In this lab you are going to implement a stack first. Then we will use and modify the stack according to the problems below.

1-) Reversing the elements of an array.

- Create an integer array and size of the array can be 10.

- Fill that array with numbers.

- Put that items in another array in a reversing order with using stack.

Example:

Array : 1 2 3 4 5 6 7 8 9 10

Reversing ordered array: 10 9 8 7 6 5 4 3 2 1

2-) Write a program that uses a stack to determine whether a string is a palindrome (i.e., the string is spelled identically backward and forward).

Example:

efe, makam, radar are some palindrom words.

Bonus: Towers of Hanoi

Here is a detailed information about Hanoi Towers.

https://en.wikipedia.org/wiki/Tower_of_Hanoi

Here is a simulation of problem:

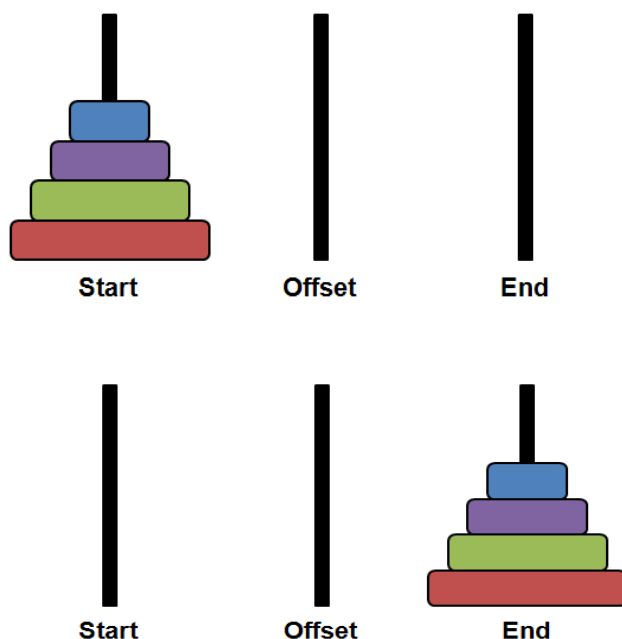https://www.mathsisfun.com/games/towerofhanoi.html

Definition of Problem

The **Tower of Hanoi** (also called the **Tower of Brahma** or **Lucas' Tower**, and sometimes pluralized) is a mathematical game or puzzle. It consists of three rods, and a number of disks of different sizes which can slide onto any rod. The puzzle starts with the disks in a neat stack in ascending order of size on one rod, the smallest at the top, thus making a conical shape.

The objective of the puzzle is to move the entire stack to another rod, obeying the following simple rules:

1. Only one disk can 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 i.e. a disk can only be moved if it is the uppermost disk on a stack.
3. No disk may be placed on top of a smaller disk.

With three disks, the puzzle can be solved in seven moves. The minimum number of moves required to solve a Tower of Hanoi puzzle is $2^n - 1$, where n is the number of disks.

You can solve it by using stacks.