Checkers Game Data Model Concept

class Checker

boolean playerColor

      the color of current player

int rounds

      the number of total rounds

char players

      computer or human

void newChecker()

      to start a new game and initialize everything

void saveChecker()

      to save the current data

void loadChecker()

      to read the saved data

void move()

      to call checkMove through class Board when the class Player call move, if true, call method move in class Board

class Board

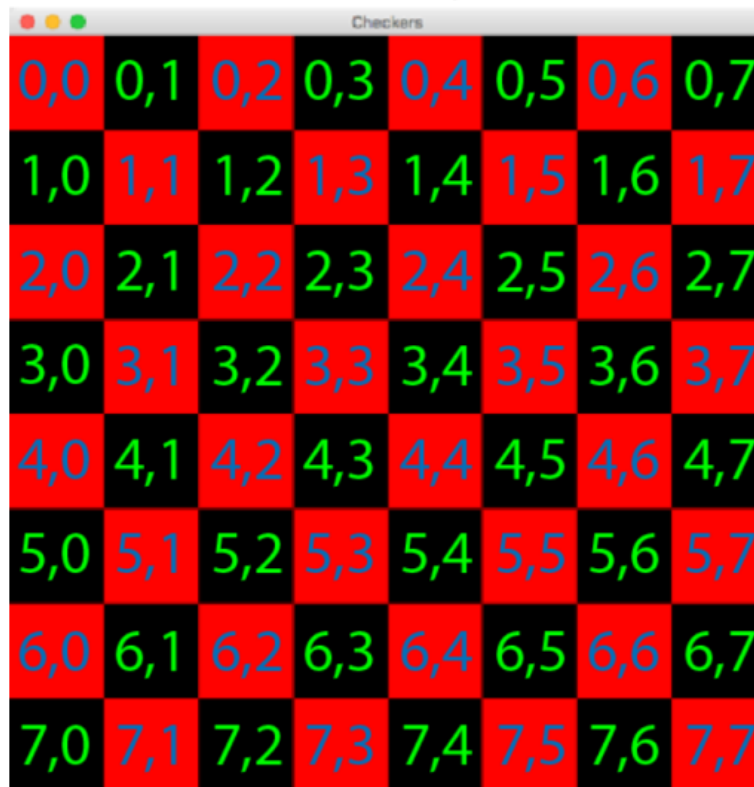char[8][8]

      the current board

void move()

      to move from current location to another according to the following rules:

      if the lighter piece is (row-1, column-1), (row-1, column+1), the darker piece is (row+1, column-1), (row+1, column+1), the king is (row-1, column+1), (row+1, column-1), (row-1, column-1), and (row+1, column+1), then move.

If the lighter piece is (row-2, column-2), (row-2, column+2), the darker piece is (row+2, column-2), (row+2, column+2), the king is (row-2, column+2), (row+2, column-2), (row-2, column-2), and (row+2, column+2), then jump.

Dark Player

0,0	0,1	0,2	0,3	0,4	0,5	0,6	0,7
1,0	1,1	1,2	1,3	1,4	1,5	1,6	1,7
2,0	2,1	2,2	2,3	2,4	2,5	2,6	2,7
3,0	3,1	3,2	3,3	3,4	3,5	3,6	3,7
4,0	4,1	4,2	4,3	4,4	4,5	4,6	4,7
5,0	5,1	5,2	5,3	5,4	5,5	5,6	5,7
6,0	6,1	6,2	6,3	6,4	6,5	6,6	6,7
7,0	7,1	7,2	7,3	7,4	7,5	7,6	7,7

Checkers

Light Player

void set()
    to set the board to a certain stage
void reset()
    to reset the board
char[64] show()
    to return the board as an array
boolean checkMove()

to check if the move is legal. If the grid to move to is (rown, columnn), and when (rown+columnn)%2==0, the move is illegal.

String currentResult()

to return the current state of result

class Player

the abstract class

String playerName

the name of player

void move()

the abstract method, to request a movement

class Computer extends Player

String playerName

void move()

to get the state of the board through the move method in class Board

class User extends Player

String playerName

void move()

to check the move through the checkMove method in class Board, if true, make a move through the move method in class Board.