**Problem 3.3** Formally Modeling a Search Problem

**Answer:**

**Deterministic:** Yes, it is deterministic, because the next state of the environment is completely determined by the current state and the action executed by the Tower of Hanoi solving agent.

**Fully Observable:** Yes, it is fully observable, because Tower of Hanoi solving agent has access to the complete state of the environment at each point in time.

**Formally modelling the Tower of Hanoi as a Search Problem:**

* **States:** For disks, it will take moves to solve puzzle. Therefore, states set,
* **Initial State:** Initially all disks will be at source peg A. So,
* **Goal State:** Finally, all disks will be at destination peg B. So,
* **Actions:** Action will be moving a disk from one peg to another peg, so that no larger disk may be placed on top of a smaller disk. Therefore, actions set,
* **Transition model:** Given a state, , an action , Transition model