### **Minimum Requirements**

- Display set of options for the various things your players do (display instructions, display score, quit early, etc.)

- ✓ Incorporate at least one thing beyond what is covered in the lectures

# Olivia Goralski, Claudia Phan, Peter Phan, Benjamin Sandefur

## **Bottom-Up Hierarchy**

- Menu with options
  - Display instructions
    - Read in instructions and rules from a .txt file and print out to terminal
  - Play the game
    - Boolean playing = True
  - Quit
- While playing is True
  - Board display
    - Update board after each turn
  - Turn system
    - Display score after each turn
    - Determine if the turn is valid, if not, try again
  - Capturing: Was the position of XOOX attained while the X player's turn was up?
    - If so, remove O stones, and give X player 2 points
  - Determine winner: Has a player reached 10 stones captured at the end of a turn?
    - If yes, display winner and menu with options again
    - If no, continue playing game
  - Draw graphic when a game is finished

#### Why Pente?

We chose Pente because the rules were more familiar to us than the rules of Teeko were. Additionally, we had an idea on how to code Pente pretty easily. With Teeko, we would have needed to think and plan out our program more.

#### **User Manual**

- 1. To see the instructions, press 'I' + ENTER from the menu.
- 2. To see the game rules, press 'R' + ENTER from the menu.
- 3. To play, press 'P' + ENTER, and the game board will be automatically set up.

- 4. To place a stone, players must enter a letter (A-S) and number (1-19) corresponding to a square on the board. For example, entering 'A1' would place a tile in the top left corner of the board. After a player inputs their move, a stone will be placed on the board in that player's color.
- 5. To quit the game, press 'Q' from the menu.