# problem formulation

# A problem can be defined by four components:

#### Initial state

- Initially, all the disks are placed on one rod, one over the other in ascending order of size similar to a cone-shaped tower. The objective of this problem is to move the stack of disks from the initial rod to another rod, following these rules: A disk cannot be placed on top of a smaller disk.

#### **Successor Function**

Tower of Hanoi is a famous game. In this game, there are some disks and rods and disk can be placed on other

### Goal test\_

- The object of the puzzle is to move the entire stack to another rod, observing the following simple rules: Only one disk can be moved at a time.

#### Path cost

- All disk parameters are considered identical. Given the costs of a 3 x 3 matrix [][] containing the disk transfer costs between rails where costs [i][j] store the cost of moving the disk from rail i to rail j. The transfer cost between the same bars is 0. Hence the diagonal elements of the cost matrix are all zeros. The task is a lower cost printing in which all N disks are transferred from rod 1 to rod 3.

## Tree search

- Now we need to find a terminal state. The terminal state is the state where we are not going to call this function anymore. IF disk is equal 1.