Problem Rules for Water Jug Problem

1. Initial Condition	Goal command	New Problem
(i) (4,3) if $4 < 4$	→ fill 4 from source	jug - 4, 3
(ii) (4, 3) if $3 < 3$	→ fill 3 from source	measure - 2.
(iii) (4,3) if $4 > 0$	→ (0, 3) empty 4	
(iv) (4, 3) if $3 > 0$	→ (4,0) empty 3.	
(v) (4, 3) if $(4+3) < 3$	(4+3,0) empty 3 to 4.	
(vi) (0,3) if $3 < 0$		
(vii) (4,0) if $4 > 0$		
(viii) (0,2)		
(ix) (2, 0)		

Date : 20/7/2022

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F → farmer
G → Goat
W → Wolf
C → cabbage.

PR1 : (F, G, W, C || Nil)

PR2 : (W, C || F, G) ⟶ (F, W, C || G)

PR3 : (C || F, W, G) ⟶ (C, G, F || W)

PR4 : (G || F, C, W) ⟶ (F, G || C, W)

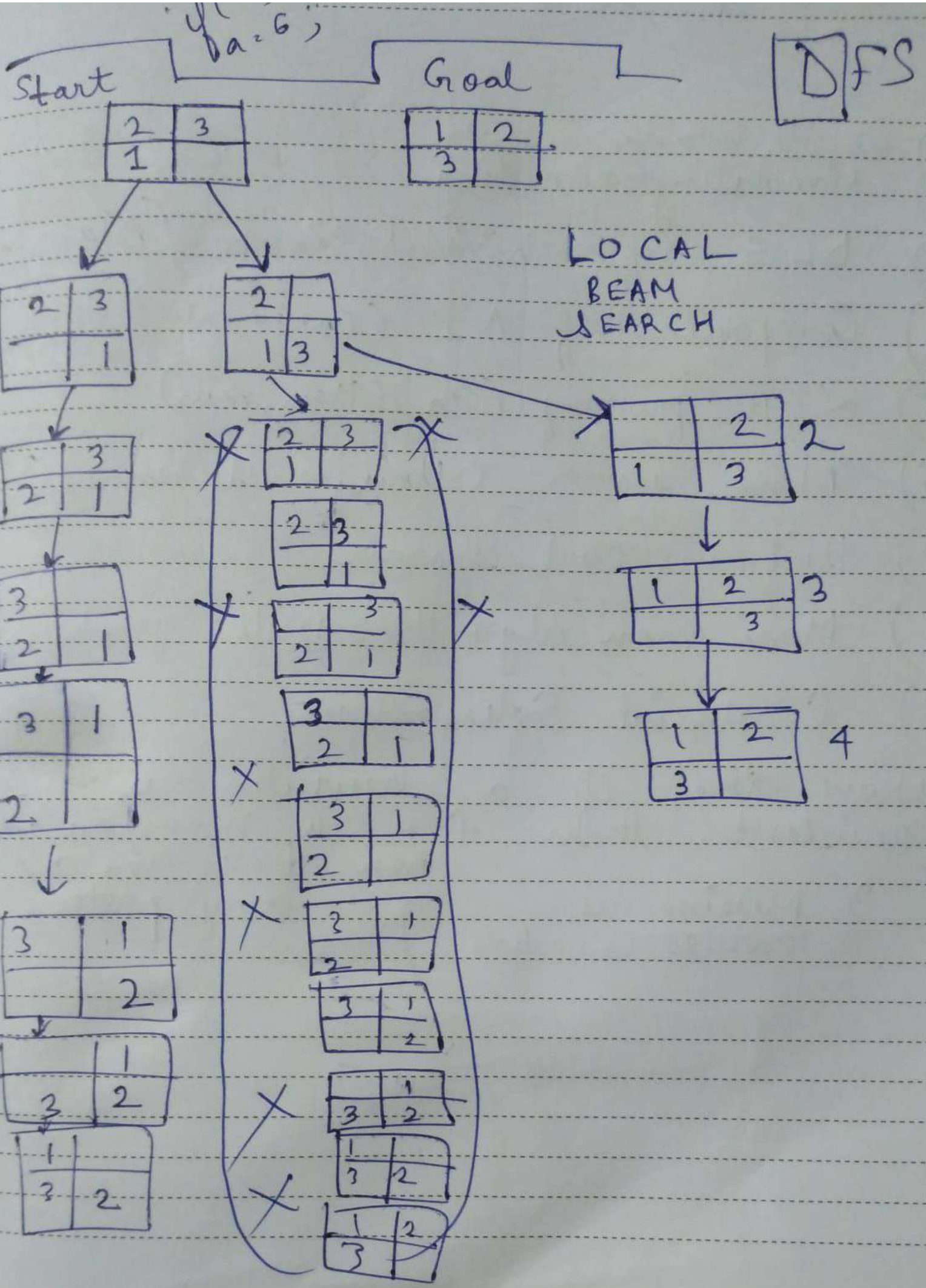
PR5 : (Nil || F, G, W, C)

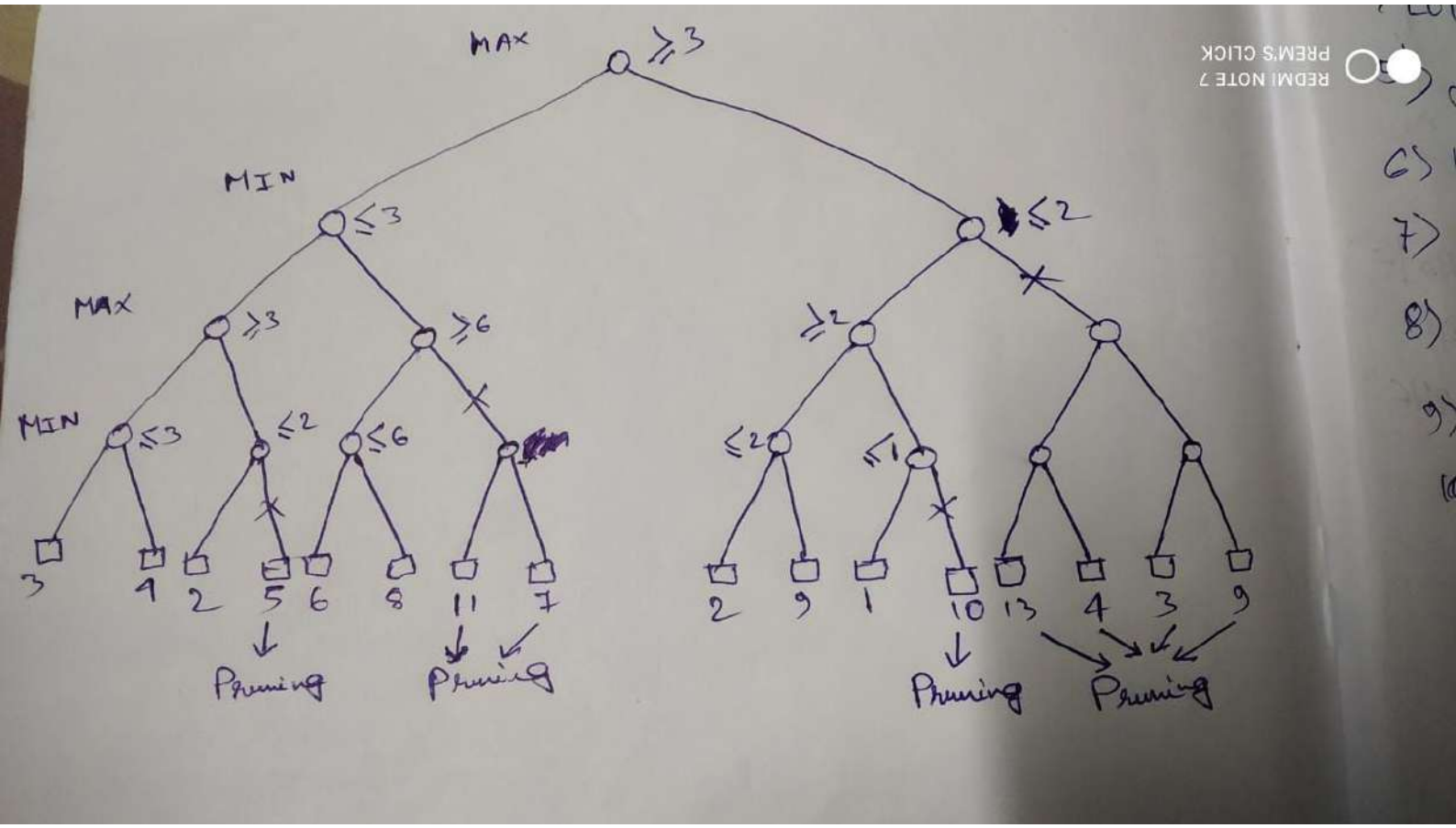
After bringing goat to other side, we can either bring wolf or cabbage.

This is called Forward Reasoning.
↳ from initial state we reach the goal state.

Backward Reasoning → eg : Backtracking (NQueens)

Difference between BFS and DLS.


Start
Goal
DFS
LOCAL
BEAM
SEARCH


MAX
≥3
MIN
≤3
≤2
MAX
≥3
≥6
≥2
MIN
≤3
≤2
≤6
≤2
≤1
3
4
2
5
6
8
11
7
2
9
1
10
13
4
3
9
Pruning
Pruning
Pruning
Pruning