homework 2

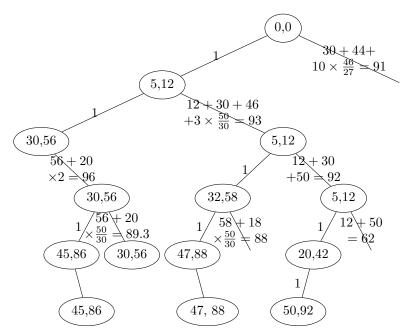
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September 4, 2014

给定0-1背包问题, n=5, c=50, v=[12, 44, 46, 30, 50], w=[5, 25, 27, 15, 30]。

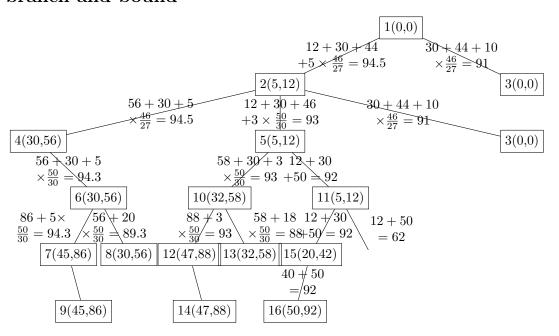
- 1. 采用回溯法求解该问题,分别用表格形式和解空间树形式跟踪算法执行过程。
- 2. 采用分支限界法求解该问题,跟踪算法执行过程,给出解空间树和活结点优先队列的更新过程。

1 backtrack



i	x_1	x_2	x_3	x_4	x_5	cw	cp	bestp
1	0	0	0	0	0	0	0	0
1	1	0	0	0	0	5	12	0
2	1	1	0	0	0	30	56	0
3	1	1	0	0	0	30	56	0
4	1	1	0	1	0	45	86	0
5	1	1	0	1	0	45	86	0
6	1	1	0	1	0	45	86	86
4	1	1	0	0	0	30	56	86
2	1	0	0	0	0	5	12	86
3	<u>1</u>	0	1	0	0	32	58	86
4	1	0	1	1	0	47	88	86
5	1	0	1	1	0	47	88	86
6	1	0	1	1	0	47	88	88
3	1	0	0	0	0	5	12	88
4	1	0	0	1	0	20	42	88
5	1	0	0	1	1	50	92	88
6	<u>1</u>	0	0	1	1	50	92	92

2 branch and bound



priority queue

1(0)					
2(94.5)	3(91)				
4(94.5)	5(93)	3(91)			
6(94.3)	5(93)	3(91)			
7(94.3)	5(93)	3(91)	8(89.3)		
5(93)	3(91)	8(89.3)	9(86)		
10(93)	11(92)	3(91)	8(89.3)	9(86)	
12(93)	11(92)	3(91)	8(89.3)	13(88)	9(86)
11(92)	3(91)	8(89.3)	13(88)	14(88)	9(86)
15(92)	3(91)	8(89.3)	13(88)	14(88)	9(86)
16(92)	3(91)	8(89.3)	13(88)	14(88)	9(86)