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CS 136L Section 3801

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Lab 06 - RPG

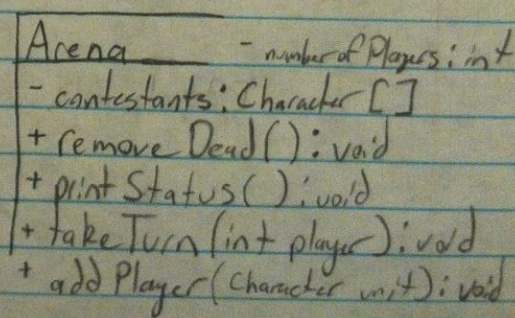
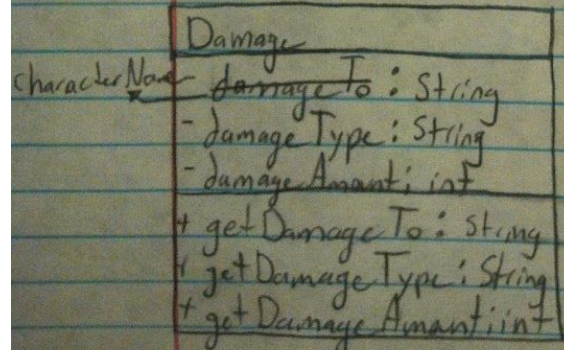
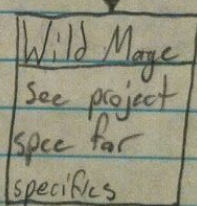
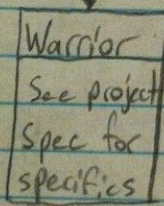
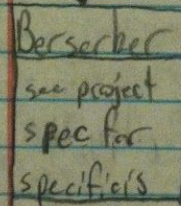
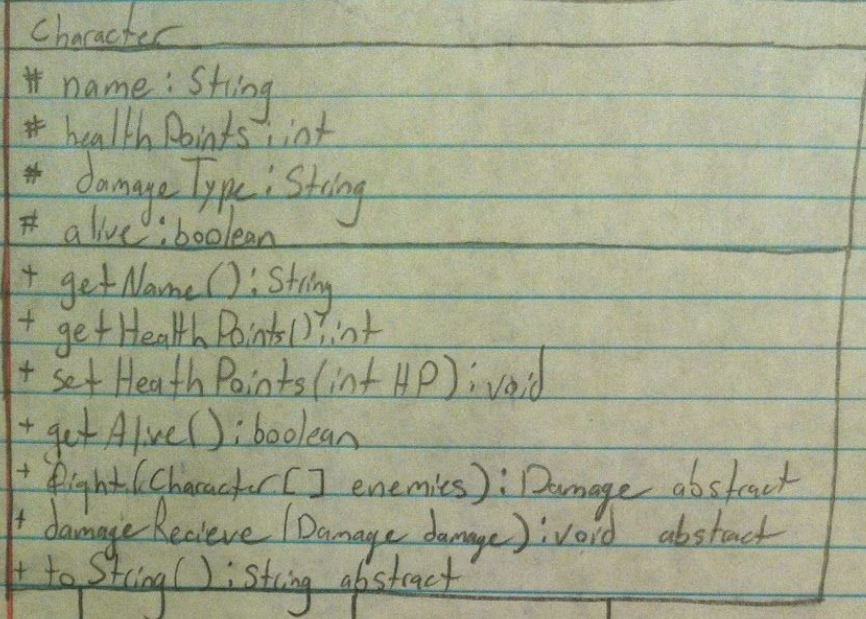
1. Problem Statement

The goal of this lab is to write classes representing elements in an RPG, and to design a class structure using interfaces. In the lab we are to put a group of contestants in our arena to battle each other. We were to include classes to describe our area as well as have all of our contestants. In each round the contestants will be allowed to attack. We are to print out the amount of damage that each of the contestants take, along with what type. The last contestant will be the winner. Each of the contestants are the Berserker, Warrior, and the wild mage, who each have their own type of damage.

2. Planning

First we started off by creating a UML diagram to show what interfaces we were going to use and the subclasses we are going to include. We created the arena, character, damage, RPG main, RPG character, and warrior classes. Within the arena class we included add player, to add contestants. We also included remove dead to get rid of the contestants that have lost. Print status to allow the user to be aware of the contestants in the arena. Take turn and determine winner were added to allow each of the contestants to deal damage onto one another; determine winner to see how many contestants are left in the arena and print out who the last contestant left is. The character class has the characters information as to whether they are alive or not based off of their health points. We have the damage class to show the contestants damage type and amount. The RPG main was included to add warriors to the arena as well as to print out their status.

Below is the rough sketch of the program made at the outset of it's creation.



Main
loop thing arena

3. Implementation and Testing

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Bob the Warrior, Health: 23
John the Warrior, Health: 23
Shawn the Berserker, Health: 34
Pat the Berserker, Health: 10
Ron the Wild Mage, Health: 14
Eli the Wild Mage, Health: 9

Shawn SMASH Shawn for 20 damage
Shawn gets SMASH receiving 20

-----
Bob the Warrior, Health: 23
John the Warrior, Health: 23
Shawn the Berserker, Health: 14
Pat the Berserker, Health: 10
Ron the Wild Mage, Health: 14
Eli the Wild Mage, Health: 9

Pat SMASH Ron for 20 damage
Ron gets SMASH receiving 20
Pat gets FIRE receiving 2

Taking Ron to the graveyard

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Bob the Warrior, Health: 23
John the Warrior, Health: 23
Shawn the Berserker, Health: 14
Pat the Berserker, Health: 8
Eli the Wild Mage, Health: 9

Eli FIRE at everyone
Bob gets FIRE receiving 1
John gets FIRE receiving 2
Shawn gets FIRE receiving 0
Pat gets FIRE receiving 0
Eli gets FIRE receiving 4
```

4. Reflection

Overall, we thought that this lab taught us a lot more about java. We learned more about how to design object oriented systems. Because we were using interfaces and inheritance it helped us create our classes. We also learned more about how to use polymorphism. The ability for objects to take multiple different forms helped in our coding.