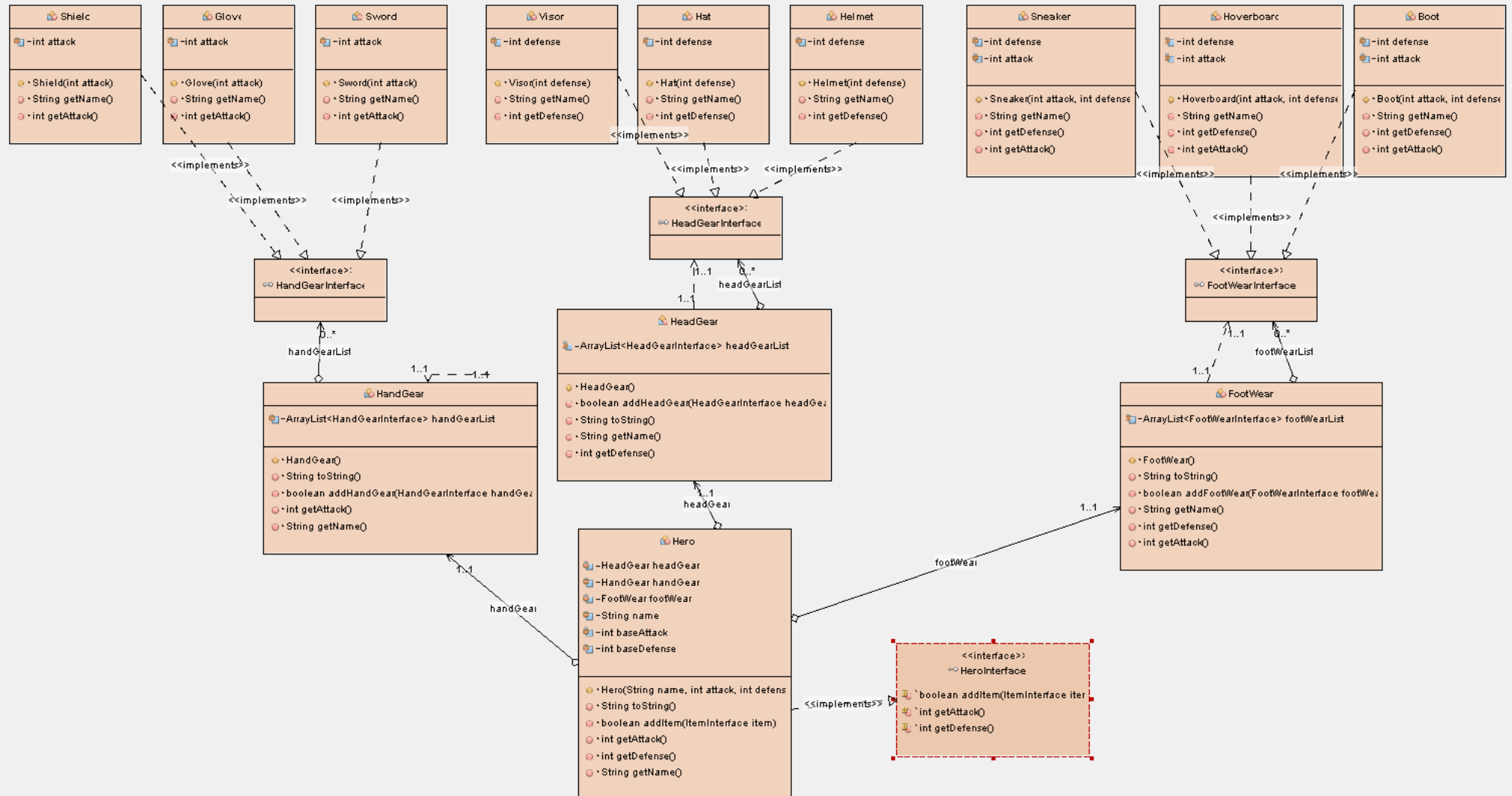# 1. UML class diagram

2. testing plan

2.1 Which condition you are testing

// (1) HeadGear tester
// check that head gear with 1 item can get correct name, and attack
// check that head gear cannot have more than 1 item

// (2) HandGear tester
// check that hand gear with 1 item can get correct name, and attack
// check that hand gear with 2 item can get correct name, and attack
// check that hand gear cannot have more than 2 item

// (3) FootWear tester
// check that foot gear with 1 item can get correct name, attack and defense
// check that foot gear with 2 item can get correct name, attack and defense
// check that foot gear cannot have more than 2 item

// (4) Hero tester
// test whether hero can get correct defense and attack

2.2 What example(s) you would use to test that

For each of the condition, I use these example test:

```
// create test object
// HeadGear
Hat hat = new Hat(12);
Helmet helmet = new Helmet(9);
Visor visor = new Visor(10);

// HandGear
Glove glove = new Glove(12);
Shield shield = new Shield(16);
Sword sword = new Sword(14);

// FootWear
Boot boot = new Boot(6, 2);
Hoverboard hoverboard = new Hoverboard(5, 3);
Sneaker sneaker = new Sneaker(2, 6);



// (1) HeadGear tester
HeadGear headGear = new HeadGear();

// check that head gear with 1 item can get correct name, and attack
ret = headGear.addHeadGear(hat);
check(ret, true);
check(headGear.getDefense(), 12);
check(headGear.getName(), "Hat");
```

```
// check that head gear cannot have more than 1 item
ret = headGear.addHeadGear(helmet);
check(ret, false);
check(headGear.getDefense(), 12);
check(headGear.getName(), "Hat");

// (2) HandGear tester
HandGear handGear = new HandGear();

// check that hand gear with 1 item can get correct name, and attack
ret = handGear.addHandGear(glove);
check(ret, true);
check(handGear.getAttack(), 12);
check(handGear.getName(), "Glove");

// check that hand gear with 2 item can get correct name, and attack
ret = handGear.addHandGear(shield);
check(ret, true);
check(handGear.getAttack(), 28);
check(handGear.getName(), "GloveGlove, Shield");

// check that hand gear cannot have more than 2 item
ret = handGear.addHandGear(glove);
check(ret, false);
check(handGear.getAttack(), 28);
```

```java
check(handGear.getName(), "Glove, Shield");

// (3) FootWear tester
FootWear footWear = new FootWear();
// check that foot gear with 1 item can get correct name, attack and defense
ret = footWear.addFootWear(boot);
check(ret, true);
check(footWear.getAttack(), 6);
check(footWear.getDefense(), 2);
check(footWear.getName(), "Boot");

// check that foot gear with 2 item can get correct name, attack and defense
ret = footWear.addFootWear(hoverboard);
check(ret, true);
check(footWear.getAttack(), 11);
check(footWear.getDefense(), 5);
check(footWear.getName(), "Boot, Hoverboard");

// check that foot gear cannot have more than 2 item
ret = footWear.addFootWear(sneaker);
check(ret, false);
check(footWear.getAttack(), 11);
check(footWear.getDefense(), 5);
check(footWear.getName(), "Boot, Hoverboard");

// (4) Hero tester
```

```
Hero hero = new Hero("Player 1", 25, 22);

hero.addItem(hat);
hero.addItem(glove);
hero.addItem(sword);
hero.addItem(hoverboard);
hero.addItem(sneaker);

// test whether hero can get correct defense and attack
check(hero.getAttack(), 58);
check(hero.getDefense(), 43);
```