

1	A	B	C	D
2	B	D	C	A
3	C	B	E	A
4	C	E	A	X
5	D	C	E	X
6	D	D	D	X
7	E	D	B	X
8	A	E	B	X
9	B	D	B	X
10	C	B	D	X
11	A	D	C	X
12	D	B	D	X
13	A	C	D	X
14	A	D	B	X
15	B	C	A	X
16	D	B	C	X

Uma Indústria do problema com 2/11/23
 Sylens é a máquina capacidade de 15 Kg
 Para a seguinte máquina com a capacidade de 5 Kg
 montar o item e nome utilizado Bronchonel

Item	Peso	Valor	V/P
1	12	4	$4/12 = 0,33$
2	1	2	$2/1 = 2$
3	2	2	$2/2 = 1$
4	3	1	$1/3 = 0,33$
5	4	10	$10/4 = 2,5$

40	12	4	2	11
35	0,4	12	5	3

$4x^2 + 2x^2 + 2x^2 + 1x^2 + 10x^2$
 $12x + 1x^2 + 1x^2 + 3x^2 + 4x^2 = 15$

450
25
750
2000

22/11 23

Reso 0

$$UB = U + (W-w)(U_i+1/w_i+1)$$

$$UB = 0 + (15-0) \cdot (4/10)$$

$$UB = 0 + 15 \cdot 2,5$$

$$UB = 0 + 37,50$$

$$UB = 37,50$$

$$\begin{array}{r} 15,0 \\ 2,5 \\ \hline 37,50 \\ 300 \\ \hline 37,50 \end{array}$$

$$UB = U + (W-w)(U_i+1/w_i+1)$$

$$UB = 4 + (15-1) \cdot (2/1)$$

$$UB = 4 + 14 \cdot 2$$

$$UB = 4 + 28 \text{ Com Um e Dois}$$

$$UB = 32$$

1	2	3	4	5
S	S	S	S	S
S	N	S	S	S
S	S	N	S	S
S	N	N	S	S
S	S	S	N	S
S	N	S	N	S
S	S	N	N	S
S	N	N	N	S
N	S	S	S	N
N	N	S	N	N
N	S	N	S	N
N	N	S	N	N
N	S	N	N	N
N	N	N	N	N

$$UB = U + (W-w)(U_i+1/w_i+1)$$

$$UB = 4 + (15-2) \cdot (2/2)$$

$$UB = 4 + 13 \cdot 1$$

$$UB = 4 + 13$$

$$UB = 21 \text{ Com Um e Tres}$$

$$UB = U + (W-w)(U_i+1/w_i+1)$$

$$UB = 4 + (15-3) \cdot (1/3)$$

$$UB = 4 + 12 \cdot 0,6$$

$$UB = 4 + 7,2$$

$$UB = 11,2 \text{ Com Um e Quatro}$$

$$UB = U + (W-w)(U_i+1/w_i+1)$$

$$UB = 4 + (15-12) \cdot (4/12)$$

$$UB = 4 + 3 \cdot 0,3$$

$$UB = 4 + 0,9$$

$$UB = 4,9$$

$$\begin{array}{r} 30 \\ 0,3 \\ \hline 9,0 \\ 00 \\ \hline 09,0 \end{array} \quad \begin{array}{r} 12,0 \\ 0,6 \\ \hline 12,0 \\ 000 \\ \hline 012,0 \end{array}$$

22/11/23

$$UB = U + (U - w) \cdot (U_{i+1} / w_{i+1})$$

Com um dos e
Dres

$$UB = 10 + (15 - 4) \cdot (2/1)$$

$$UB = 10 + 11 \cdot 2 = 32$$

$$UB = 10 + 22$$

$$UB = 32$$

110

25
950

$$UB = U + (U - w) \cdot (U_{i+1} / w_{i+1})$$

$$UB = 14 + (15 - 1) \cdot (1/3)$$

Com 9 elm

220
29,50

$$UB = 14 + 8 \cdot 0,3$$

dos e Dres

$$UB = 14 + 2,4$$

80

$$UB = 16,4$$

03
240

$$UB = U + (U - w) \cdot (U_{i+1} / w_{i+1})$$

Com tem dos

$$UB = 14 + (15 - 7) \cdot (1/3)$$

Dres e quarto

00
2,40

$$UB = 14 + 8 \cdot 0,3$$

$$UB = 14 + 2,4$$

$$UB = 16,4$$

$$UB = U + (U - w) \cdot (U_{i+1} / w_{i+1})$$

$$UB = 15 + (15 - 10) \cdot 0$$

Com 9 elm. Dos. Dres

$$UB = 15 + 5 \cdot 0$$

Des. Quarto e Cordeiro

$$UB = 15 + 0$$

$$UB = 15$$

100

50

03

1403

$$UB = U + (U - w) \cdot (U_{i+1} / w_{i+1})$$

$$UB = 10 + (15 - 9) \cdot (1/3)$$

300

150

$$UB = 10 + 6 \cdot 0,3$$

000

00

$$UB = 10 + 3$$

0300

150

$$UB = 13$$

$$UB = U + (U - w) \cdot (U_{i+1} / w_{i+1})$$

$$UB = 10 + (15 - 4) \cdot (2/2)$$

$$UB = 10 + 11$$

$$UB = 10 + 11$$

$$UB = 21$$

$$UB = 10 + 10.033$$

$$UB = 10 + 10.033$$

$$UB = 10 + 10.033$$

$$UB = 10 + 10.033$$

$$UB = 10 + 3.3$$

$$UB = 13.3$$

$$UB = 10 + 10.033$$

$$UB = 10 + 10.033$$

$$UB = 10 + 10.033$$

$$UB = 10 + 3.3$$

$$UB = 13.3$$

$$UB = 10 + 10.033$$

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$$UB = 10 + 10.033$$

$$UB = 10 + 10.033$$

$$UB = 10 + 10.033$$

$$UB \pm U + (W - w) \cdot (U+1 / W+1)$$

$$UB = 2 + (5-1) \cdot (4/12)$$

$$UB = 2 + 14 \cdot 0,3$$

$$UB = 2 + 4,2$$

$$UB = 6,2$$

$$14,0$$

$$0,3$$

$$42,0$$

$$000$$

$$042,0$$

$$UB \pm U + (W - w) \cdot (U+1 / W+1)$$

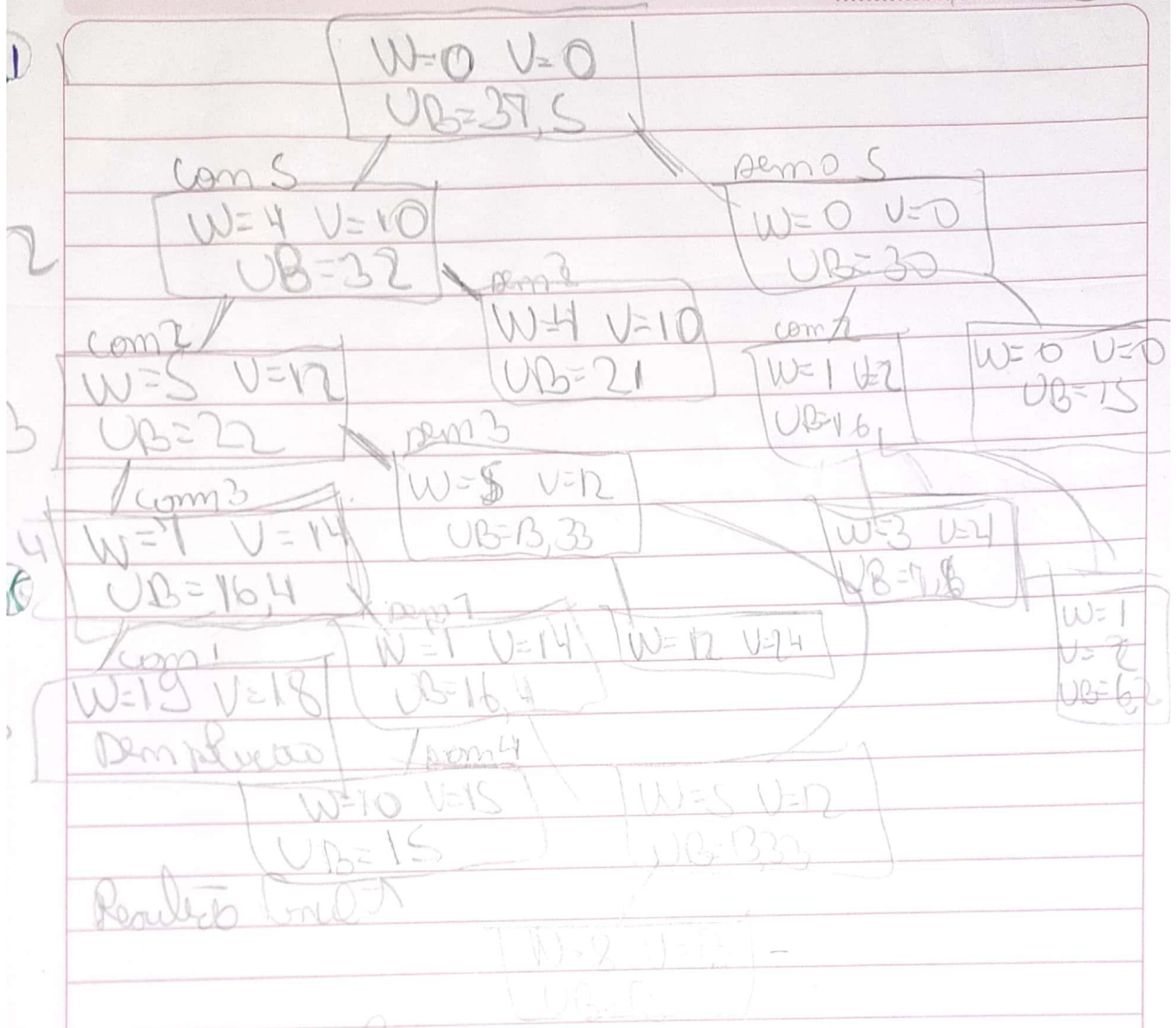
$$UB = 0 + (15-0) \cdot 1$$

$$UB = 0 + 15 \cdot 1$$

$$UB = 0 + 15$$

$$UB = 15$$

T	P	V	VP
5	4	10	2,5
2	1	2	2
3	2	2	1
4	3	1	0,33
1	12	4	0,33



Resultado final

W=2 V=13
UB=15

Observaciones: Repetición de operaciones de comparación, pero resultan en los mismos resultados con operaciones

El Múltiplo Total es de 10 Puntos cubiertos
a través 2, 3, 4 y 5, el orden de conteo es 5, 2, 3 y 4
de los 15 disponibles

16415-5.0,33