

Assumptions for Minotaur vs Base Game Logic

Operation: setBoard()

Pre-Conditions: There are at least two players.

Post-Conditions: Each player has two workers; there are no tower blocks on the board. Each worker is placed on a tile within the board, and each worker occupies a unique tile.

Operation: movePlayer(x, y)

Pre-Conditions: The coordinate of the target tile must be within one (diagonal included) tile from the worker's original spot. The target tile cannot contain a non-scalable tower (two levels apart, domed tower, etc). Also, it must be the correct worker's turn and that the action is legal (based on god card implementation).

If the target tile contains a worker of the opposing player, make sure that worker can be pushed directionally by one tile using the same base logic pre-conditions of movePlayer, except that all non-domed towers are scalable for this pushed worker. A worker also cannot be pushed out of a corner or off the game board, nor can a worker be pushed diagonally.

Post-Conditions: Player current location coordinates replaced with x, y. If applicable, the opposing pushed worker's location coordinates should be replaced to the new pushed x and y coordinates. The hasWorker flag should be flipped accordingly (true->>false for the original tile, true->>false->>true for the target tile since the pushed worker leaves the tile before the minotaur replaces the spot, false->>true for the target tile of the pushed worker).

Operation: buildTower(x, y)

Pre-Conditions: The coordinate of the target tile must be within one (diagonal included) tile from the worker's newly moved spot. The target tile also cannot currently hold another worker. If the worker chooses to build a dome, the tower height of that tile must be 3. Also, it must be the correct worker's turn and that the action is legal (based on god card implementation).

Post-Conditions: The tile has a tower height of 1 (if previously empty) or $x + 1$, where x is the height of the tower prior to the operation. If the new height results in a domed tower or a tower that is two levels above the workers surrounding it, the can_jump flag should be changed to false.

Operation: gameOver()

Pre-Conditions: The board has to be set. This can either return true or false, so conditions for the game to be over does not need to be met.

Post-Conditions: “Exits” the sequence diagram- meaning operations such as movePlayer and buildTower can no longer be called (if the flag returns true); the game must be reset with setBoard(). If not, the game can resume as normal.