## The C++ Programming Language

## 1 Rubric

- Code Structure (10%)
  - Code Organisation (5%): Marks for separation of declarations (4 files) and implementations (.cpp files), and logical organisation within files.
  - Commenting and Documentation (5%). Marks for comments in code explaining the purpose and functionally of classes, me holls, and significant or complex blocks of code.
- Application of Object-Oriented Programming (30%)
  - Class Design (10%): Marks for correct implementation of required classes, proper use of inheritance (4.g., Monster and Player derived from Character), and the implementation of all required methods.
  - Encapsulation and Data Hiding (10%): Marks for correct use of access modifiers (public, private) to ensure data encapsulation and for following the principle of least privilege.
  - Use of STL Containers and Iterators (10%): Marks for effective use of STL containers (e.g., vectors) and iterators for managing game objects, including jtems and characters.
- Game Mechanics and Logic (40%)
  - Game Map and Navigation (10%): Marks for the successful creation and linking of game locations, as well as the implementation of navigation commands.
  - Item and Monster Management (10%): Marks for correctly adding items and monsters to locations, through the use of the addItem and addMonster methods, and for the logic that handles player interactions with these elements.
  - Combat System (10%): Marks for correct combat logic implementation, including the rollDice function, combat sequence, damage calculation, defeat handling and the effects of armour and different weapons.
  - Inventory and Item Usage (10%): Marks for the correct implementation of inventory management, including collecting items, sorting, and using items (e.g., drinking potions, using armour, monsters discarding items when defeated).

- Robustness (10%)
  - Error Handling and Game Stability (10%): Marks for the game's ability to cope with invalid inputs, and stability during gameplay.
- Creativity and Enhancement (10%)
  - Extra marks for creative additions beyond the basic requirements, include additional game features that enhance player experience, and good, efficien or advanced use of appropriate C++.

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