RPGCharacter «Interface»
+ equip(Gear gear): void
+ getBaseAttackStat(): int
+ setBaseAttackStat(int num): void
+ getBaseDefenseStat(): int
+ setBaseDefenseStat(int num): void
- hasHandGearSlot(): boolean
- hasFoodGearSlot(): boolean
- hasHeadGearSlot(): boolean
+ toString(): String
+ compareTo(RPGCharacter player): int
+ getName(): String

RPGCharacterImpl
- baseAttackStat: final int
- baseDefenseStat: final inr
- gearAttackStat: int
- gearDefenseStat: int
- headGear: HeadGear
- handGear: ArrayList<HandGear>
- foodGear: ArrayList<FootGear>
- name: String
+ RPGCharacterImpl(String name)
+ equip(Gear gear): void
- hasHandGearSlot(): boolean
- hasHeadGearSlot(): boolean
- hasFoodGearSlot(): boolean
+ getBaseAttackStat(): int
+ setBaseAttackStat(int num): void
+ getBaseDefenseStat(): int
+ setBaseDefenseStat(int num): void
+ toString(): String
+ compareTo(RPGCharacter player): int
+ getName(): String

Gear «Interface»
+ getPrefix(): String
+ setPrefix(String prefix): void
+ getName(): String
+ setName(String Name): void
+ combineGear(Gear other): Gear
+ toString(): String

AbstractGear
- prefix: String
- name: String
- attackStat: int
- defenseStat: int
+ getPrefix(): String
+ setPrefix(String prefix): void
+ getName(): String
+ setName(String Name): void
+ combineGear(Gear other): Gear
+ AbstractGear(String prefix, String name)
+ getDefenseStat(): int
+ getAttackStat(): int
+ setDefenseStat(int defense): void
+ setAttackStat(int attack): void
+ toString(): String

HeadGear
+ HeadGear(String prefix, String name, int defense)
+ combineGear(Gear other): Gear

HandGear
+ HandGear(String prefix, String name, int attack)
+ combineGear(Gear other): Gear

FootGear
+ FootGear(String prefix, String name, int attack, int defense)
+ combineGear(Gear other): Gear

Test Plan:

Test all functional method like equi(Gear gear): void, toString(), combine() getter and setter.
Test constructor for HeadGear HandGear, FootGear, and RPGCharacter

Edge Test:
Test hand/foot gear slot: no more than 2 slot on hand gear or foot gear
Test head slot: only 1 slot for head slot
Test baseStat: base attack status can not be changed
Test head gear: Defense item attack stat should be 0
Test hand gear: Attack gear defense stat should be 0
Test combine: not the same type of gear throw error.
Test Gear state: if gear stat below 0: throw error