

# **OOP Fight Arena Game**

## **Project Idea**

This will be a two-player based game where the player gets to choose between four types of characters and fight to win by getting opponent's health to zero. Players will have the following attributes: Health, Armour, Mana, and some hidden magical powers (depends on the selected player type). Using different types of attacks, the players will either defend or attack the opponent stats.

## **Testing Strategy**

Regression Testing has been incorporated for the most part of the development of the game. After any change in a file, the test.cpp is ran once again to see for any abnormal changes or updated changes working on the system.

Unit Testing: Each class files will be tested individual to see if it works on its own. Every file will have a driver file that creates an object of the class type and checks on the boundary cases and abnormal behaviours.

Important points or cases to look out for testing:

1. Check if the polymorphism and inheritance work for the 4-character types from the parent class of player. Also, check if the player is the abstract class.
2. The game works for the exact number of rounds entered by the user
3. After every shot fired, the stats of each player get updated correctly.
4. To check if the magic power appears randomly in every 5 shots, and works as stated by the rules
5. To check if the main class can deduce if the game result is a winner or tie
6. To check if the stats are displayed correctly

## **Planning Strategy**

Week 10:

- Unit testing. Create individual files for every class to check if they work correctly.

- Randomly generated test file, where the shots are generated and checked with expected outcome of the game
- Implement the magic power settings in inheritance of the classes

## Week 11:

- Commenting every file that has been created
- Fixing any bugs in the program
- Modifying the style of the code
- Have clear statement for each class created and its relation to other classes

## Class Diagram

