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Pd: 4
Project Title: Pokemon Adventure

Our final project is going to be a Pokemon-themed adventure game. A simpler version of the regular console games, our game is going to have a few gyms, and will not be graphics-intensive. Each gym will have a puzzle(?), and the gym leader. Upon defeating a gym leader, the player will be able to select a pokemon to add to their party. If the player has more 6 pokemon, he/she will be prompted to replace a pokemon in their party with the new one.

Features:

1. Different pokemans
    a. Superclasses and subclasses for each Pokemon depending on type(for now).
2. Parties
    a. Priority Queue: Pokemon get swapped into battle based on priority specified when sorting the party. Fainted pokemon get set to a special priority to prevent them from coming back to life.
3. Gym puzzles
    a. Meant to be played in order to battle the gym leader. Can include second-term topic related puzzles. For example, a user may be asked to play Knight's Tour, or try an N-Queens, and writing out pre/in/post order traversals for a tree. Would need a back-checking algorithm for Knight/Queen.
4. Gym battles
    a. Priority Queue: Move order and the pokemon's stats will utilize priority queue to determine which pokemon goes first each turn.

    b. Gym leader uses randomized moves.

5. New pokemon to adopt
    a. Upon defeating a gym leader, the player can choose to adopt a new pokemon to add to their party. Pokemon are stored in stack, with weaker pokemon on top. sp
6. Pokedex
    a. Stored with tree structures(ordered on pokedex #).

Additional Features (After the MVP, to be implemented in the following order)

1. Evolution
2. PC for storing new pokemon, rather than releasing/replacing them.
    - Like the Pokedex, can store pokemon using a tree structure and search for pokemon via BST Search. Can also organize storage using sorting algos.
3. Catching pokemon(with Pokeballs)
4. Better AI for gym/trainer battles(Post perfection)