

R-5.1

# Assignment 11-1

$a:(2,4)$ ,  $b:(10,6)$ ,  $c:(8,5)$ ,  $d:(11,7)$ ,  $e:(14,3)$ ,  $f:(7,1)$ ,  $g:(9,6)$

$\frac{w}{h}$       3 , 1,67 , 1,6 , 1,57 , 4,67 , 7 , 1,5

$f:7$  ,  $e:4,67$  ,  $a:3$  ,  $b:1,67$  ,  $c:1,6$  ,  $d:1,57$  ,  $g:1,5$

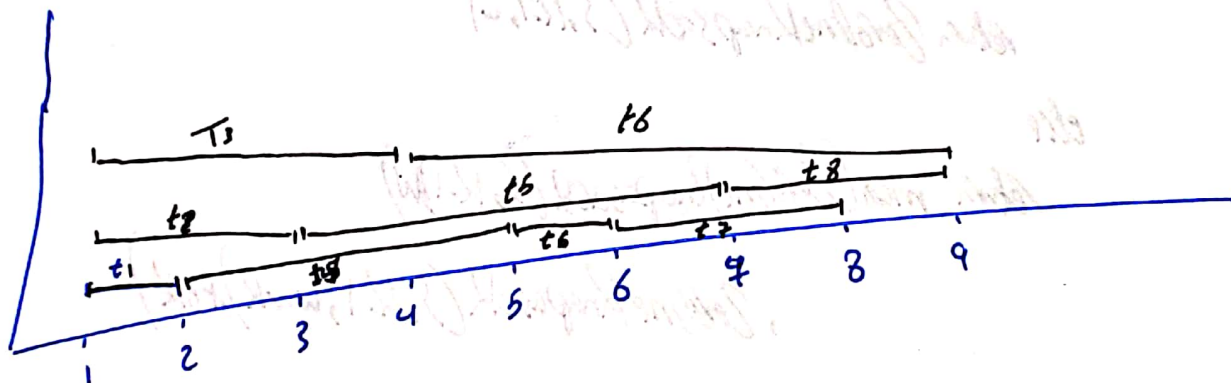
weight left      13-1,5=12 , 12-3=9 , 9-4=5 , 5-1,6=3,4 , (3,4)\*8=27,2

$\sum \text{weights} = 18$

Total weight : 49,4

Optimal  $\rightarrow f, e, a, b, c \rightarrow (7,1), (14,3), (12,4), (10,6), (8,5)$

R-5.3



## Assignment 11.2

R-5.12

You can't use it in Partial Part, C2 it Not Knapsack Problem  
you have to use 0-1 functional Problem.

R-5.9

Algorithm ZeroOneKnapsack2( $S, k, w$ )

if  $k \leq 0$  or  $w \leq 0$  then  
return 0

else

$e$  is  $S$ .elemAtRank( $k-1$ )

$bk$  is  $e$ .benefit()

$wk$  is  $e$ .weight()

if  $wk > w$  then

return ZeroOneKnapsack2( $S, k-1, w$ )

else

return max(ZeroOneKnapsack2( $S, k-1, w$ ),

ZeroOneKnapsack2( $S, k-1, w-wk$ ) +  $bk$ )