

## Tower Of Hanoi Proposal

**Overview:-** Tower of Hanoi is a mathematical problem that requires a little alternative thinking and some basic problem solving skills. It consists of three rods and multiple disks. Initially, all the disks are placed on one rod, one over the other in ascending order of size similar to a cone-shaped tower. It is well known to test executive function and is widely used to test dysfunction of frontal lobe disorders.

**Problem Statements:-** move all the disks from the left hand post to the right hand post, thus making a conical-shape.

**Objectives:-** move all the disks to another rod by following rules: moving only one disk at a time from one rod and sliding it onto another rod and a bigger disk cannot be placed on top of a smaller disk.

**Methodology:-** 1) reduce the problem to the simplest version where we can solve it trivially.

2) label A, B and C, with A being the source, C being the destination and B as the temporary placeholder.

3) assume that we can solve the Tower of Hanoi puzzle for  $k-1$  disks. First, move the top  $k-1$  disk from A to B. This would free up the large disk, which we move from A to C. Then, we move the  $k-1$  disk from B to C, using A as a placeholder.

**Hypothesis:-** 1) There will be no difference in number of moves comparing the manual and computerized Tower of Hanoi.

2) There will be no difference in time to solve comparing the manual and computerized Tower of Hanoi.

**Used Technology:-** Flutter, Dart Language