<Assumptions>

1. Character
   - Base Health: 100hp
   - Basic Attack Damage: 1
   - Basic Defense: 0
   - Attack Speed: 1 attack per second
   - Maximum number of allied soldiers: 5

   - We assume that the character proceeds through the game in the order of enemy check, building check, dropped item check.
   - We assume that the character and allied soldiers can attack any enemies in the battle radius.

2. Enemies

   - Slug
     - Base HP : 10
     - enemy damage : 1
     -attack radius: 1 grid
     -support radius: 1 grid

   - Zombie
     - Base HP : 30
     - enemy damage : 3
     -attack radius: 2 grid
     -support radius: 2 grid
     -critical attack chance: 10% - 6 (doubled damage)

   - Vampire
     - Base HP : 50
     - enemy damage : 5
     - attack radius: 3 grids
     - support radius: 5 grids
     - critical attack chance: 5% - 10 (doubled damage)
     - additional critical damage: 3% - 10 (doubled damage)
     - random additional number of attacks: 2~5

   - We assume that there can be only one enemy per tile.

   2-1. Slug

- We assume that a slug randomly spawns two each time the player completes a cycle of the path.

2-2. Zombie
- We assume that the probability of a critical bite of a zombie is 10%.
- A zombie transformed from an allied soldier has its initial health(full stamina).

2-3. Vampire
- We assume that when a character attacks a vampire with 'stake', the damage is doubled.
- We assume that the probability of an occurrence of a critical bite is 5% and the damage of the bite is 10. And also, when a critical bite was occured by a vampire, the number of attacks is between 2 and 5.

3. Buildings
- We assume that there can be only one building per tile.
- All types of buildings can be built up to 10 each.

3-1. Village
- We assume that when the character passes through a village, it regains health by 20.

3-2. Trap
- Damage : 3

3-3. Campfire
- Battle radius : 2

4. Basic Items
- We assume that the character can only have up to 30 items.
- We assume that the character has a 50% chance to get an item when it kills an enemy.

<Weapons>
- Sword
  - damage : 6
  - attack range : 2
- Stake
  - damage : 4(8 against dracula)
  - attack range : 1
- Staff
  - damage : 3
  - attack range : 2
  - trance : 7% probability

- We assume that the character can only put one weapon on.

<Armours>

- We assume that the character can only put one piece of armour, shield, helmet on.

- Armour
  - defense : 50%

- Shield
  - We assume that when the character is equipped with a shield, only 80% of the current damage is taken.
    (e.g) a slug attack the character wearing a armour
    -> total damage = 1 * 0.5 * 0.8 = 0.4)

- We assume that staff has a 7% chance to inflict a 'trance' and the changed allied soldier lasts 25 seconds in the changed state.
- Allied soldiers transformed from enemies have their initial health(full stamina).
- We assume that if the soldier has changed to enemy and returns to his original form(didn't die from a battle), then it has the stamina which was the most recent stamina when it was an enemy.

- Helmet - We assume that when the character is equipped with a helmet, the attack damage from the character and the damage from the enemy is reduced by 30%.

4-2. Card
- We assume that a character can have up to **10 cards** and if it gets one extra card, a card is destroyed due to having too many cards.
- We assume that when a card is destroyed, the character gets one out of 20gold, 1 health potion, 1equipment, 100XP with the same probability(25%)
- Card drop probability = 50%

4-3 Health Potion
- We assume that a health potion restores the character's HP by **30**.

5. Rare Items
- We assume that 'the one ring' can be obtained from any enemy.
- We assume that when 'the one ring' is used, the character respawns at the same position in which it is dead.
- We assume that the drop rate of 'the one ring' is 0.5%.

6. Behaviour/Features
- We assume that when the user presses 'insert' key, a health portion is used if it exists in the inventory.

7.   Goals
- We assume that a goal can be achieved by the character for the world to be considered complete and there is the condition.

    * Condition for a goal
- Obtaining 100000 experience points and (completing 80 cycles or amassing 10000 gold)

8.   Other assumptions
- We assume that the character has a 50% chance to get an item when it kills an enemy.
- We assume that the character can sell the item for half the original price.
- We assume that when the character is in the castle, we can purchase items by double clicking.