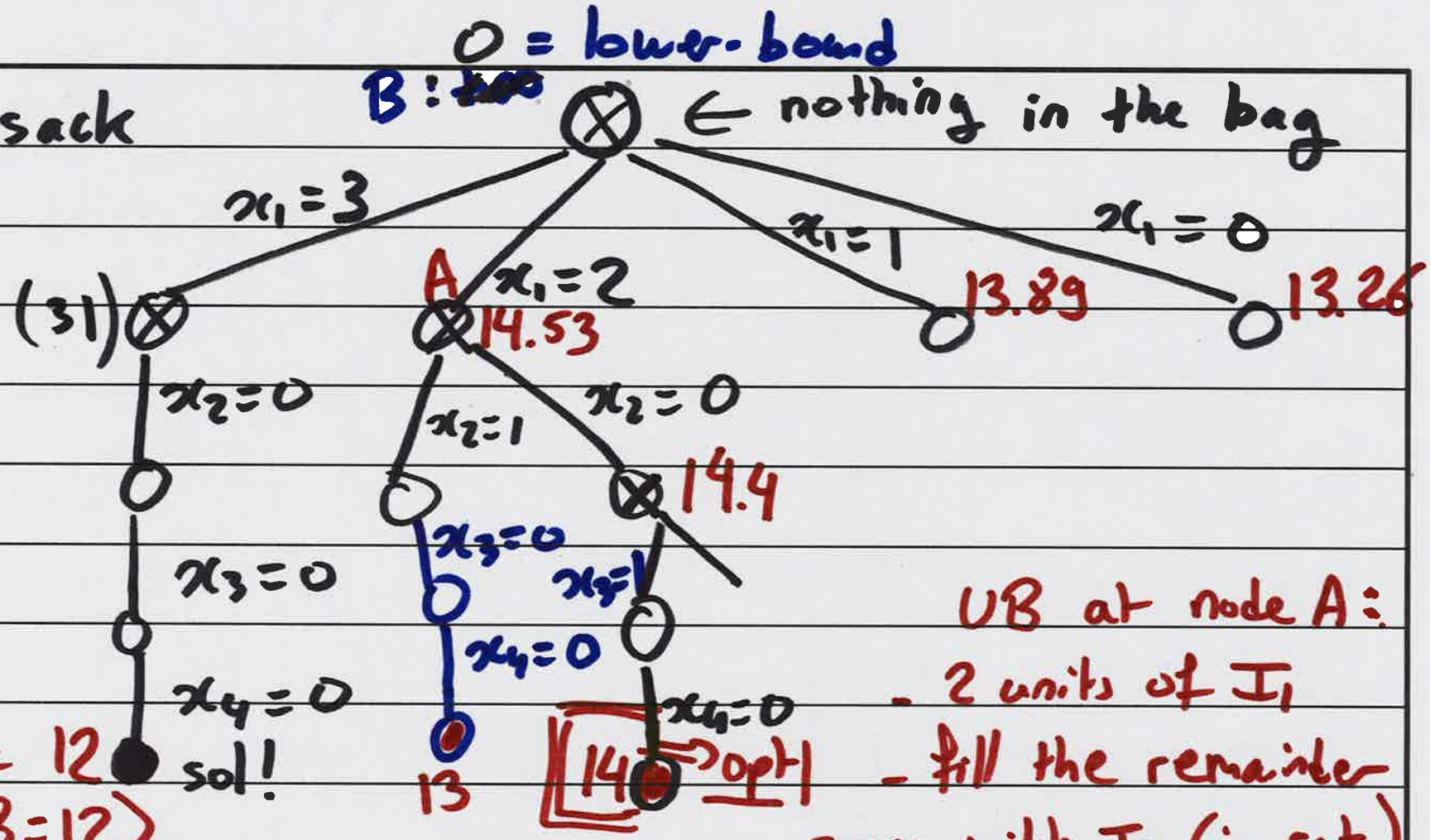
Knapsack



UB at node A:
- 2 units of I_1
- fill the remainder space with I_2 (in rat.)

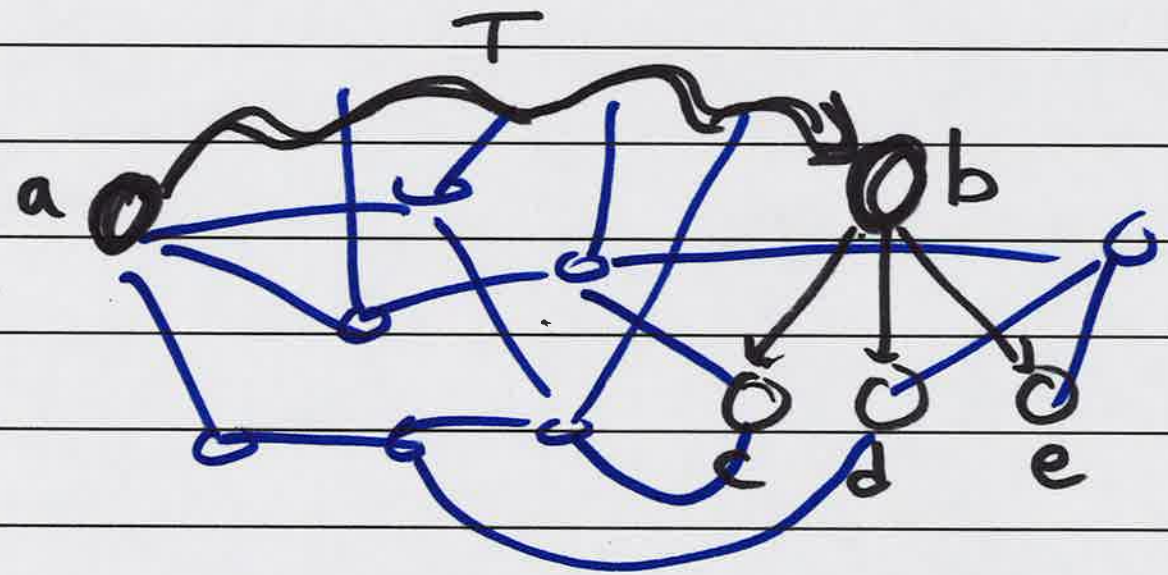
Choose: DFS

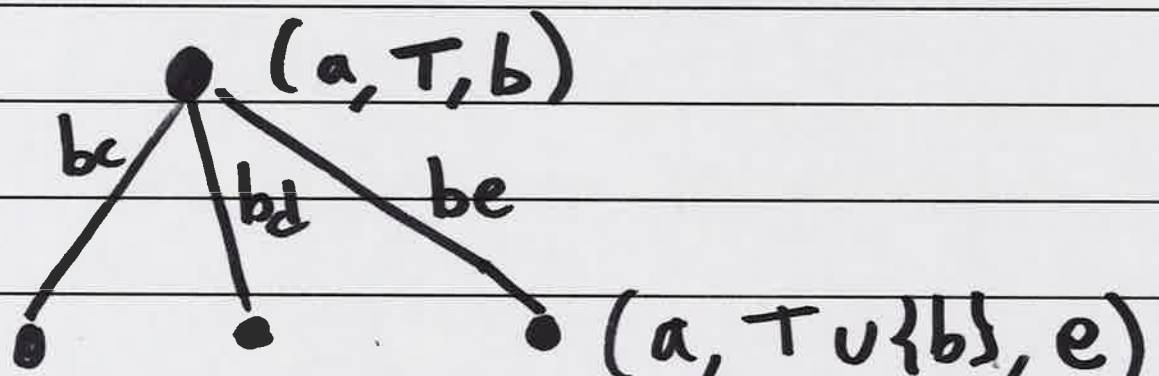
Expand:
- consider next item
- one child for each possible nb of units of this item

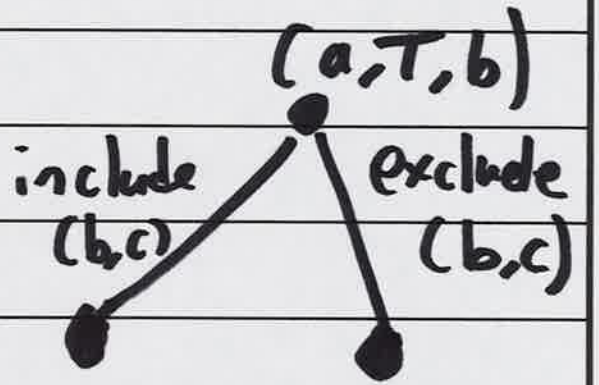
[redacted]

out. 26

TSP

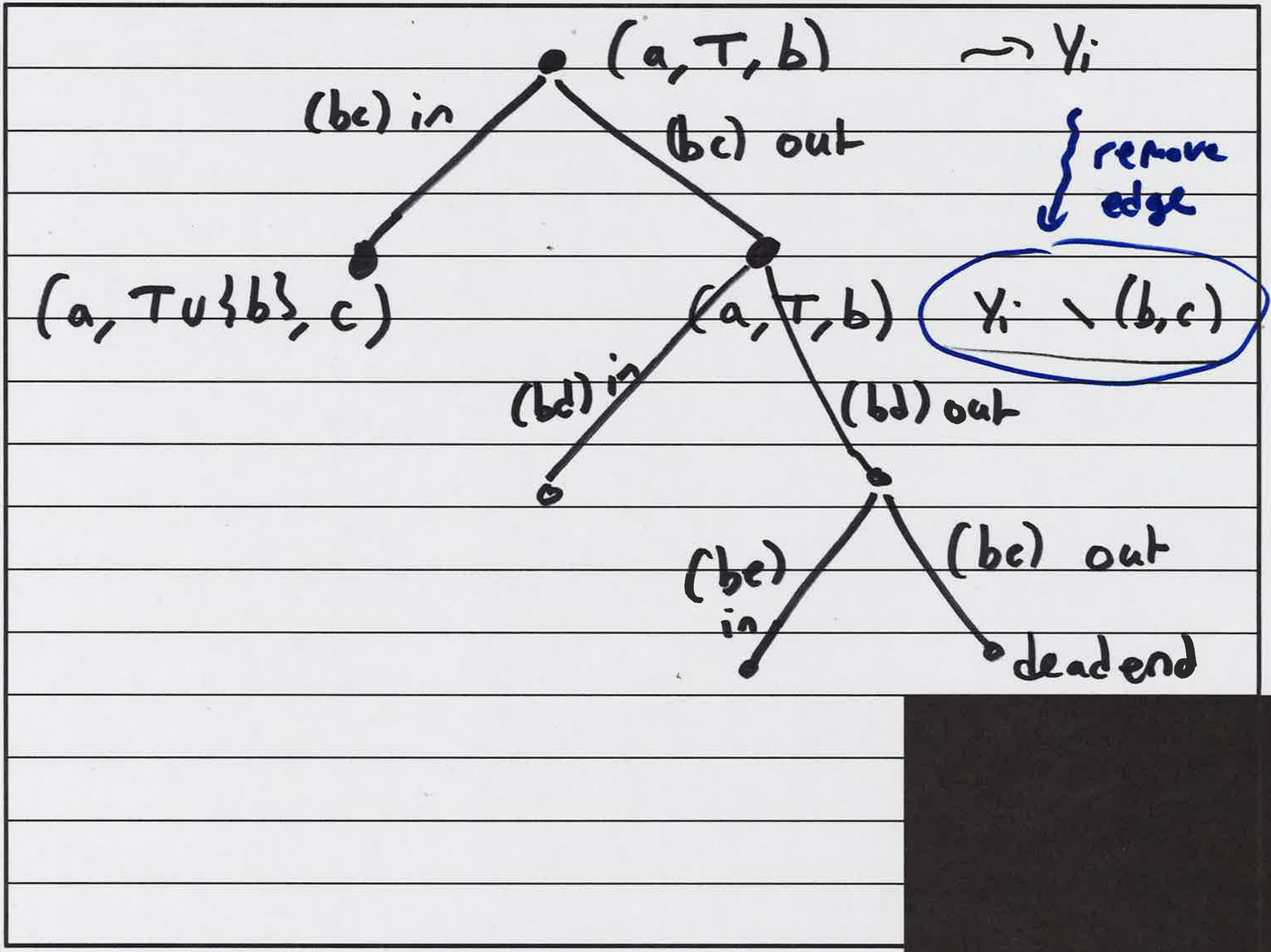




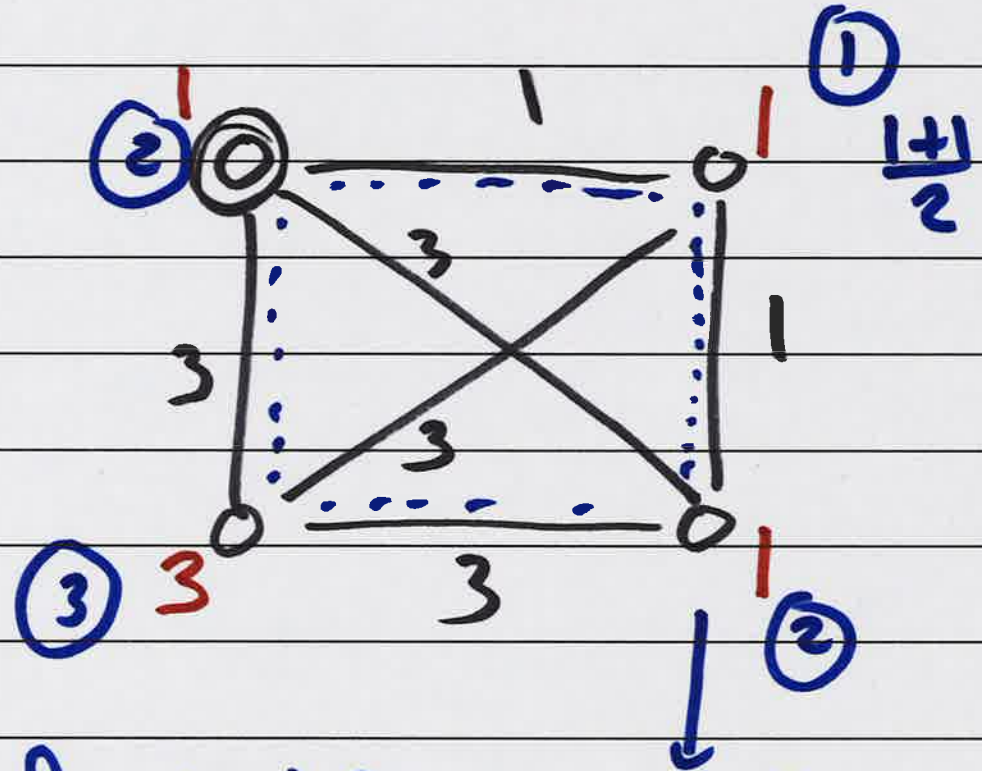


[redacted]

oct. 26


(a, T, b)
⇝ Y_i
(bc) in
(bc) out
remove edge
(a, T∪{b}, c)
(a, T, b)
$Y_i \setminus (b,c)$
(bd) in
(bd) out
(be) in
(bc) out
dead end

Lower Bound



$\frac{1+1}{2}$

$LB = 1+1+1+3$

$= 6$

no possible tour of cost 6.

$LB = 0$

Refined LB $\quad \frac{1+3}{2}$

↳ $3+2+2+1 = 8$.

tour of cost 8!