

# RPG

## Objects

**Exercise 1: Creating the RPG World** Create an object representing the game world, including properties for players, enemies, and items. Each of these categories should hold an array of objects. Each player or enemy object should have properties for name, health, position, and inventory. Items should have properties for name and effect.

**Exercise 2: Adding and Removing Entities** Add methods to the game world object for adding and removing players, enemies, and items.

**Exercise 3: Movement in the RPG World** Add a method to the player objects for movement. This method should update the player's position.

**Exercise 4: Encounters and Combat** Implement an encounter mechanic. This could be a method in the game world that checks if the player's position matches that of an enemy. If so, a combat function should be initiated. In the combat function, create a simple combat mechanic where the player and enemy take turns dealing damage to each other until one's health reaches zero.

**Exercise 5: Item Interaction** Create methods for the player to pick up and use items. The pickup method should add an item to the player's inventory when the player's position matches that of an item. The use method should take an item from the player's inventory and apply its effect.

**Exercise 6: Adding Abilities** Each player and enemy object should have an abilities property that contains a list of abilities, with each ability being an object with properties for name and effect. The combat function should be updated to allow the use of these abilities.

**Exercise 7: Advanced Combat** Modify the combat function to include more advanced mechanics, such as critical hits (which occur randomly and deal extra damage) and defense (which reduces incoming damage).

**Exercise 8: Leveling System** Add a leveling system. Each player object should have a level and experience property. Winning battles should grant experience, and gaining enough experience should increase the player's level, enhancing their stats.

**Exercise 9: Class System** Implement a class system. Each player object should have a class property (e.g., "Warrior", "Mage", "Rogue") that determines their abilities and stat growth upon leveling up.

**Exercise 10: NPC Interaction** Add non-player characters (NPCs) to the game world. Create methods for interacting with NPCs, such as talking and trading.