General Assumptions:

- Assume that the player "has a" collectable entity (aggregation relationship) because they can already exist in the dungeon without having been in the player's inventory
    - We also extend the idea of a player aggregating buildable entities because logically, it does not make sense for a player to be composed of buildable entities (buildable entities are not integral to a player - the player can exist without it)
- Entity other than a player cannot pick up collectible entities
- If an exit is destroyed by a bomb in a dungeon with an exit goal or a switch is destroyed by a bomb in a dungeon with a boulders goal, the game will end and the player will lose.
- Where there are multiple options for creating a buildable entity, the precedence items will be prioritised through the alphabetical ordering of the ids.
- We can assume that entities will not be created on top of other entities as part of the initial dungeon
- Player cannot start with <= 0 health

Portal Assumptions:

- When an entity enters a portal, it should appear on the square of the matching portal
- However, if the portal is completely blocked (e.g. no cardinally adjacent squares) then the player cannot teleport through and just remains on the square of the original portal they walked on
- Portal acts as a wall for zombies and spiders, they cannot go on top of the tile.

Battle Assumptions:

- For multiple battles occurring in the same tick, prioritise battles that have higher alphabetical ordering of the ids.

- Having multiple swords (and other weapons of the same type) can stack damage

Player Assumptions:

- When a player bribes multiple mercenaries, they can all be in the same square and follow the player.

Spider Assumptions:

- Multiple spiders are able to spawn on the same tile

Mercenary Assumptions:

- The behaviour of mercenaries when the player is using an invincibility potion with portals involved. We assume that mercenaries reconsider which direction they move in every time a tick occurs so that when a player teleports, the mercenary will still move away from the player.

- A maximum upper bound for calculating distance for mercenaries moving towards player is a radius of 60 squares (diagonally). If they are out of the range, then the mercenaries will change to the random movement behaviour (same as when invisible potion is activated).

Bomb Assumptions:
- Bomb will be destroyed by bomb if the bomb detonates in the range.

Boulder Assumptions:
- When a boulder is pushed onto an enemy, the enemy will die.
- When a boulder is pushed onto a portal, the portal acts as a wall.
- When a boulder is pushed onto an exit, the exit acts as a wall.
- When boulders move onto collectable entities, the boulder will cover the collectable entity, but when the boulder is moved away from the square, the collectable entity will still be there.

Zombie Spawner Assumptions:
- When zombies spawn, they first spawn in the top cardinally-adjacent square, if that one is blocked they spawn in a clockwise direction (i.e. spawn in the right square)
    - When the top and right squares are blocked, spawn in the bottom square
    - And if top, right and bottom squares are all blocked, spawn in left square
- Zombies cannot spawn on static entities except floor switches
- Multiple zombies can spawn on the same square
- Players can break spawners with a sword, shield or bow
- A weapon used on a zombie toast spawner doesn't impact its durability

Assumptions from Forum

- We assume all keys in the dungeon will have a corresponding door, and vice versa
- The movement of allies when the player is invisible is random
- If there are multiple bombs around the same active switch, the order in which they explode is defined by the alphabetical ordering of their id
- You cannot travel through chained portals with a blockage at the end of the chain
- If there's both a sword and an enemy in the tile the player moves into, the player collects the sword then enters the battle
- A bomb does not become obstacles when placed
- Spiders spawned with a boulder in the spot above them don't move until the boulder is moved or destroyed
- There will never be two or more of any static or collectable entity at the same tile with the exception of floor switches, of which there could be a boulder on top, and boulders can be pushed onto collectable entities
- No entity other than spiders can traverse through zombie spawners
- Zombies and mercs cannot push boulders
- We assume there will never be an unachievable goal given
- Bribing a mercenary does not count as defeating an enemy
- We assume only one game is active at a time

- If the player cannot travel through a portal, they stay adjacent to it
- The player will not spawn on an entity that restricts their movement (e.g. a wall)
- Mon 11 Jul 6pm - Whether bombs explode before or after enemies move is undefined
- Zombies can spawn on top of other zombies