Project 3: Fantasy Combat Game
Christine Bruton - Student ID: 933010860

PROGRAM DESIGN DOCUMENT

1. Class Hierarchy Diagram

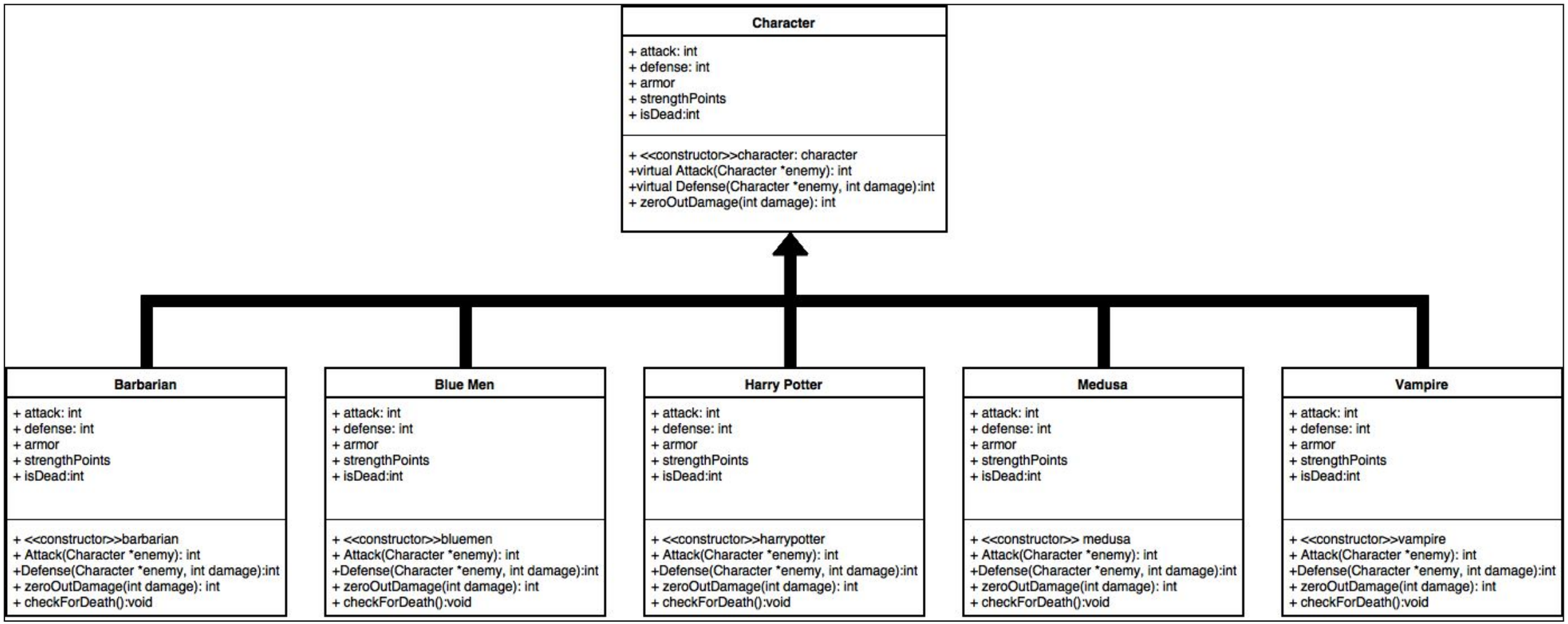
2. Initial Design Diagram (hand-drawn)

3. Mob Design Diagram (hand-drawn)

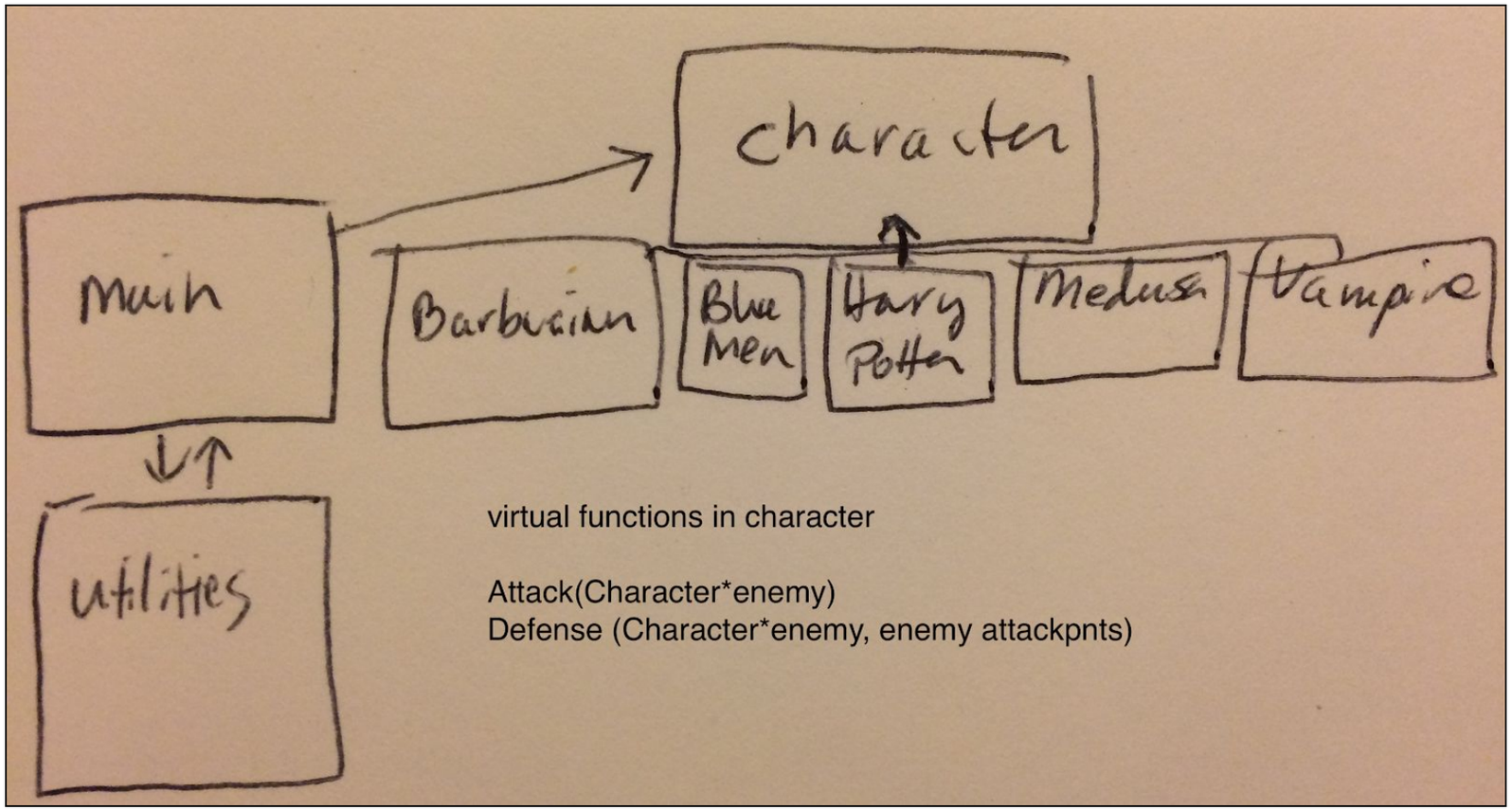
4. Test Table

5. Reflection

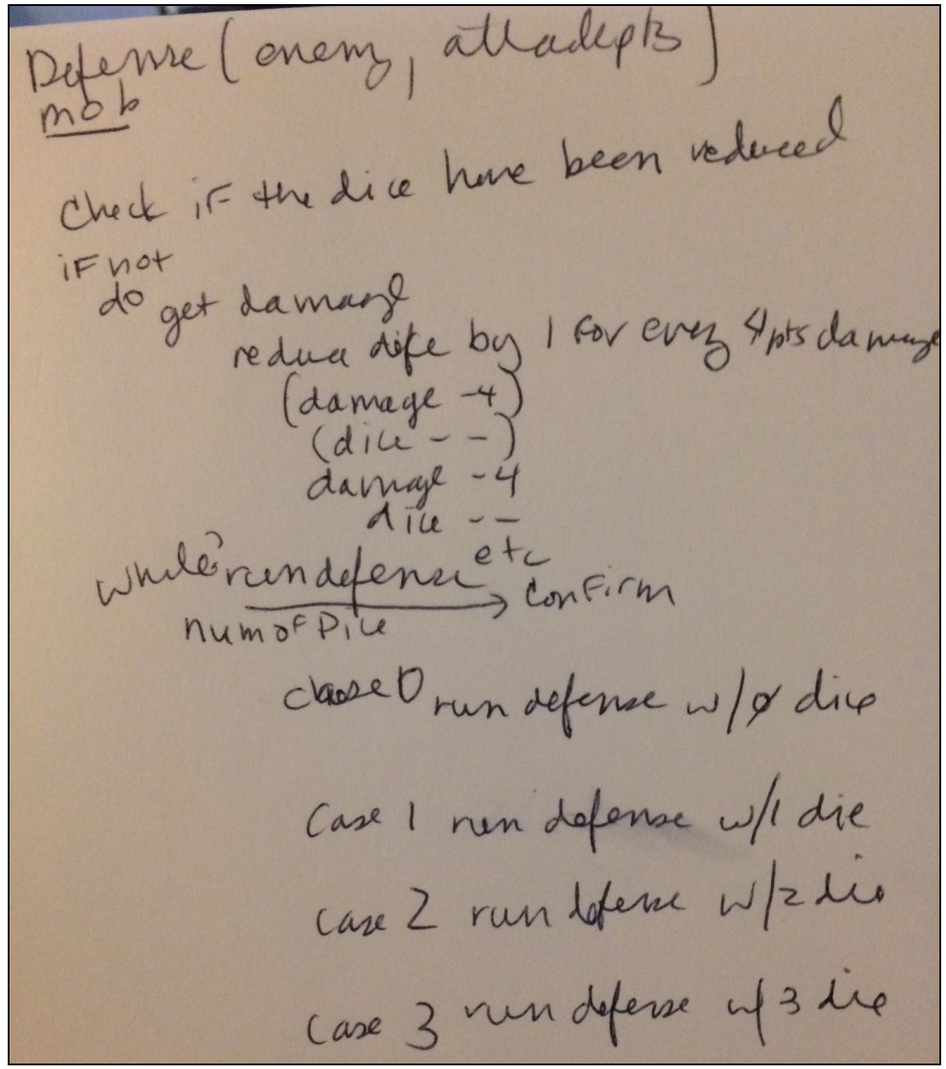
1. Class Hierarchy Diagram



2. Initial Design Diagram (hand-drawn)



3. Mob Design Diagram (hand-drawn)



4. Test Table

Barbarian as attacker	# of rounds/winner	# of rounds/winner	# of rounds/winner
Barbarian1 v Barbarian2	3.5/BM1	4.1/BM1	7/BM2
Barbarian v BlueMen	Bm defense doesn't display(fixed) 5/BM	4/BM	2/BM
Barbarian v Harry Potter	11/HP	7/HP	7/HP
Barbarian v Medusa	3.5/B	1.5/B	3.5/B
Barbarian v Vampire	V display shows damage too early(fixed) 6/V	17/V	8.5/B Center VAMPIRE HAS DIED(fixed)

Special Characteristic Works?N/A	Score Checks: OK

Blue Men as attacker	# of rounds/winner	# of rounds/winner	# of rounds/winner
Blue Men v Barbarian	2.5/BM	3.5/BM	2.5/BM
Blue Men v BlueMen2	10/BM1	Death did not display(fixed) 9.5/BM2	11.5/BM2
Blue Men v Harry Potter	6.5/BM	10.5/BM	10/BM
Blue Men v Medusa	.5/BM	.5/BM	.5/BM
Blue Men v Vampire	7.5/BM	1.5/BM	8.5/BM

Special Characteristic Works? YES	Score Checks: OK

Harry Potter as attacker	# of rounds/winner	# of rounds/winner	# of rounds/winner
Harry Potter v Barbarian	6.5/HP	6.5/HP	13/HP
Harry Potter v BlueMen	5/BM	4/BM	6/BM
Harry Potter v Harry Potter 2	23.5/HP1	17/HP2	19.5/HP1
Harry Potter v Medusa	2/M	2/M	2/M
Harry Potter v Vampire	17.5/HP	16.5/HP	6.5/HP

Special Characteristic Works?	Display not intuitive fixed Resurrected twice-fixed

Medusa as attacker	# of rounds/winner	# of rounds/winner	# of rounds/winner
Medusa v Barbarian	7/B	6/B	7/B
Medusa v BlueMen	2/BM	2/BM	2/BM
Medusa v Harry Potter	1.5/M	1.5/M	1.5/M
Medusa v Medusa2	7/M1	3/M1	3/M1
Medusa v Vampire	12/V	13/V	13/V Vampire usedcharm 8/13 times

Special Characteristic Works?yes	Scoring: OK

Vampire as attacker	# of rounds/winner	# of rounds/winner	# of rounds/winner
Vampire v Barbarian	6.5/V	14/B	4.5/V
Vampire v BlueMen	13/BM	4/BM	5/BM
Vampire v Harry Potter	20/HP 50%charm	11/HP	10/HP
Vampire v Medusa	7.5/V	5.5/V	3.5/V
Vampire v Vampire	9.5/V1	17.5/V1	12/V2

Special Characteristic Works? yes	Scoring ok

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5. Reflection

This project initially involved a lot of straightforward setting up of classes but upon investigating the special characteristics, was increasingly complex. After receiving some additional clarifications in piazza I decided to take in attack() parameters and defense () parameters so that the special characteristics could be implemented inside the character classes.

90% of the effort in this project when into developing special characteristics (especially for the Blue Men). Frustratingly, during the testing phase, I realized that their mob power would rarely, if ever be accessed. The only time I could see when mob would actually work would be when blue man we're battling other blue man or if the medusa happened to generate a glare special characteristic. These events occur so rarely that I had to artificially create an attack in order to test at the mob functions worked correctly.

I designed several helper functions including a function that eliminated the possibility of negative damage so that my damage calculation was not messing up the total strength of all characters. For some characters -including Harry Potter- I needed a function to help determine whether he had already died once. In the main, I designed a display that demonstrated all rounds of combat and switched places with the attacker and defender after each round.