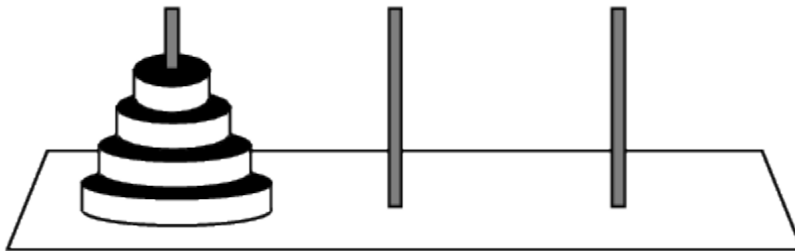


Artificial Intelligence

Goal and Problem Formulation

Assume you are given N disks of different diameters. The disks are put on a rod so that each disk is smaller than the disks beneath it. We want to move the disks to a second rod however, only one disk can be moved at each time. Besides, you can move only the topmost disk. A third rod can be used as an auxiliary. This problem is known as the Towers of Hanoi problem (Check https://en.wikipedia.org/wiki/Tower_of_Hanoi for a more detailed description of the problem). Figure below shows the problem with 4 disks



Solve this problem with 2 disks.

Start with **goal formulation**. Define the initial and the goal states, and the restrictions imposed by the problem.

Define the **states**

Define all possible **actions**

Draw the **state space** diagram

Show the sequence of actions which takes us from the initial state to the goal state (**Problem formulation**)