Player

Attributes

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| --- | --- | --- | --- |
| NAME | TYPE | DEFAULT | DESCRIPTION |
| position | int | (constructor) | The current room number of the player’s position. |
| direction | int | (constructor) | The current direction that the player is facing. Ranges from 0 to 5, where 0 is top-right and the numbers increase in a clockwise fashion. |
| arrows | int | (constructor) | The number of arrows that the player has available in his inventory at any time. |
| coins | int | (constructor) | The number of coins that the player has stored in his inventory at any time. |
| turns | int | 0 | The number of turns that have elapsed in the current game. |
| score | int | 0 | The current score of the player. |

Methods, not including Accessors

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| --- | --- | --- |
| NAME | ARGUMENTS | DESCRIPTION |
| moveInDirection | int moveDirection | Instructs the Player class to attempt moving in a certain direction. The direction to be moved is given in the argument moveDirection, where 0 is top-right and the numbers increase in a clockwise fashion to 5. The Player class calls a method in the Map class to make sure there is a door in the given direction from the player’s current position. If so, the player changes its position to the new position given by the Map class and its direction to the given direction. |
| changeCoins | int newCoins | Adds the argument newCoins to the Player’s current number of coins. May be positive or negative. |
| changeArrows | int newArrows | Adds the argument newArrows to the Player’s current number of arrows. May be positive or negative. |
| addTurn |  | Adds a turn to the player’s turns attribute. Should be called every turn. |
| updateScore |  | Causes the player to recalculate its score, using the formula given in the Wumpus specification. Returns the new score, and stores it as a variable in the Player class. |
| checkVisible | int checkPosition | Checks to see if the given position is visible in the players’s line of sight. |

Wumpus

Attributes

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| --- | --- | --- | --- |
| NAME | TYPE | DEFAULT | DESCRIPTION |
| position | int | (constructor) | The current room number of the wumpus’s position. |
| direction | int | (constructor) | The current direction that the wumpus is facing. |
| turns | int | 0 | The number of turns since the wumpus last woke up if “asleep”, or the number of turns since the wumpus last slept if “awake”. |
| state | String | “asleep” | The state that the wumpus is in, specifying its rules of movement. If “asleep”, the wumpus will wait 5-10 turns before changing to “awake”. If “awake”, the wumpus will move 1 room randomly for 3 turns before changing to “asleep”. |

Methods, not including Accessors

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| --- | --- | --- |
| NAME | ARGUMENTS | DESCRIPTION |
| moveInDirection | int moveDirection | Attempts to move in a direction. Checks with the Map class to make sure the move is valid. If so, updates the wumpus’s position and direction. |
| addTurn |  | Adds a turn to the wumpus’s turns attribute. Should be called every turn. |
| updateState |  | Performs the necessary logic, using the current value of the turns attribute, to update the wumpus’s state. See “state” above for details on this logic. If the wumpus needs to move, call moveInDirection() as appropriate. |
| checkVisible | int checkPosition | Checks to see if the given position is visible in the wumpus’s line of sight. |

Minion

Attributes

|  |  |  |  |
| --- | --- | --- | --- |
| NAME | TYPE | DEFAULT | DESCRIPTION |
| position | int | (constructor) | The current room number of the minion’s position. |
| direction | int | (constructor) | The current direction that the minion is facing. |
| turns | int | 0 | The number of turns since the minion last changed its state. |
| state | String | “roaming” | The state that the minion is in, specifying its rules of movement. See “Proposed Specification for Wumpus Minion Objects” for an overview of the states and their functions. |

Methods, not including Accessors

|  |  |  |
| --- | --- | --- |
| NAME | ARGUMENTS | DESCRIPTION |
| moveInDirection | int moveDirection | Attempts to move in a direction. Checks with the Map class to make sure the move is valid. If so, updates the minion’s position and direction. |
| addTurn |  | Adds a turn to the minion’s turns attribute. Should be called every turn. |
| updateState |  | Performs the necessary logic, using the current value of the turns attribute, to update the minion’s state. See “Proposed Specification for Wumpus Minion Objects” for more details about the minion’s state. If a move is necessary, performs that move using moveInDirection(). |
| checkVisible | int checkPosition | Checks to see if the given position is visible in the minion’s line of sight. |

Methods Used from Other Classes

Map

calculateMovement(int position, int direction)

A method that would, given a room number for position and a direction, calculate the room number one room in that direction. The direction would be given as an integer from 0 to 5, where 0 is the top-right direction and the numbers increase in a clockwise fashion. If there is a door blocking the way, the method would return -1.