

# N-Queen Problem

Backtracking on a Chessboard





GRANDMASTER

PLAYER PROFILE

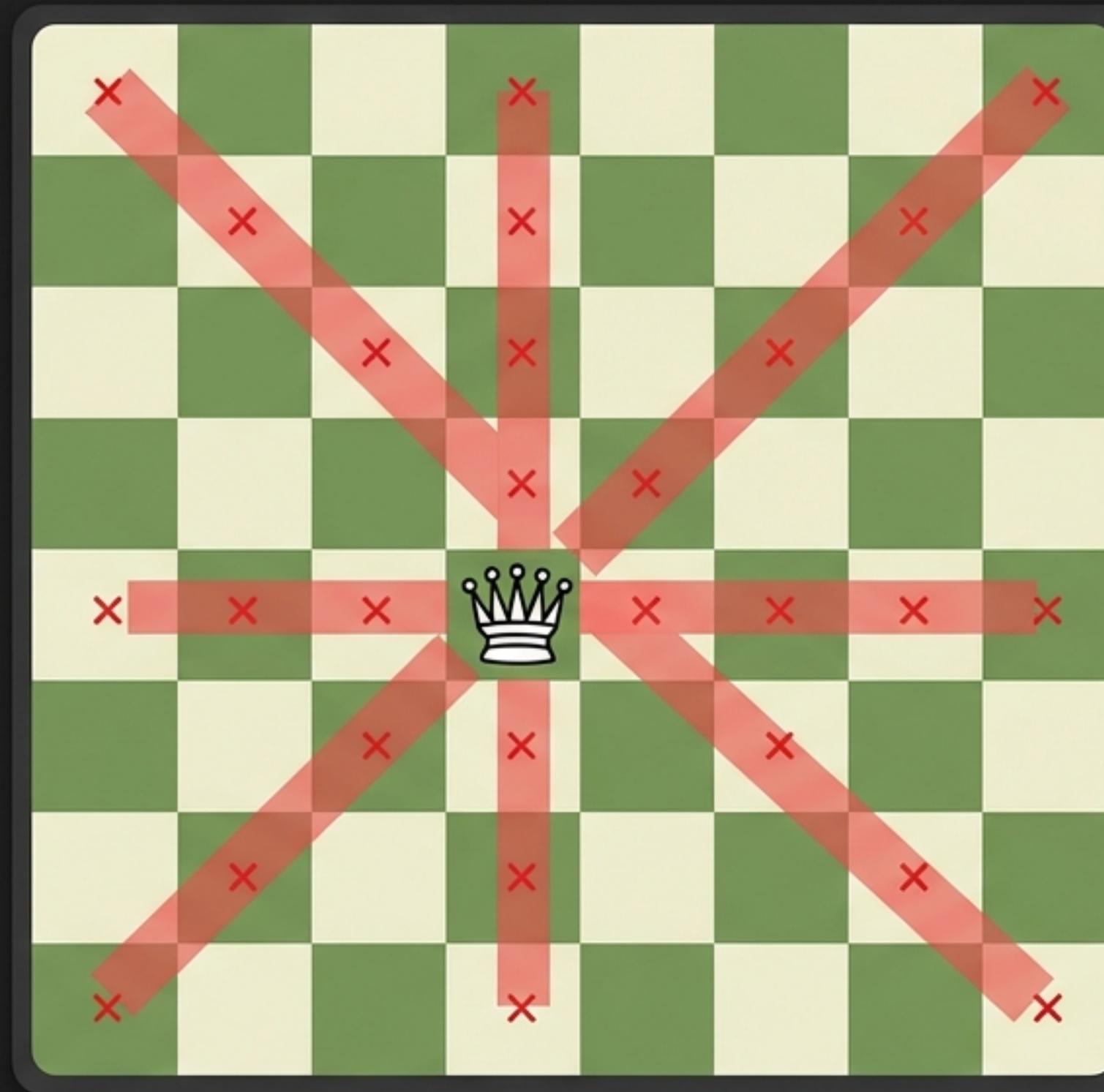
# Panchal Dev Sachin

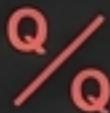
ID: 23002170510023

Class: AIDS



# The Rules of the Game



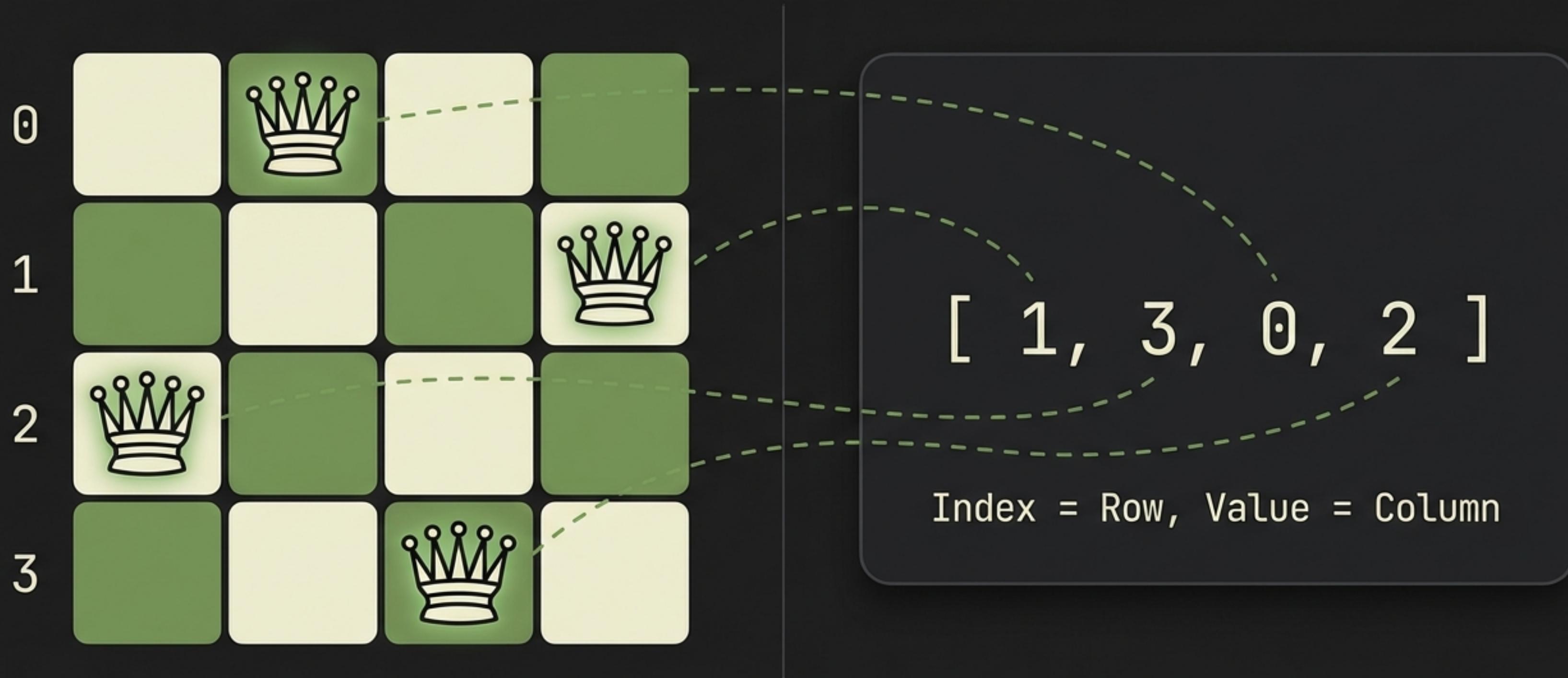
-  Place  $N$  Queens on  $N \times N$  board.
-  No shared row or column.
-  No shared diagonal

# Strategy Beyond the Board



# Problem Representation

From Vision to Code



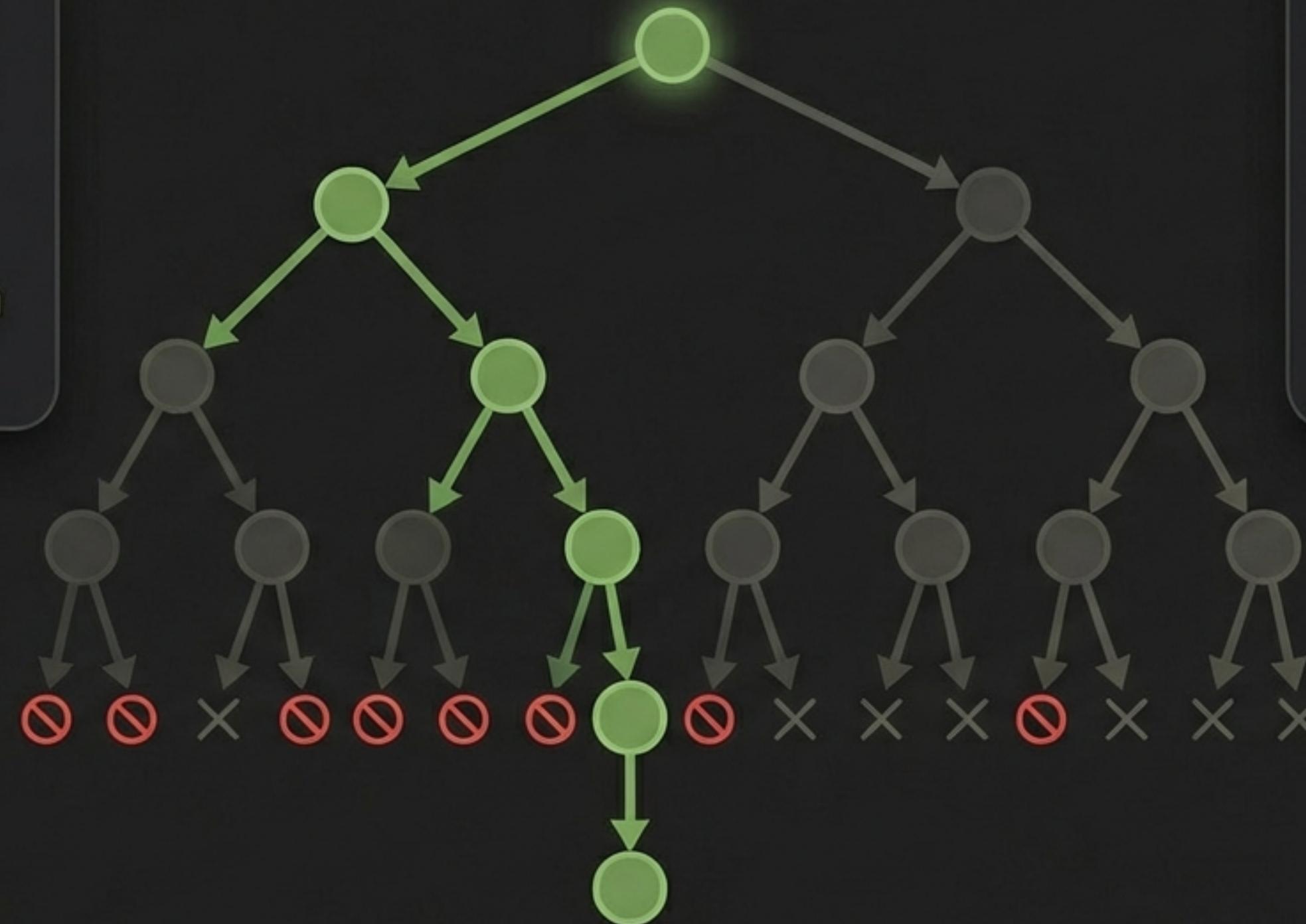
# Endgame Analysis: Complexity

Time Complexity

Worst Case:  
 **$O(N!)$**

Exponential growth  
via permutations.

Recursion Tree



Space Complexity

**$O(N)$**

Linear space for  
recursion stack.