Tower Of Hanoi problem:

The Tower of Hanoi is a mathematical game or puzzle consisting of three rods and a number of disks of various diameters, which can slide onto any rod. The puzzle begins with the disks stacked on one rod in order of decreasing size, the smallest at the top, thus approximating a conical shape.
The objective of the puzzle is to move the entire stack to the last rod, obeying the following rules:

1. Only one disk may be moved at a time.
2. Each move consists of taking the upper disk from one of the stacks and placing it on top of another stack or on an empty rod.
3. No disk may be placed on top of a disk that is smaller than it.

Code explanation:

Function **startHanoi**: Gets the number of rods(can be more than 3) and the number of disks. Calls creatHanoi function with the number of rods and number of disks as parameters.

Function **creatHanoi**:
Recursive function that creates the initial towers with the disks.
Example: 3 disks and 3 towers: [[1,2,3],[],[]] will be created.

Function **playHanoi**:
Gets the moves from the user and tells if it is a valid or invalid move.
This function calls moveValid and movedics.

Function **moveValid**:
Checks if the entered move is valid.

Function **movedisc**:
Moves the disk from source to destination.
Explanation:
if **source tower(y) < destination tower(z)**
take (y-1) xs) -> take all towers before source tower
([tail (xs!!(y-1))]) -> all disk in source tower except the top disk
(drop y(take (z-1) xs)) -> take all towers after source till destination
([(head (xs!!(y-1))):(xs!!(z-1))]) -> add the top disk on source tower to the top of destination tower
(drop z xs) -> to get the towers after destination tower, it will be empty if the destination is the last tower

if **source tower(y) > destination tower(z)**

take (z-1)xs -> take all towers before source

[(head (xs!!(y-1))):(xs!!(z-1))] -> add the top disk on source tower to the top of destination tower

drop z(take (y-1) xs) -> take all towers after source till destination

[tail (xs!!(y-1))] -> all disk in source tower except the top disk

drop y xs -> to get the towers after source tower, it will be empty if destination is the last tower