Remi Tile Game Assignment
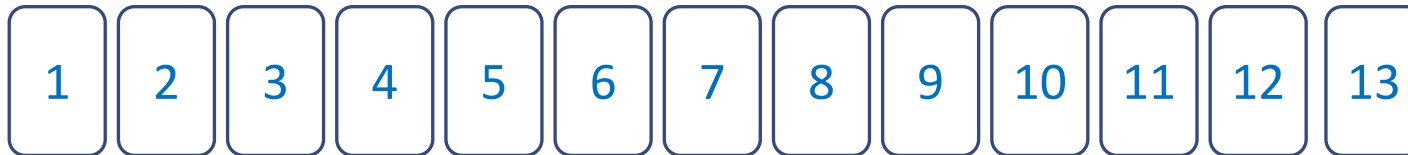
GRUIA-CATALIN ROMAN

12 AUGUST 2018

Tile Used in The Game

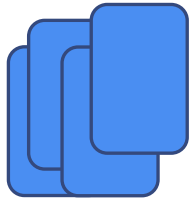| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |

| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 |
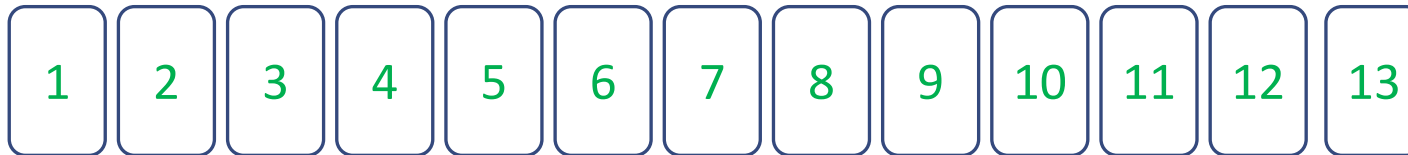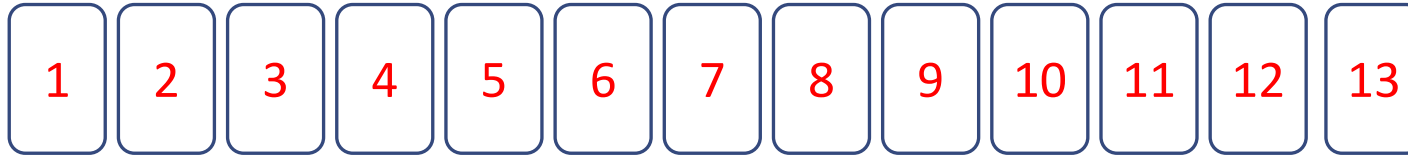
Game Layout for Two Players

7

Player 1 discard pile

6	11	4	8	8	10	4	10	2	7	5	4	11	12

Player 1 board
14 hidden tiles

Tile pool

Player 2 board
14 hidden tiles

Player 2 discard pile
face up with
only the top tile
visible

| 6	10	9	3	5	6	1	10	9	2	11	7	2	12

8

Basic Rules

- Players draw lots to determine who goes first

- Players take turns

- On his/her turn the player
  - picks one tile from from the tile pool or from the top of the discard pile of the opponent
  - adds the new tile to the board
  - discards one tile from the board on top of his/her discard pile
  - if the tile pool is empty the discard tiles are returned to the pool

- A first player wins the game by being the first to build a winning configuration
  - 14 tiles organized in terms of sets or runs
  - 1 tile to discard

- Winner gains -50 points

- Loser gains the sum total of the values of the tiles on the board with the jocker counted as 25 points

- The game is played until a set number of points (e.g., 200) is reached by any of the players

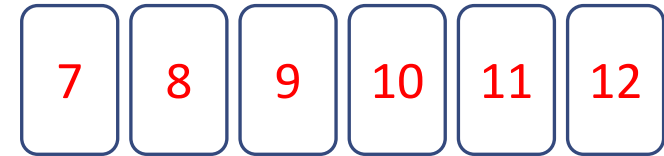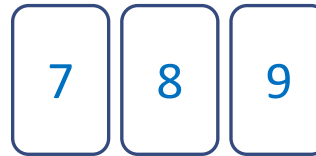- The overall winner is the player with fewest number of points

Legal Formations

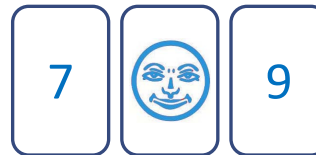**SET**
3 or 4 tiles with the same value but different colors

| 8 | 8 | 8 | 8 |

| 2 | 2 | 2 |
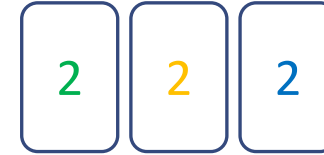
RUN
3 or more tiles in sequence and of the same color

| 7 | 8 | 9 |

| 7 | 8 | 9 | 10 | 11 | 12 |

Jocker
may be used in place of any legal piece

| 7 | 😊 | 9 |

Fourteen
a 1 can be used to follow a 13 tile and is treated as 14

| 7 | 8 | 9 | 10 | 11 | 12 | 13 | 1 |
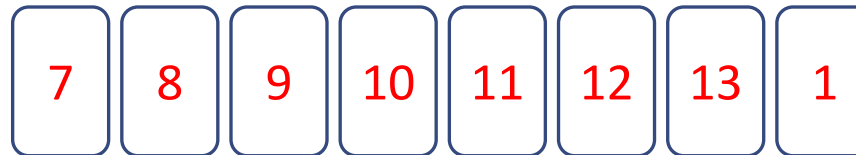
Advanced Rules

- A player who has formations whose point value is at least 30 can meld, i.e., those formations can be placed on the table during the player's turn

- The advantage of melding are
  - tiles that are no longer on the board are not counted when losing the game
  - players who melded may
    - add tiles to any formation on the table
    - replace a jocker with a tile as long as the jocker is remains on the table

- Special counting rules for melding
  - a jocker is counted as the value for the tile it represents
  - a 1 after a 13 is counted as a 14
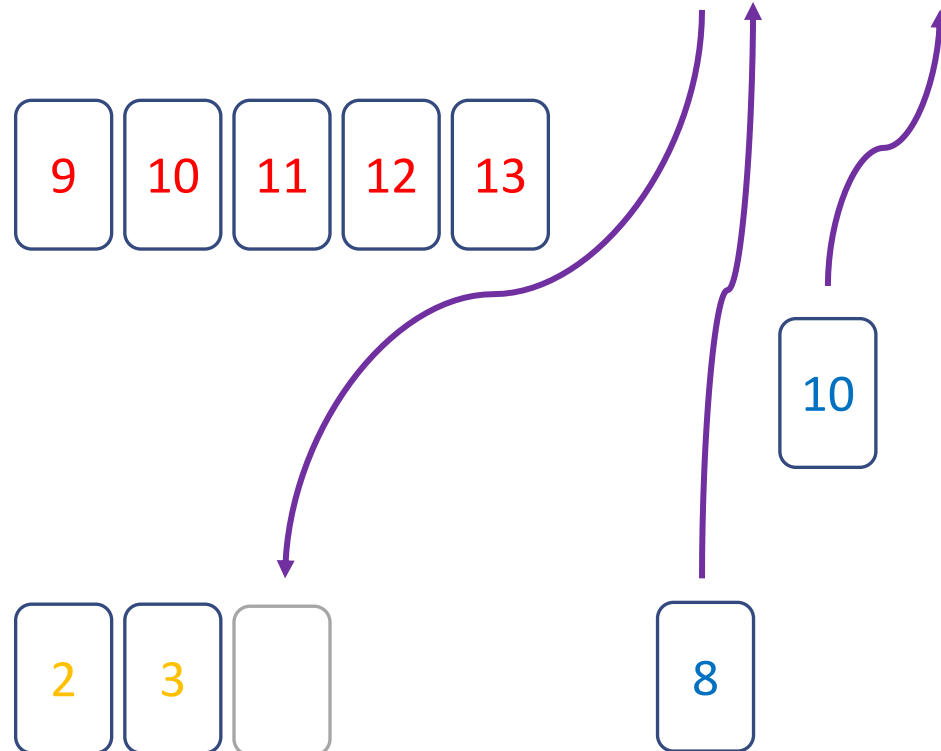 - a set of 1's <u>cannot</u> be interpreted as a set of 14's

Illustration

Player 1 melds

| 8 | 8 | 8 | | 7 | 🙂 | 9 | |

Player 2 melds

| 9 | 10 | 11 | 12 | 13 |
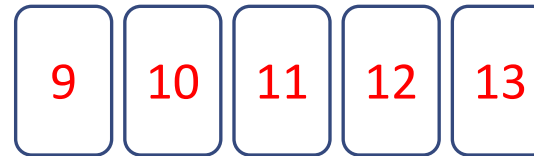
Player 2 adds tiles after melding and before discarding

Player 2 also uses the jocker

| 2 | 3 | |

10

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Assignment

- Design and implement a Java program in which
  - Player 1 is the human
  - Player 2 is the computer
  - Player 1 always goes first

- The design must adhere to object-oriented design principles

- Deliver a first version that uses only the basic rules

- Deliver a second version that uses the advanced rules
  - Simplifications of the advanced rules are acceptable

- Both versions should include a help button that explains the rules as implemented