etf model

ETF_MODEL+

feature -- board
board: BOARD
make_board (a_size: INTEGER)
  require
   valid_size: 5 ≥ a_size ≥ 8

feature --message
message: STRING
set_message (a_message: STRING)

ETF_MODEL_ACCESS+

feature -- { NONE }
 m : ETF_MODEL
invariant
 m = m

m

MOVE*

feature -- board
board : BOARD

feature --deferred queries
directions: ARRAY [TUPLE[x: INTEGER; y: INTEGER]]

feature --queries
valid (a_x, a_y; INTEGER) : BOOLEAN
  --valid location that is in game grid

moves (a_x, a_y: INTEGER): ARRAY [SQUARE]
  --all the possible moves
  require
   valid (a_x, a_y)

feature --deferred commands
execute
undo
redo

BOARD+

feature {MOVE} --implementation
 implementation: ARRAY2 [CHARACTER] --game board

feature -- positions
king_position, knight_position: SQUARE
move_king (a_square: SQUARE)
  --move the king
 ensure
 implementation[king_position.x, king_position.y].item ~ '_'
 implementation[a_square.x, a_square.y].item ~ 'N'

move_knight (a_square: SQUARE)
  --move the knight
 ensure
 implementation[knight_position.x, knight_position.y].item ~ '_'
 implementation[a_square.x, a_square.y].item ~ 'N'

feature --history
history: HISTORY

history

MOVE_KING+

feature --create
 make (new_pos: SQUARE)
 make_old_new (new_pos, old_pos; SQUARE)
  --create move by using given positions

feature -- queries
old_position, position: SQUARE
directions: ARRAY[TUPLE[x: INTEGER; y: INTEGER]]
  --all the possible directions to move

feature --commands
execute
undo
redo

MOVE_KNIGHT+

feature --create
 make (new_pos: SQUARE)
 make_old_new (new_pos, old_pos; SQUARE)
  --create move by using given positions

feature -- queries
 old_position, position: SQUARE
 directions: ARRAY[TUPLE[x: INTEGER; y: INTEGER]]
  --all the possible directions to move

feature --commands
execute
undo
redo

HISTORY+

feature -- Queries
history: LIST [TUPLE [type: STRING; old_location, current_location: SQUARE]]
prev_call: STRING --what was the previous use of history

item: MOVE
  --returns current index as a {MOVE}
 require
 ∃ item at current index

on_item : BOOLEAN
  --is current index valid
after : BOOLEAN
  --is there no valid cursor to right of index
before : BOOLEAN
  --is there no valid cursor to left of index

feature --commands
extend_history (type: STRING; old_location, location: SQUARE)
 ensure
 history[history.count] ~ [type, old_location, location]
remove_right
  --remove all items to right of index
forth
 require
 not after
back
 require
 not before
set_call (c: STRING)
clear_call

invariant
prev_call ~ "undo" or prev_call ~ "redo" or prev_call ~ ""

SQUARE+

feature -- queries
 x, y: INTEGER

valid (a_x, a_y: INTEGER) : BOOLEAN
  --valid index in board

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board

board

item