

The **Dungeon of Doom** Game Specification

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The **Dungeon of Doom** is played on a rectangular grid (the Dungeon) on which the player can move and pick up items. The goal is to collect enough gold and make it to the exit.

1 The Dungeon

The dungeon is made out of square tiles. A tile can be:

Floor Allows a player to walk over it, some may also contain gold. Looks like a dot.

Wall Prevents a player from moving through it. Looks like a hash sign.

Exit A special floor tile necessary for winning the game. Looks like a letter E.

A dungeon can be of arbitrary size. A dungeon contains at least as much gold as is required to win, and at least one exit tile. Note that exit tiles will never contain gold. A tile with gold on it looks like a letter G.

The main map representation should be redrawn after each action that changes it – that is, if gold is removed. Since players or a player moves. Keep in mind that a players' location should be shown by the letter P (the player should be shown instead of any possible gold or exit). If there is a Bot, it should be shown with a B. Note that players will need to have their own associated memory of their location since if they enter the part of the map with an exit or gold it should not (automatically) delete the gold or the exit from the map.

2 Setup

You start the game with no gold, and at a random location within the dungeon. This position may contain gold (if you are lucky), may be an empty tile, or it may be an exit tile. You shouldn't be started inside a wall. The same should be true for your Bot if you have one.

3 Winning the Game

The objective of the game is to collect at least a certain amount of gold and then move onto an exit tile in the dungeon. This target amount of gold is different from map to map, and may be as low as zero. If you have enough gold and land on the exit, you should automatically leave the dungeon and the game should finish. The same should go for your Bot.

4 Commands

Your program **MUST** accept the following commands, when used through the command line. These comprise the name of the command (a human readable string) and then optionally a space and any arguments to the command, then a new line character. Between each command the command line interface should redraw (print) the map.

4.1 HELLO

Command: **HELLO**

Response: **GOLD** <number>

The amount of gold required to win the game.

4.2 MOVE

Command: **MOVE** <direction>

Response: **SUCCESS** or **FAIL**

Move one square in the indicated direction. The direction **MUST** be either N, S, E or W.

4.3 PICKUP

Command: **PICKUP**

Response: **SUCCESS**, **GOLD COINS:** <number> or **FAIL**

To pick up the item in the player's current location. On success, returns the new total of gold in bag.

4.4 LOOK

Command: **LOOK**

Response: Four characters drawn from { . G E or # } in the order N, S, E and W, indicating if there is a blank floor, gold, the exit or a wall in each direction.

Right now this command is only for the Bot to use, as the command line interface lets you see the whole dungeon. It has no impact on the dungeon or the character.

4.5 QUIT

Command: QUIT

Response: Game finishes.

There may be no way to win the game if your Bot has collected all the gold. Of course, future versions of the game may offer a way out of this conundrum.