Assumptions

- Boulder
  - Boulders can move onto portals but does not teleport
  - Boulders can move onto exit, collectible entities, moving entities, zombie toast spawner and they coexist on the same square
  - Boulders can't move onto locked doors
- Bomb
  - Bomb destroys everything except the player. This includes switches, boulders and moving entities.
  - Bomb does not explode other bombs, other bomb is removed like other entities
  - If there are multiple bombs around the switch, all of them will explode at once when the switch is activated
  - Once placed, bomb cannot be passed through. Which means it will block player and boulder movement.
- Logic
  - CO_AND logic requires all cardinally adjacent switches to be active
  - Other activated entities do not act as a conductor
  - All entities on the same square carry out a different kind of logic
- Floor Switches
  - Switches do not contain logic fields
  - Switches are not turned on by other switches or wires
- Shield
  - Treasure is used before key
- Midnight Armour
  - Midnight armour bonus defence will be subtracted from enemy attack before being divided by 10
  - Midnight armour bonus attack will be stacked on top of players calculated attack damage
- Sceptre
  - Treasure is used before the key. Wood is used before the arrow.
  - When a used sceptre depletes its remaining duration, the sceptre stays in the player's inventory to be used again
  - When a used sceptre depletes its remaining duration, the sceptre will revert all bribable enemies to their unbribed status and therefore hostile
- Goal
  - Bribing mercenaries, and killing enemies with bombs does not count towards enemies goal. Only kills throw battle counts.
  - Treasure goal only counts the treasure in inventory, which means bribing and crafting shields can achieve this goal.
  - Achieving a goal and dying on the same tick will still result in win, i.e. empty goal string.
  - If a player stands on the exit, :exit will be removed from the goal string. But if it's not the last goal to be done, then stepping off the exit will once again include :exit

- ■ https://edstem.org/au/courses/8675/discussion/932115
- Spider
  - Multiple spiders should not spawn in the same location
  - Spider spawns are randomly generated with each tick randomly choosing one of the four spawns
  - Spider can get stuck between boulders
  - Spider can overlap position with another spider
  - If there is a boulder initially above spider, then it will move down and anticlockwise
- ZombieToast
  - ZombieToast move onto portal but cannot use portal
- Mercenary
  - Hostile mercenary remains stationary when player is invisible
  - Mercenary can only go towards player if player is within a 61 by 61 positions around mercenary
  - When there is no path to player, mercenary does not move
  - Hostile mercenary can teleport using portal with the same conditions as a player
  - Bribed mercenary can overlap with player when player moves into adjacent bribed mercenary
- ZombieToastSpawner
  - All weapons can destroy a zombie toast spawner
- Key
  - Only one key per door
- Door
  - Doors will only ever have one corresponding key
- Portal
  - Portals will not teleport the player if the exit is blocked in any way
  - When a player cannot teleport (upon entering a portal) they will 'sit on top' or take the position of the portal
  - Players will exit a portal in the direction they entered the portal in
  - Mercenaries will teleport if they go on top of a portal with the same assumptions above
  - Mercenaries will teleport if they are bribed or not bribed
  - If a portal exit does not exist (be it destroyed or not created) then the player will take the assumption that it cannot teleport
  - Boulders are considered as solid objects and thus will stop teleportation if one is adjacent to the exit portal
- Assassin
  - When player uses invincibility potion, assassin will behave like nothing happened
- Hydra
  - Hydra is affected by invincibility potion effect in battle
  - When regenerating health, they don't take damage for that round
- Sun stone
  - The sunstone will be prioritised over keys when unlocking doors

- Swamp
  - When movement factor is 0, it does nothing expect spawn spawn entity
  - Swamp tiles can still slow down allies
  - Swamp tiles does nothing to boulders
  - Swamp tile's maximum factor is limited to 15 (can change later)
  - Swamp's movementFactor will be accounted to an entity's shortest path
- Time travelling
  - All enemies will track the new player
  - The older player will be ignored by enemies
  - Time travelling while time travelling will not be possible
  - The older player will strictly follow their older movement
  - The older player will not participate in NEW battles
  - The older player can pick up items
  - The goals are based off the new player and what is on the map
  - When older player bribes mercenary or assassin, mercenary or assassin will follow the new player
  - Enemies will base their path on the new player (ie potions work)
  - Enemies will ignore older player
  - Allies don't time travel
- Dungeon builder
  - Start is value is always less than end value
- Persistence
  - Save files won't be overwritten. (Concurrency issues may occur if two or more tests try to write to a file with the same name.)
- TimeTurner
  - Time turner will not be consumed on use