

Behavioral Contract for Moving a Worker in Santorini

Behavioral Contract: Move Worker

Preconditions:

- It is the current player's turn.
- It is the current player's move action.
- The selected worker belongs to the current player.
- The selected player has available move points remaining.
- The target cell for the move is adjacent to the worker's current position.
- The target cell is unoccupied by other workers.
- The target cell is unoccupied by a completed tower (dome).
- The upward difference in height between the worker's current cell and the target cell is at most 1.

Postconditions:

- The worker is relocated to the target cell.
- The worker's previous cell becomes unoccupied.
- If the target cell height is 1~3, the worker's height is updated to the height of the target cell.
- The game state is updated to reflect the move, checking for win conditions if the worker has moved onto a height of 3.

Example:

Suppose Player A's worker is height == 1 at cell (2,2), and they intend to move to an adjacent, unoccupied, height of 2, cell (3,2).

Pre-Move:

- Worker A1 at cell (2,2) with a height of 1.
- Cell (3,2) is height 2, unoccupied.

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Action:

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- Player A moves worker A1 to (3,2).

Post-Move:

- Cell (2,2) is now unoccupied.
- Worker A1 is now at (3,2) with height == 2.
- The game checks if Worker A1 is at height == 3 to determine a win condition.