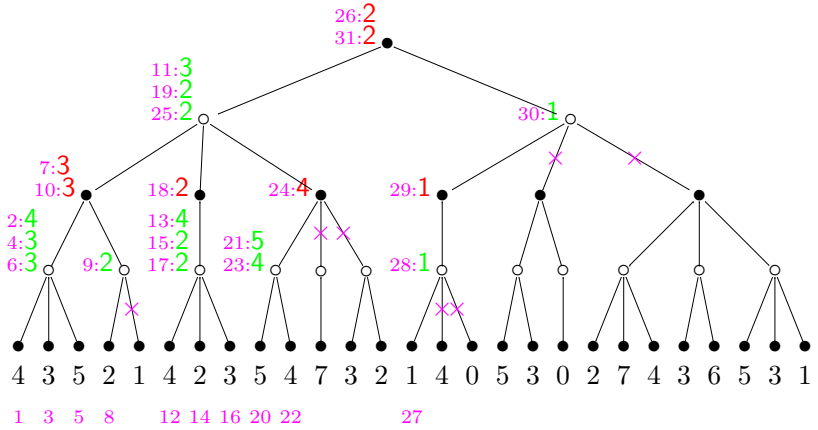
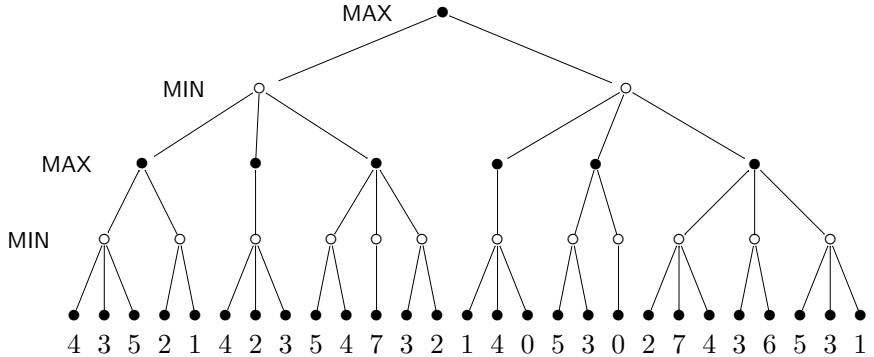
Minimax



Minimax



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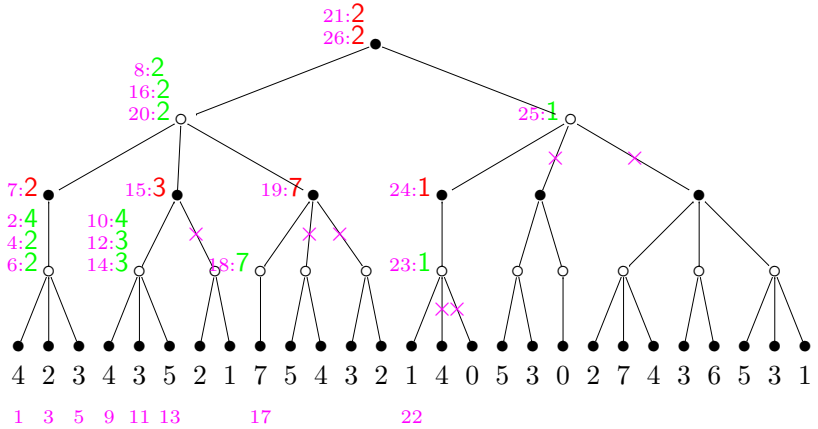

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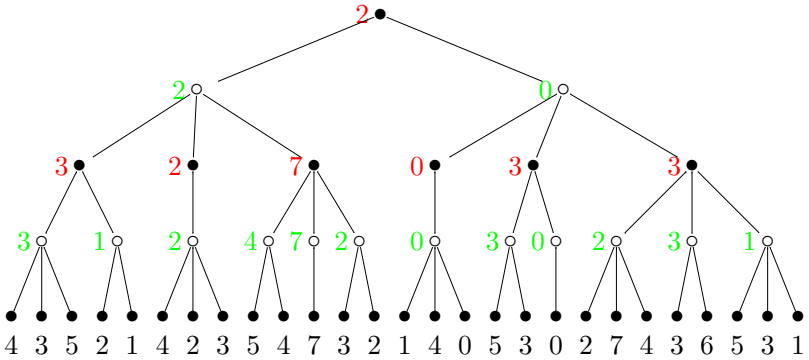
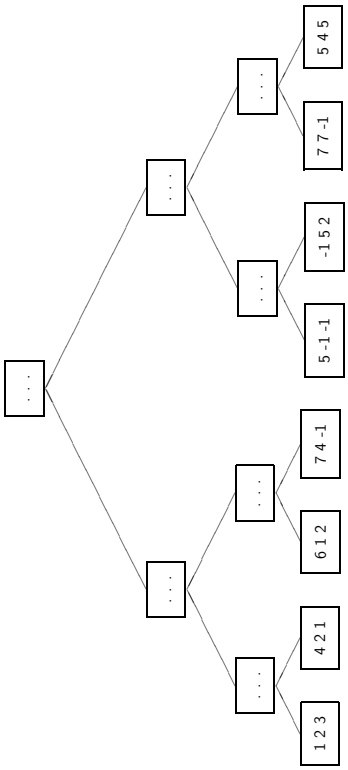
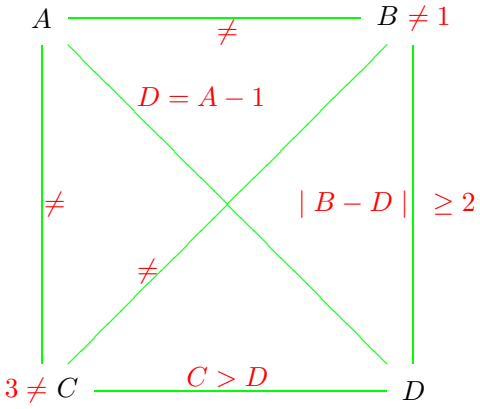
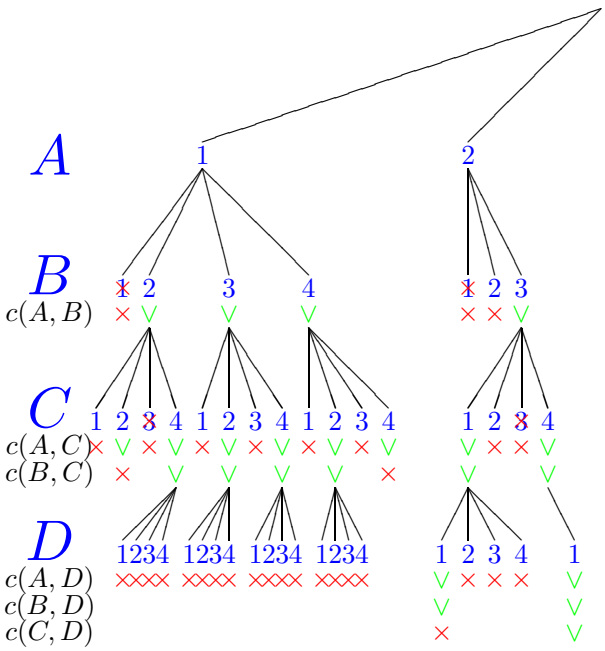




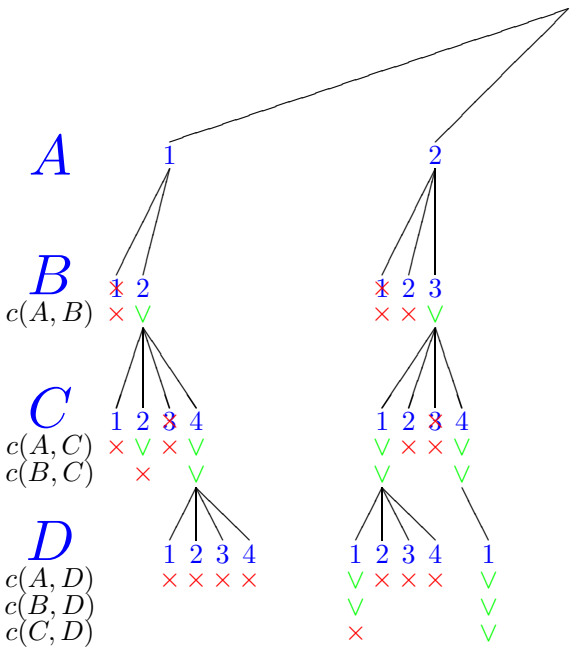
4 houses — constraints



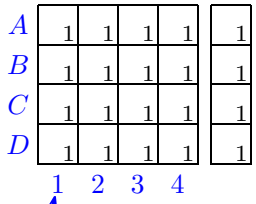
4 houses — backtracking



4 houses — backjumping



4 houses — backmarking



A

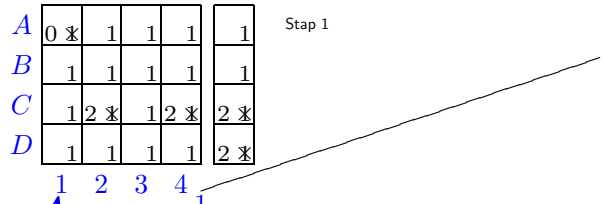
B
$c(A,B)$

× = failed check
○ = failed lookup
∨ = succeeded check
◇ = succeeded lookup

C
$c(A,C)$
$c(B,C)$

D
$c(A,D)$
$c(B,D)$
$c(C,D)$

4 houses — backmarking



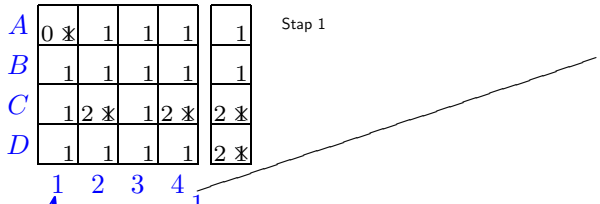
A

B
$c(A,B)$

C
$c(A,C)$
$c(B,C)$

D
$c(A,D)$
$c(B,D)$
$c(C,D)$

4 houses — backmarking



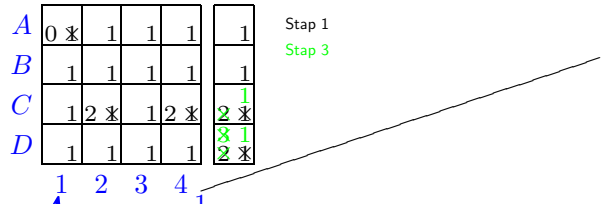
A

B
$c(A,B)$

C
$c(A,C)$
$c(B,C)$

D
$c(A,D)$
$c(B,D)$
$c(C,D)$

4 houses — backmarking



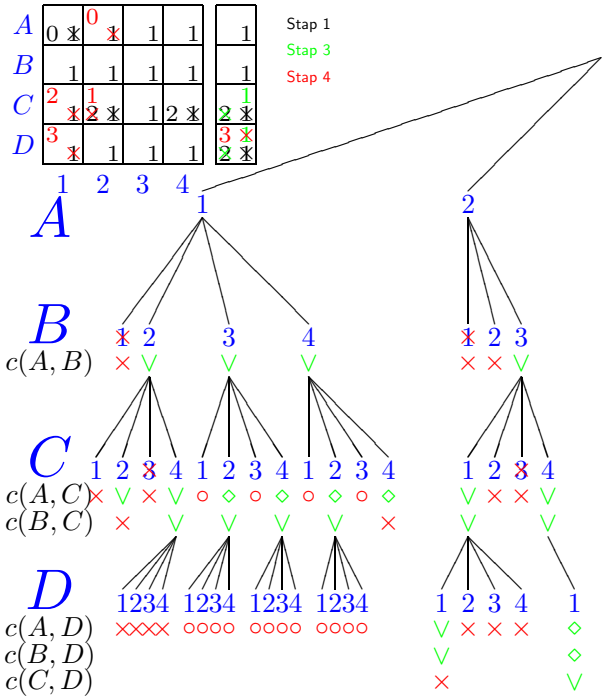
A

B
$c(A,B)$

C
$c(A,C)$
$c(B,C)$

D
$c(A,D)$
$c(B,D)$
$c(C,D)$

4 houses — backmarking



4 houses — no-goods

{A=1} no-good
There is no value for D such that $A = D + 1$.

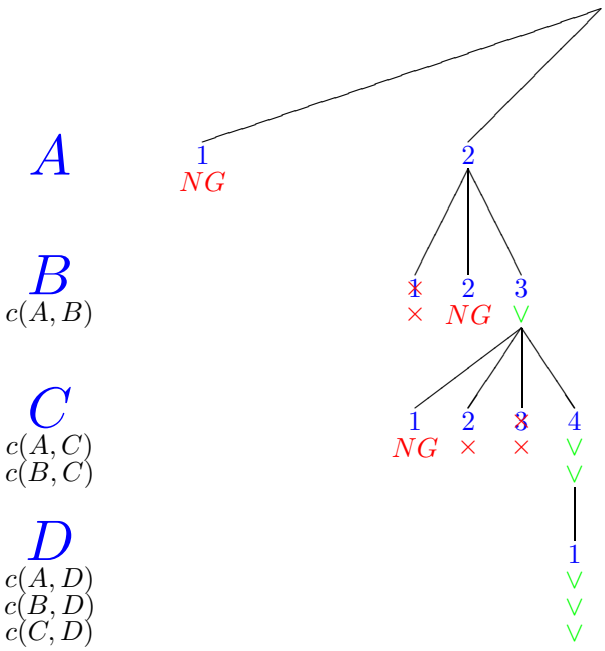
{A=2,B=2} no-good
All families should be assigned to different houses.

{A=2,B=3} not a no-good
$\{A = 2, B = 3, C = 4, D = 1\}$ is a solution.

{A=2,B=3,C=1} no-good
Conflicts with $C > D$.

{A=2,B=4} no-good
In this case we would have $D = 1$, but C can't be 3.

4 houses — no-goods



4 houses — efficiency

	Opened nodes	Checks
Standard backtracking	28 (13)	142 (56)
Backjumping	21 (8)	93 (30)
Backmarking	28 (13)	79 (34)
Intelligent backtracking	6 (4)	16 (9) (+no-good checks)

All (One)