## First Experiment: Tower of Hanoi

« Legend has it that a group of Eastern monks are the keepers of three towers on which sit 64 golden rings. Originally all 64 rings were stacked on one tower with each ring smaller than the one beneath. The monks are to move the rings from this first tower to the third tower one at a time but never moving a larger ring on top of a smaller one. Once the 64 rings have all been moved, the world will come to an end.» (Reproduced from *http://hanoitower.mkolar.org/HThistory.html* by *Miroslav Kolar*).



Here's a link for a sample animation <u>http://mathworld.wolfram.com/TowersofHanoi.html</u>

Experiment:

Using the Robix manipulator, you must solve a reduced version of the Tower of Hanoi problem.

- You will receive three blocks which you must lay out in pyramidal form as shown in the above illustration.
- You must then transport them, one by one, to the third tower, without any larger block being placed over a smaller one (you can make use of the second tower for the intermediate stages).
- All movements have to be carried out with precision using the Robix.manipulator.
- Do not forget to save your program on your account.
- Test out your solution with four blocks!