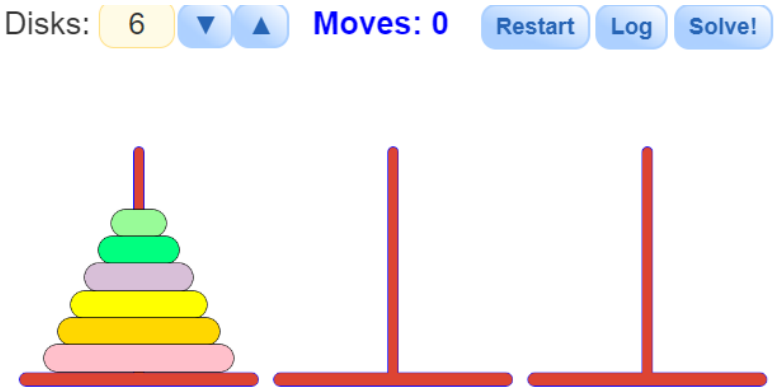
# Assignment #1

## Tower of Hanoi

Tower of Hanoi, is a mathematical puzzle which consists of three towers (pegs) and more than one disks is as depicted − These disks are of different sizes and stacked upon in an ascending order, i.e. the smaller one sits over the larger one.

The task is to move all disks to the right tower following certain rules: Only one disk can be moved at a time. Only the uppermost disk can be moved from one stack to the top of another stack or to an empty rod. Larger disks cannot be placed on top of smaller disks.

Try the game: https://www.mathsisfun.com/games/towerofhanoi.html



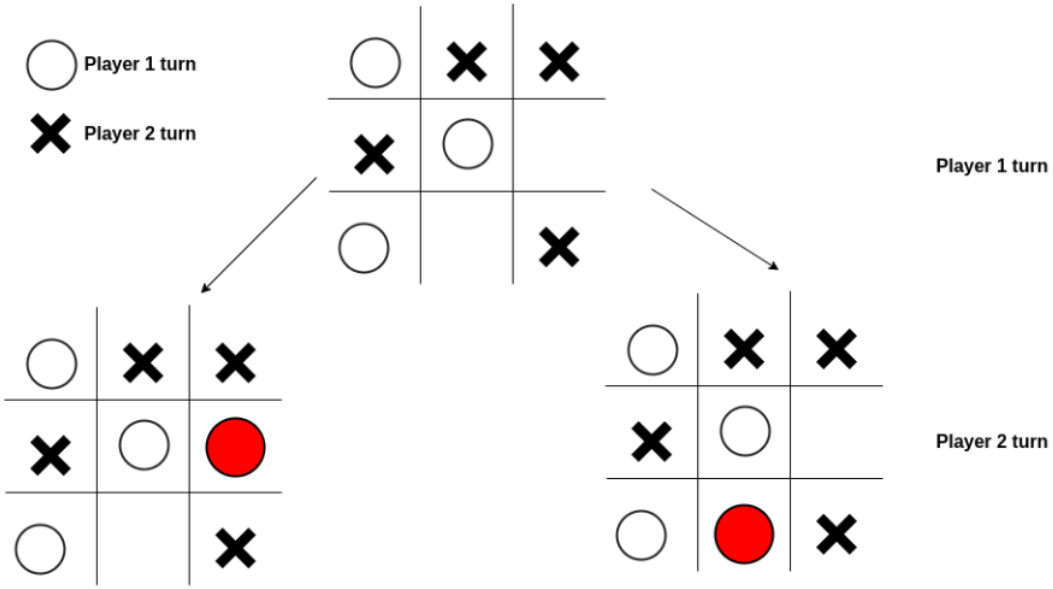

## Methodology

Make sure your tool has the following:

- Allow the user to choose the number of rings (3-6)
- The tool should have two modes (User and AI)
- Allow the user to choose among two algorithms Greedy and A*
    - Make sure to implement a good heuristic function

## Tic-tac-toe

Tic-tac-toe is a paper-and-pencil game for two players, X and O, who take turns marking the spaces in a 3×3 grid. The player who succeeds in placing three of their marks in a horizontal, vertical, or diagonal row wins the game.




## Methodology

You need to develop a tool that allows the computer to play Tic-Tac-Toe Game.

Make sure your tool has the following:

- Two modes
  - Two player games.
  - One player game (Human vs. Computer (**alpha-beta AI**)).
- Three level of difficulty
- Use a good utility and evaluation functions

**For both tasks, you can design the graphical user interface (GUI) as you like, but make sure that your program is user friendly.**

## Languages

You may use the programming language that you prefer

## Marking scheme

| | | | |
|---|---|---|---|
| Look and feel of interface | 5 | Algorithm implementation | 5 |
| Quality of design and coding | 5 | | |