

TESTING PLAN for PROJECT 4 (Dungeon Controller)

As this project builds upon what we already did in project 3, I will be adding additional tests to all the tests written in the previous project.

Tests to check dungeon creation:

1. Test to check if the percentage of arrows in the dungeon satisfies the treasure percentage specified.
2. Test to check the number of monsters/Otyughs is equal to the number specified.
3. Test to check Otyughs are only present in caves.
4. Test to check exceptions are being thrown for invalid arguments.

Tests to check the controller:

1. Test to check if the move method is working as expected for both wrapping and non-wrapping dungeons.
 - a. Move north
 - b. Move south
 - c. Move east
 - d. Move west
 - e. Moving at the edge of a wrapping dungeon should place you in other side if edge exists.
2. Test to check if the shoot method is working as expected for both wrapping and non-wrapping dungeons.
 - a. After shooting, player's arrow count is reduced by 1.
 - b. When shot with wrong distance, nothing will happen.
 - c. When shot in the correct direction and correct distance,
 - i. First shot, Otyugh gets injured.
 - ii. Second shot, Otyugh dies.
3. Test to check if the pick method is working as expected for both wrapping and non-wrapping dungeons.
 - a. Picking arrows at a location will increase the arrow count with the player by picked amount.
 - b. Picking treasure from a location updates player's bag by the treasure that is picked.
4. Test to check if the smell is working as expected for both wrapping and non-wrapping dungeons.
 - a. More pungent smell because of monster in neighboring cells.
 - b. Less pungent smell because of monster at +2 distance from the current cell.
 - c. More pungent smell because of multiple monsters at +2 distance from the current cell.
5. Test to check if the game is ending properly in different scenarios,
 - a. Player successfully negotiates the dungeon and comes out of it alive.
 - b. Player gets eaten by Otyugh at end location. Also confirms the presence of monster at end cave.
 - c. Player gets eaten by Otyugh at some location and game ends.
6. Test to check the behavior of controller when given invalid inputs.
 - a. Behavior when invalid input is given for action (move is m, shoot is s, and pick is p).
 - b. Behavior when invalid input is given for direction (only north, south, east, and west).
 - c. Behavior when invalid input is given for distance (distance > 0).