

V_i 's

w_i 's

Capacity

count

sum each item of same time
must less than or equal to
the count

w	v
5	7
3	4
2	2

count = 3

17 \rightarrow 5, 5, 5, 2 valid

17 \rightarrow 3, 3, 3, 3, 3, 2 invalid

s_1	7	} Duplicate items
s_2	7	
s_3	7	
3_1	4	} \uparrow v_i 's is a lot
3_2	4	
3_3	4	

z_1 2
 z_2 2
 z_3 2

is also
off-its

w v

z_1 2 2

z_2 4 4

z_3 3 4

z_4 6 8

z_5 5 7

z_6 10 14

→ merge iters

to save
time!

Is this
legal?

	count		19	13
$\left(\begin{array}{l} 1 \\ 3 \\ 7 \\ 13 \\ 24 \end{array} \right)$	z_1	x	2 2	$n \leq \sum_{i=0}^{\text{max}} z_i$ if $n > \sum_{i=0}^{\text{max}} z_i$
	z_2		4 4	
	z_4	x	8 8	
	z_8	x	16 16	
	<hr/>			

Does this cover all possible
multiples of iters less
than or equal to the count? it does

$O(\log(\text{count}) \text{ liters} \mid \text{capacity})$