

Software Architecture

Lecture 12
Midterm Preparation

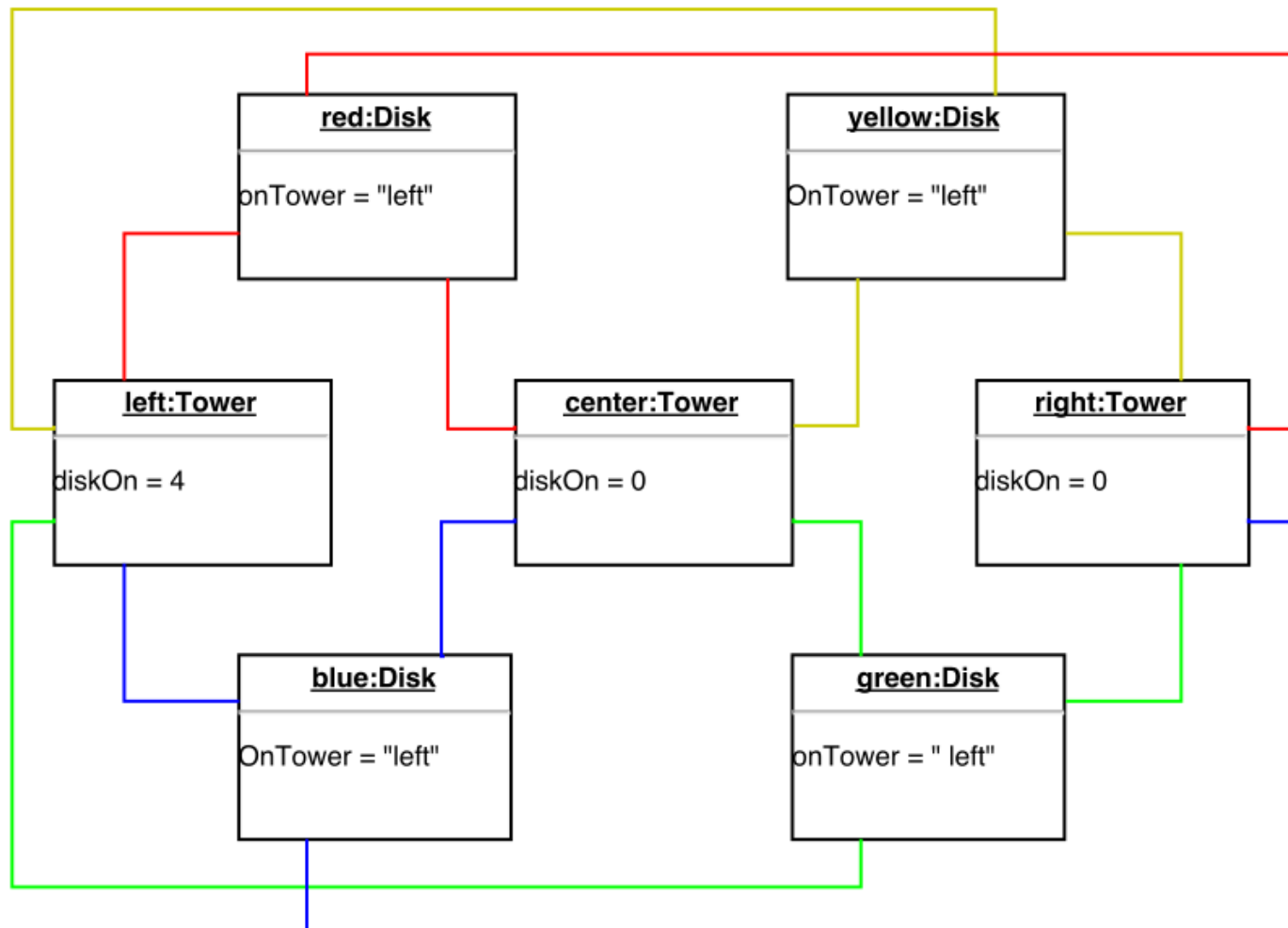
What to expect

- Software Architecture in general
- Ability to argue a case on all UML diagrams presented
- Assignment 1-3
 - Abstract/concrete/examples
 - Storyboards
 - Scenarios
 - Object diagrams
 - No mockups/wireframes
 - Class diagrams (no coding)
- Ability to draw
 - Object diagrams
 - Class diagrams (no stereotypes, no composite associations, probably no inheritance)

Flawed example of Object Diagram

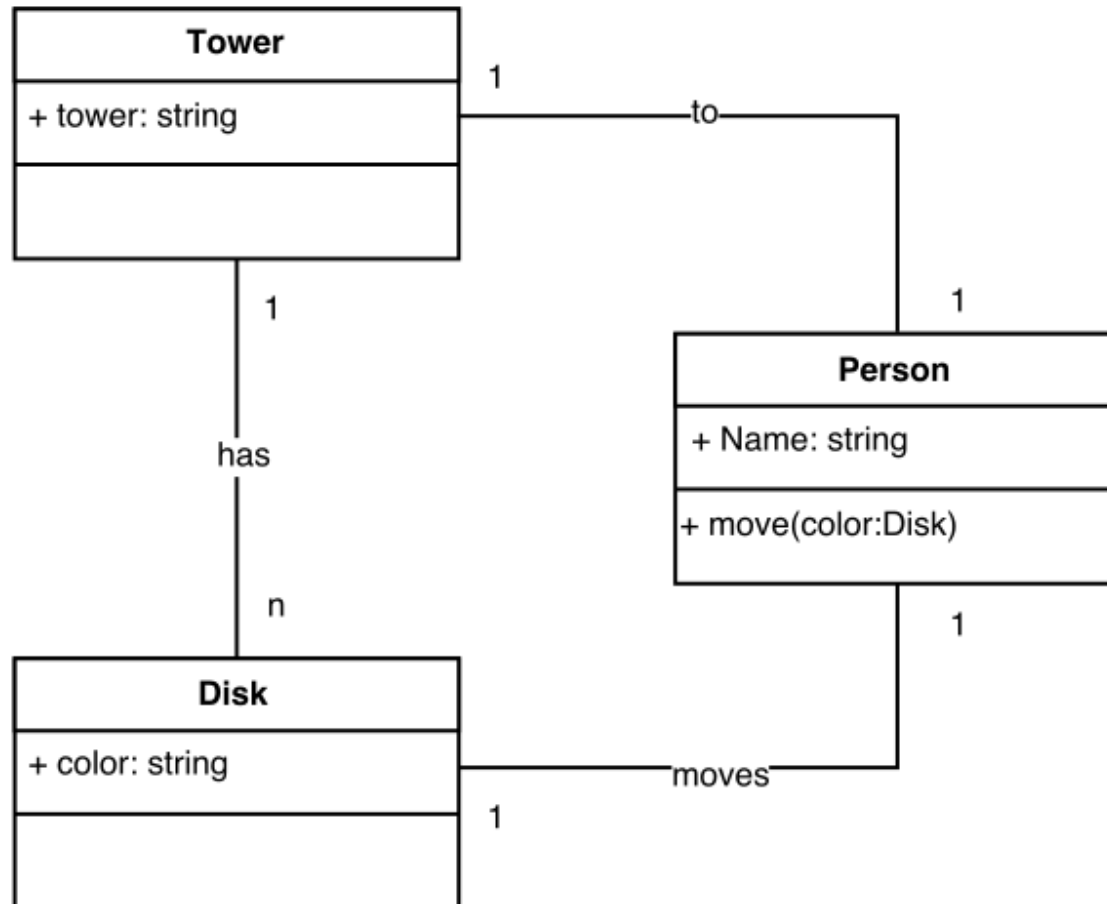
2. Towers of Hanoi

Create an object diagram for the initial setup of the game, showing all disks and poles.



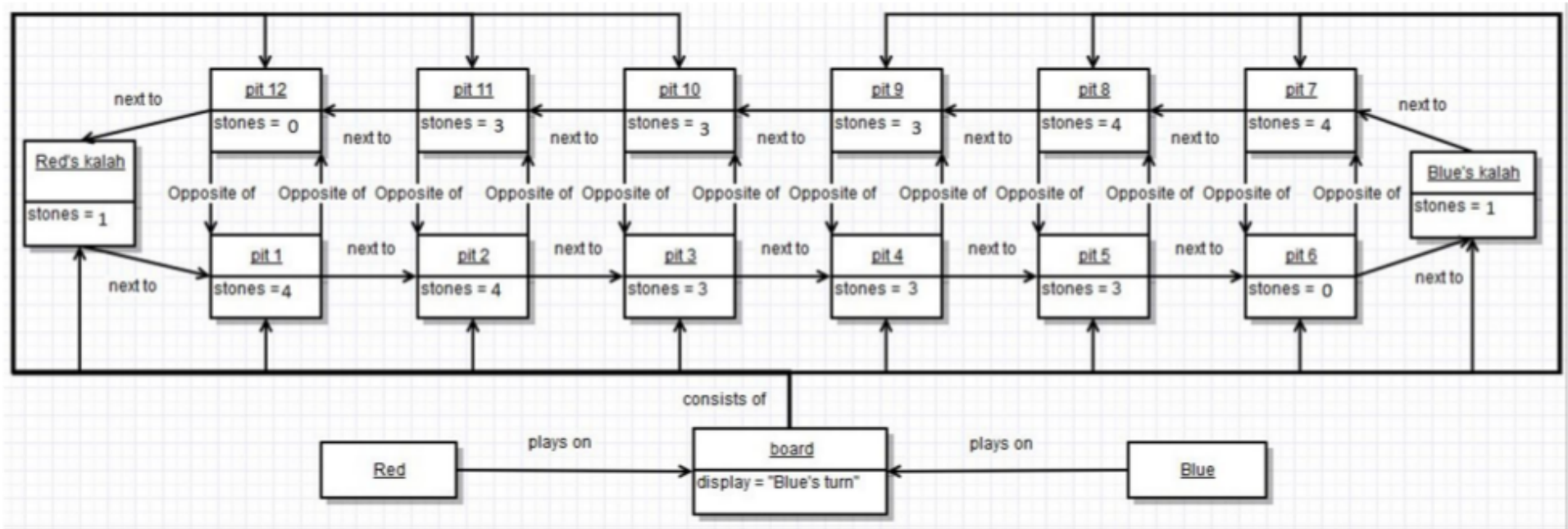
Flawed Class Diagram

Derive a class diagram from the objects diagrams just created.



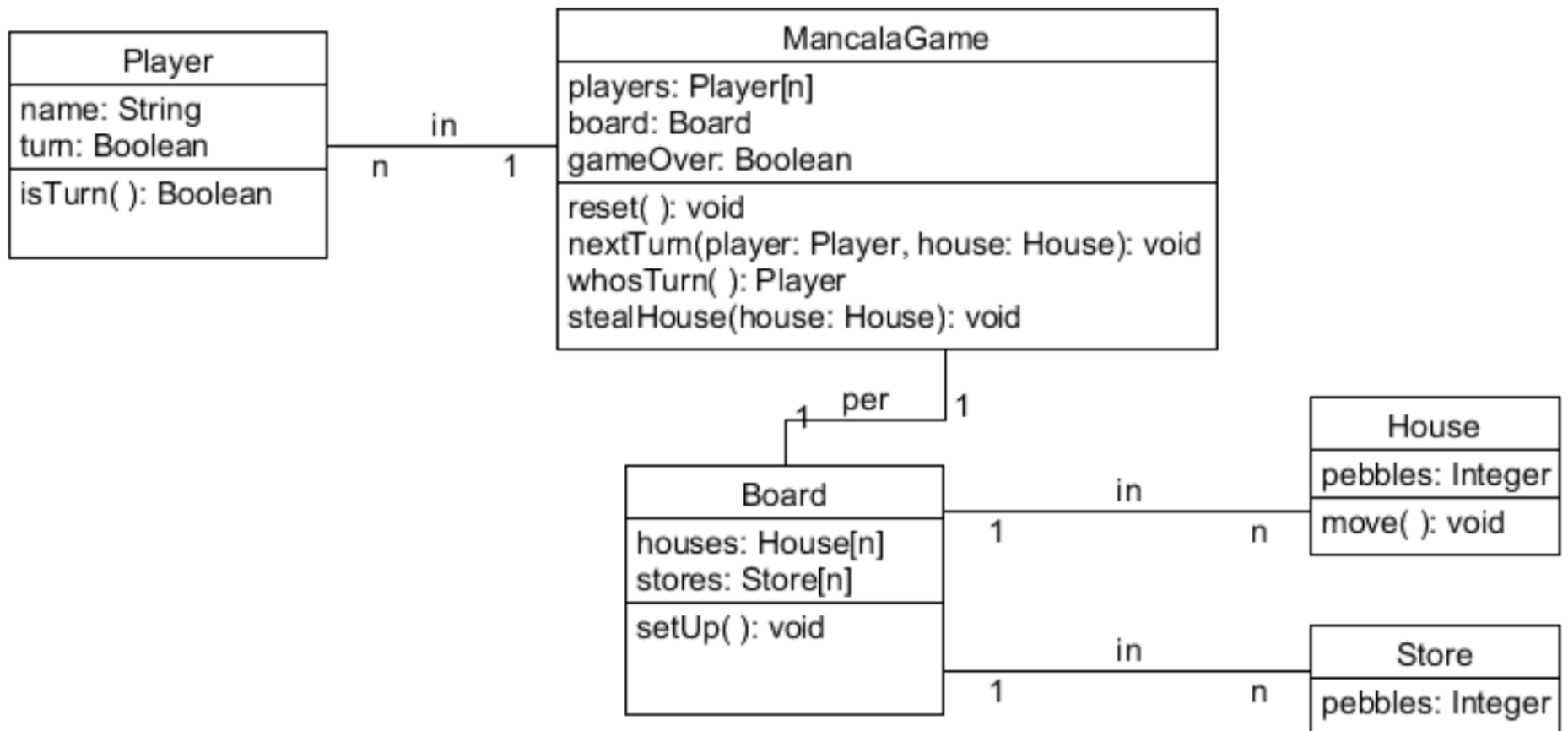
Nearly perfect Object Diagram

1. Blue lands in empty pit on his side of the board
 - Initial State



Nearly perfect Class Diagram

Mancala Class Diagram



Flawed Scenario

- a) Move green and yellow disks to right most tower:
 - i) Green disk is moved to center tower
 - ii) Yellow disk is moved to right-most tower
 - iii) Green disk is moved to right-most tower, on top of yellow disk (making center tower empty)

Good Scenario

Christy plays “Towers of Hanoi,” which is a one-player math-focused game. Before starting the game, Christy sees all the disks lie on the first pole or the pole. All the disk satisfies the third rule; no disk may be placed on top of a smaller disk (Image of situation 1).

Scenario 1:

Title: Christy has done several movements to come to this stage.

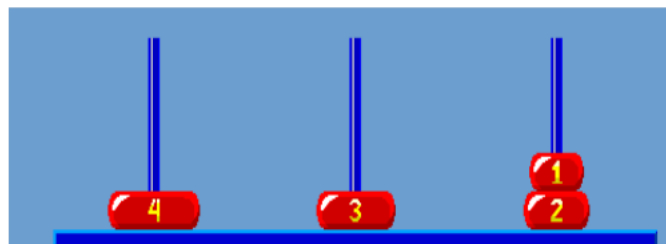
Description:

1. Move disk 1 to the second pole.
2. Disk 2 moved to the third pole.
3. Disk 1 placed on top of the Disk 2 at second pole.
4. Next, disk 3 has moved to the second pole. (Image of situation 2)



Situation 1:

Start point; first pole holds all four disks and all the small disks lie on the bigger disks.



Situation 2:

The first pole holds disk 4. The second pole holds disk 3. Without violating any rules, third pole holds disk 2 and 3.