TOWER OF HANOI

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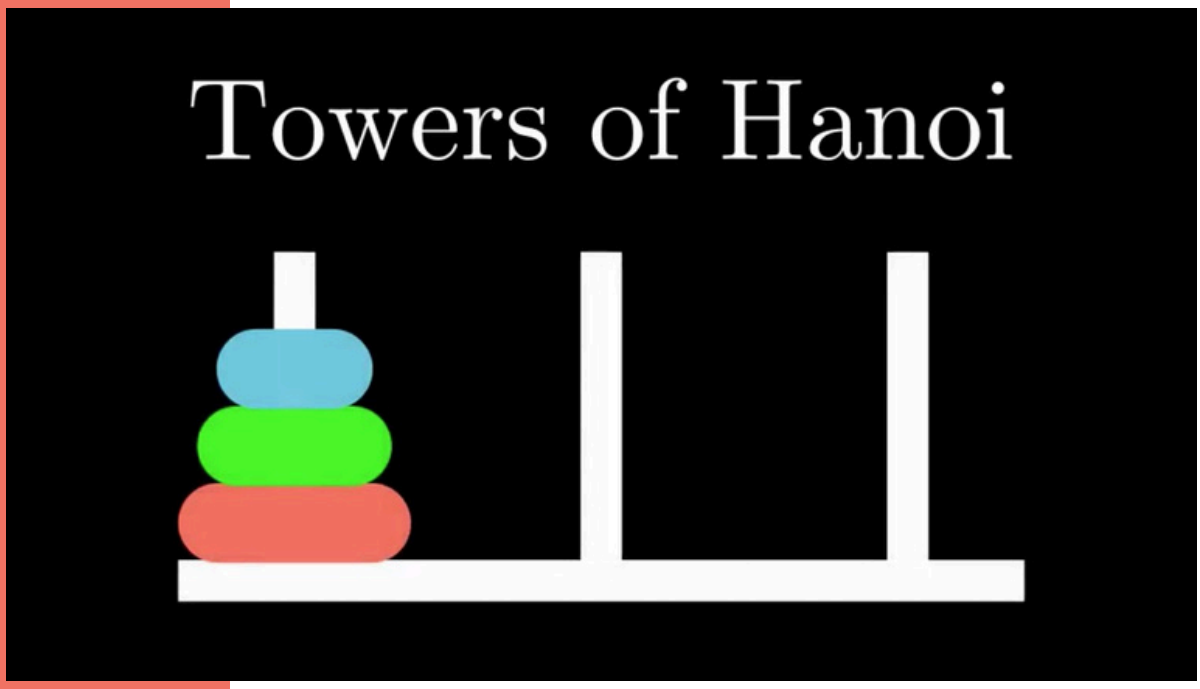
INTRODUCTION



Tower of hanoi

The Tower of Hanoi is a classic mathematical puzzle that consists of three rods and a number of disks of different sizes, which can slide onto any rod. The objective of the puzzle is to move the entire stack of disks from one rod to another,

PROBLEM

The problem of the Tower of Hanoi is to determine the minimum number of moves required to solve the puzzle, given a specific number of disks.
The problem is :
Given three rods (A, B, and C) and n disks of different sizes, initially stacked in increasing order of size on one rod A, the task is to move the entire stack to another rod C, by:

1. Only one disk can be moved at a time.
2. Each move consists of taking the upper disk from one of the stacks and placing it on top of another stack or on an empty rod.
3. No disk may be placed on top of a smaller disk.

SOLUTION

how an AI-based solution to the Tower of Hanoi problem:

1. Define the problem: Formalize the problem by defining the initial state, goal state and transition model.

2. Choose a search algorithm: Select an appropriate search algorithm, such as BFS, based on the characteristics of the problem and the desired properties of the solution.

3. Implement the search algorithm: Develop the code that implements the chosen search algorithm and allows it to explore the search space.

4. Apply the search algorithm: Execute the search algorithm on the Tower of Hanoi problem instance, starting from the initial state and searching for the goal state.

5. Extract the solution: Once the search algorithm finds a solution, extract the sequence of moves required to solve the problem.

THANK YOU