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CS 162

Project 2

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## **Design**

Menu

1. Display five characters (Vampire, Barbarian, Blue Men, Medusa, Harry Potter)
2. User Selects two characters
3. At the end play again menu
  - a. 1. Play again
  - b. 2. Exit the game

## **Test Driver**

1. Test each fight
2. There can be two of the same characters (vampire vs vampire)
3. Each round must display
  - a. Attacker Character
  - b. Defender Character
  - c. Attack dice roll
  - d. Defender dice roll
  - e. Damage inflicted
  - f. Defender stats after taking damage

## **Character Class**

1. Base class
2. Inherited by each type of character

Character attributes (attack, defense, armor, strength)

## **Vampire Class**

Inherits Character class

- Attack 1d12
- Dice roll for attack  $\text{rand()} \% 12 + 1$

- Defense 1d6
- Dice roll for defense  $\text{rand()} \% 6 + 1$
- Armor 1
- Strength 18
- Charm 50% of opponent missing attack
- $\text{Rand()} \% 2 + 1$

## **Barbarian Class**

Inherits Character class

- Attack 2d6
- Loop for number of rolls
- Dice roll for attack  $\text{rand()} \% 6 + 1$
- Defense 2d6
- Loop for number of rolls
- Dice roll for defense  $\text{rand()} \% 6 + 1$
- Armor 0

## **Blue Men Class**

Inherits character class

- Attack 2d10
- Loop for number of rolls
- Dice roll for attack  $\text{rand()} \% 10 + 1$
- Defense 3d6
- Loop for number of rolls
- Dice roll for defense  $\text{rand()} \% 6 + 1$
- Armor 3
- Mob lose dice for every 4 damage taken

## **Medusa Class**

Inherits Character Class

- Attack 2d6
- Loop for number of rolls
- Dice roll for attack  $\text{rand()} \% 6 + 1$
- Defense 1d6
- Loop for number of rolls
- Dice roll for defense  $\text{rand()} \% 6 + 1$
- Armor 3

- Glare max roll for max damage

## Harry Potter Class

Inherits Character Class

- Attack 2d6
- Loop for number of rolls
- Dice roll for attack  $\text{rand()} \% 6 + 1$
- Defense 2d6
- Loop for number of rolls
- Dice roll for defense  $\text{rand()} \% 6 + 1$
- Armor 3
- Glare max roll for max damage
- Hogwarts recover once for double strength

## Changes and Problems encountered

I believe the hardest of the program was the logic for all the attacks, defense, and special abilities. The problems I encountered and were unable to fix were the logic for Harry Potter's special ability Hogwarts and the Blue Men Mob. I used a bool `Hogwarts = true`; and an If Statement. If `strength <= 0` and `Hogwarts` is true, I set his strength to 20 and `Hogwarts` to false; so that he doesn't have the ability anymore. But he always recovers and ends up defeating his opponent even though some opponents kill him more than once. I also think my Blue Men Mob logic is also incorrect. It does seem to lose 1 die but 2 when their strength is 4 or lower it doesn't seem to lose 2 die since its rolling higher than 6.

Changes

Added characters information and stats in the beginning so user gets a better understanding of each character and their abilities.

## Test Plan

Test Plan	Expected	Actual
Menu	<ul style="list-style-type: none"> <li>• Display 5 Characters</li> <li>• Select 2 Character</li> <li>• Replay Menu at end</li> </ul>	Have multiple menus and work properly
Input Validation	<ul style="list-style-type: none"> <li>• Must be greater than zero</li> <li>• Must be positive</li> </ul>	Does not work properly on when selecting character

	<ul style="list-style-type: none"> <li>• Must exclude characters, letters, and float values</li> <li>• Doesn't crash program</li> </ul>	Doesn't exclude float values on other parts
Test Driver	<ul style="list-style-type: none"> <li>• Test each fight</li> <li>• There can be two of the same characters (vampire vs vampire)</li> <li>• Each round must display</li> <li>• Attacker Character</li> <li>• Defender Character</li> <li>• Attack dice roll</li> <li>• Defender dice roll</li> <li>• Damage inflicted</li> <li>• Defender stats after taking damage</li> </ul>	Works properly and displays all necessary information
Character Class	Base class that is inherited from other classes	
Vampire Class	<ul style="list-style-type: none"> <li>• Attack</li> <li>• Defend</li> <li>• Charm</li> </ul>	All three seems to work properly
Barbarian Class	<ul style="list-style-type: none"> <li>• Attack</li> <li>• Defend</li> </ul>	Works Properly
Blue Men Class	<ul style="list-style-type: none"> <li>• Attack</li> <li>• Defend</li> <li>• Mob</li> </ul>	Attack and defends works Mob seems to not lose 2 die when strength is 4 or lower
Medusa	<ul style="list-style-type: none"> <li>• Attack</li> <li>• Defend</li> <li>• Glare</li> </ul>	All three seems to work properly
Harry Potter	<ul style="list-style-type: none"> <li>• Attack</li> <li>• Defend</li> <li>• Hogwarts</li> </ul>	Attack and defense works. Hogwarts does not work properly and harry potter always recovers after dying multiple times

