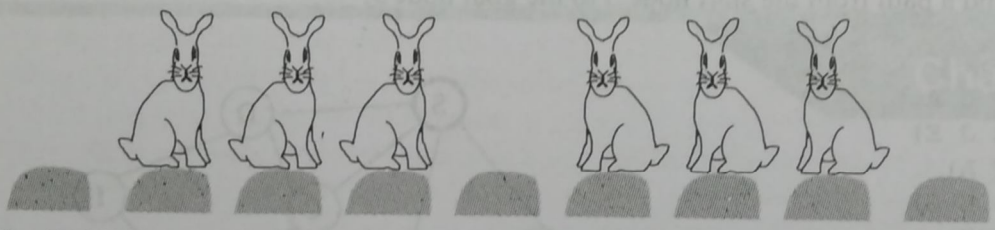
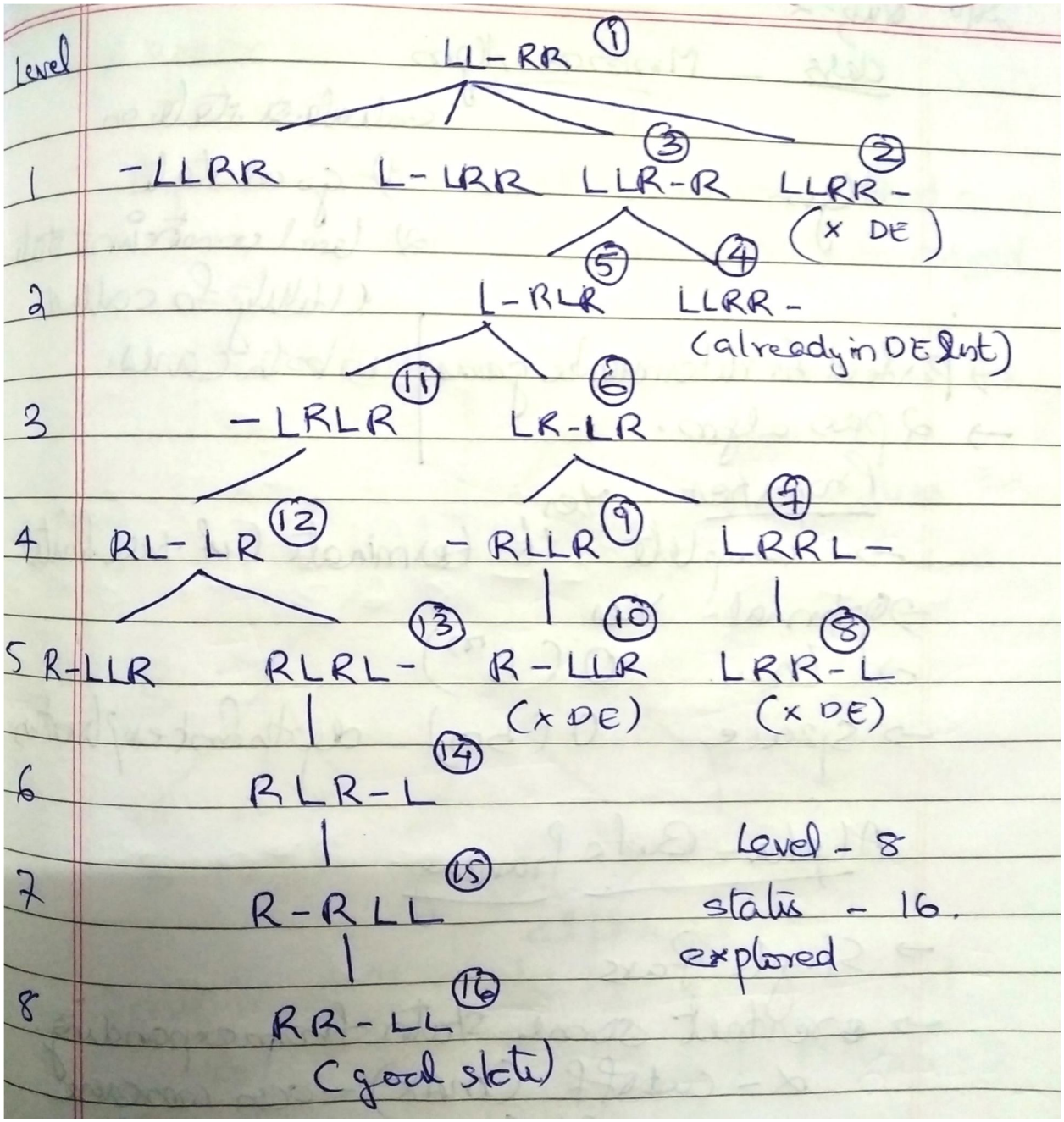
In the *rabbit leap problem,* three east-bound rabbits stand in a line blocked by three west-bound rabbits. They are crossing a stream with stones placed in the east west direction in a line. There is one empty stone between them.



URE 2.32 Rabbits waiting to cross. Each rabbit can jump over one, but not more than that. How they avoid getting into a deadlock?

The rabbits can only move forward one step or two steps. They can jump over one rabbit if the need arises, but not more than that. Are they smart enough to cross each other without having to step into the water? Draw the state space for solving the problem, and find the solution path in the state space graph.


Level
LL-RR ①
1
-LLRR
L-LRR
LLR-R ③
LLRR- ②
(x DE)
2
L-RLR ⑤
LLRR- ④
(already in DE list)
3
-LRLR ⑪
LR-LR ⑥
4
RL-LR ⑫
-RLLR ⑨
LRRL- ⑦
5
R-LLR
RLRL- ⑬
R-LLR ⑩
(x DE)
LRR-L ⑧
(x DE)
6
RLR-L ⑭
7
R-RLL ⑮
8
RR-LL ⑯
(good state)
Level - 8
states - 16.
explored