 1.4 m-15-5
	5/10
	$24 \times 1 + \frac{5}{10} \times 15 + 0 = 31.5$
Eg:-	N = 5, $M = 12$
d	object obj-1 obj-2 obj-3 obj-4 obj-5
	Profit 5 2 2 4 5
	weight 5 4 6 2 1
F-0	0-0 2-0 4 0 8-0 9-0 400 tooldo
8	greedy about profit m-6-6
1	obj-1 obj-2 obj-3 obj-4 obj-56-2=4
	profit 1 1 0 1 1 1 -4-0
1	weight 1x5 1x4 0 1x2 1x1
E.	5 + 4 * 2 + 1 = 12
	The state of the s
	greedy about weight
	$0b_{1}-1$ $0b_{1}-2$ $0b_{1}-3$ $0b_{1}-4$ $0b_{1}-5$ $4=5$
	weight 1 1 0 1 1
	Profit 1 x 5 1 x 2 1 x 4 1 x 5
	= 5 + 2 + 4 + 5
	2 16





goedy about weight.

0-1 0-3 0-4 0-5 0-6 0-7

profit | 1 2/5 0 | 1 | 1 weight & 1 x 20 1x5 = 1x15 0 1x6 1x18 1x3 20+5+12+6+18+3 greedy about both obj-1 P/w = 10/2 = 5 obj-2 P/W = 73 = 1.6 Obj-3 P/w = 15/5 = 3 obj-4 P/w = 7/7 = 1 obj -7 P/w = 3/1 = 3 M-1=11 11-2:9 9-4=5 55-0 obj-5 > obj-1 > obj-6 > obj-3> obj-7> obj-2> obj-4 67574,573 >3 >1.6) 1 / 1 / 1 / 1 / 0 1x6+1x10+1x18+1x15+0 2 6 + 10 + 18 + 15 = 49 Obj- 5 > Obj- 1 > Obj- 6 > Obj- 7 > Obj- 2 > Obj- 4 6 7 5 7 415 7 3 7 3 7 1.6>1 1) 51 74/5 70 70 1x6 + 1x10 + 1 x18 + 1 x3 + 4/5 x15 6+10+18+3+12 = 49



⇒ O(n)

edigorithm of quedy technique

Profit/weight (P/W) ratho for Calculate the Profit,

each object.

for (i-1 to n)

a[i] = Pi/Wi

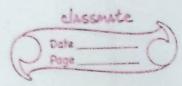
© Averange the P/W natio in descending order ⇒ O(nlog 8)

Dake the object one by one from the discending away until capasity of Knapsack becomes 0. while (m + 0)

M = M - W:X: $P : P + P:X: \longrightarrow O(n)$

i. Time Complexity = $O(n) + O(n \log n) + O(n)$ = $2O(n) + O(n \log n)$ = $O(n \log n)$

21/00 C 21/00 C 2 2/00 C 1 -1/00 C 2 2/00



	Minimum Cast Spanning Tree
	Spanning Tree
	G(V,E) = S(V, V -1)
	of connected sub- graph (5) of a graph
	of connected sub-graph (5) of a graph G (V.E) is called as a spanning tree
	it and only it
	i) It should consist V vertex
	ii) It should consist IVI-1 edges
	Complete graph => no. 0; vertices = n^{n-2}
_	
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