Kolbe Weathington

KSWKW4

Draughts Game Model

Classes: Board, Player, Piece, Move, Human, Computer

Enumeration - Owner : BLACK, RED;

Board Class:

- Piece board [32]
- Player black;
- Player red;
- Player currentPlayer
- Functions
    - Void setPlayers(Player one, Player two)
        - Initializes game with the player types. Can be human or computer
    - void startGame()
        - Starts game and initializeds red and black player as well as the currentPlayer taking their turn;
    - void takeTurn()
        - Calls the getMove function on the current player and uses the Move returned from the player to change the game state;
    - boolean checkWinner()
        - is called after every turn to check for the game end. Returns false if the game is still going.
    - Void updateUI()
        - Sends data to UI to update the view

Move Class:

- int final col,row;
- Piece final owner;
- Functions
    - Piece getPiece()
        - Reuturns the owner of this move
    - Int getRow()
        - Returns the row to be moved to
    - Int getCol()
        - Returns column to be moved to

Player Abstract Class:

- String name
- Owner (BLACK/RED)
- Boolean computer
- Piece pieces[12]
- Functions:
    - Void setColor(Owner)
        - Defines the owner (red/black) of this player
    - Void setName(name)

Human extends Player

    - Move takeTurn(Piece[] board)

Computer extends Player

- Move takeTurn(Piece[] board)
    - Uses algorithm to choose next move instead of being chosen by a player;

Piece Class:

- Owner (BLACK/RED)
- Int row
- Int col
- Boolean king
- Int index
- Functions:
    - Owner getOwner()
        - Returns owner of piece
    - Int getIndex()
        - Returns array index of this piece
    - Void setIndex()
        - Sets array index for this piece
    - Int getRow()
        - Returns row location of piece
    - Int getColumn()
        - Returns column location of piece
    - Void setKing(boolean)
        - Sets the king boolean to true allowing more possible moves
    - ArrayList<Move> getValidMoves(Piece[] board)
        - Returns a list of valid moves.
    - setRow()
        - sets row position for Piece
    - setColumn()
        - set column position for Piece