

RPG Game Package Description

This RPG game package is a turn-based battle simulator where players face NPCs in an arena using skills and items. The package has two sub-packages: Character and Gameplay, each with two modules. The Character sub-package handles shared functionality through inheritance, while the Gameplay sub-package manages events and combat mechanics.

Character Sub-Package

1. `player.py`

Defines the `Player`` class, inheriting from `Character``.

- `generate_stats()`: Randomly assigns stats such as HP, ATK, and DEF for the player.
- `use_item(item)`: Allows the player to use an item, applying its effects like healing or stat boosts.
- `take_damage(amount)`: Reduces the player's HP based on the damage taken.
- `dodge_attack()`: Gives the player a chance to dodge an incoming attack, avoiding all damage for the round.

2. `npc.py`

Defines the `NPC`` class, inheriting from `Character``.

- `generate_stats()`: Randomly assigns stats for the NPC.
- `choose_attack(seed)`: Uses a random seed to determine the NPC's attack move, ensuring predictability in behavior.
- `take_damage(amount)`: Reduces the NPC's HP based on incoming damage.
- `taunt_player()`: Outputs a random taunt aimed at the player during combat to enhance immersion.

Gameplay Sub-Package

1. `events.py`

Handles random events that allow players to acquire items or face challenges.

- `generate_event()`: Selects a random event, such as discovering an item or encountering a trap.
- `get_item()`: Assigns the player an item based on the event's outcome.
- `apply_item_effect(player, item)`: Applies the effects of the acquired item to the player's stats.

2. `combat.py`

Manages the turn-based combat mechanics.

- `attack(attacker, defender)`: Executes an attack, calculating damage dealt based on the attacker's stats and the defender's defenses.
- `start_combat(player, npc)`: Initiates and manages the flow of combat rounds between the player and NPC.
- `check_victory(player, npc)`: Determines the winner by checking if either participant's HP has reached zero.
- `calculate_critical_hit(attacker)`: Adds an element of chance by allowing critical hits that deal bonus damage.