

Homework #2: Using Arrays in Battle

Objective: The objective of this assignment is to develop a text-based adventure game inspired by Legend of the Red Dragon (and other interactive fiction games), emphasizing the use of parallel arrays, standard input/output, and basic logic structures.

Description: You are tasked with creating a simplified version of a text-based adventure game. In this game, players will embark on a quest to defeat a powerful dragon and save the kingdom. The game should include the following features:

1. Character Creation:

- Players can create a character by entering their name and choosing a class (e.g., warrior, mage, rogue).

2. Gameplay:

- Players will progress through a series of encounters, battling monsters and making decisions that impact their journey.
- Each encounter will present the player with options (e.g., attack, cast a spell, flee) and outcomes based on their choices.

3. Combat System:

- Implement a simple combat system where players and enemies have health points (HP) and can deal damage to each other.
- Use parallel arrays to store player and enemy data, such as names, classes, HP, and damage values.

4. Inventory and Items:

- Include a basic inventory system where players can acquire and use items (e.g., potions, weapons) during their quest.
- Use parallel arrays to store item names, descriptions, and effects.

5. Random Events:

- Introduce random events during the game, such as finding treasure, encountering NPCs, or stumbling upon traps.
- Use random number generation and basic logic structures to handle these events.

6. Game Over and Victory Conditions:

- Define conditions for winning (defeating the dragon) and losing (running out of HP).
- Display appropriate messages when the game ends, indicating whether the player succeeded or failed in their quest.

Additional Requirements:

- Implement error handling for invalid input and edge cases.
- Ensure clear and concise user interface with descriptive prompts and messages.
- Use comments to explain the logic and functionality of your code.
- Keep the game mechanics simple and manageable within the scope of the assignment.

Submission Guidelines:

- Submit your source code file along with a brief document (1-3 pages) describing the game mechanics, key features implemented, and any challenges encountered during development.

Note:

- This assignment aims to reinforce the concepts of parallel arrays, standard input/output, and basic logic structures through the development of a text-based adventure game. Focus on creating a well-designed and engaging gameplay experience within the given constraints.

Rubric

Description	Max Points
Correctness In Implementation of Parallel Arrays: Points for using, filling, changing, etc. data according to the correct usage of parallel arrays.	15
Error Handling and Input Validation: This includes validating user input to prevent crashes and ensuring that the program gracefully handles unexpected scenarios.	15
Modularization and Code Organization: Points for well-organized code structure, with clear separation of concerns and reusable components.	10
Documentation and Comments: Points awarded for thorough comments explaining the purpose of functions, variables, and complex logic, as well as parameters of functions and return values.	10
Enhanced Features and Gameplay: Expanding upon existing game features to enhance the gameplay experience. This could include adding new enemies, items, abilities, quests, or game mechanics.	20
User Interface Improvements: Improving the user interface to make it more intuitive and user-friendly. This could involve adding menus, prompts, and visual enhancements to enhance the overall experience.	10
Creativity and Innovation: Creative solutions and innovative ideas that go beyond the basic requirements of the assignment. This could include unique gameplay mechanics, storytelling elements, or thematic enhancements.	20
Code Style and Conventions: Adherence to coding standards and best practices. Points for consistent code formatting, meaningful variable names, and adherence to language-specific conventions.	10
Peer Review and Collaboration: Points for constructive feedback, collaboration with peers, and contributions to the overall improvement of the codebase (5 pts). Additionally, points awarded by overall peer opinion on your contribution (5 pts.)	5/5
TOTAL	120