

Beating up the Zombie

New class added: Limbs

Roles and responsibilities:

- Extends WeaponItem class, it is created so that it can set all weapons (Arm and Leg) of type limb to have the same damage.
- An abstract parent class for Arm class and Leg class
- Has an abstract method called craftIntoWeapon() that return a new weapon (If it's an arm, player can craft it into a ZombieClub, if it's a leg, player can craft it into a ZombieMace)

New class added: Arm

Roles and responsibilities:

- Extends Limbs class
- Has a damage of 20, and is represented by the symbol "A"
- Has method craftWeapon() will return a new WeaponItem called ZombieClub and it can only be called by the player when the player has a Leg in its inventory.

New class added: Leg

Roles and responsibilities:

- Extends Limbs class
- Has a damage of 20, and is represented by the symbol "L"
- Has method craftWeapon() will return a new WeaponItem called ZombieMace and it can only be called by the player when the player has a Leg in its inventory.

New class added: **AttackZombieAction**

Roles and responsibilities:

- Extends the AttackAction class because they share similar functionality, therefore duplication of code can be reduced.
- Represents an action carry out by the Player to attack the zombie at adjacent location of the player

- Has attribute of type `ZombieCapability` to store the attackable team UNDEAD so it only allows this action to be acted on the Zombie.
- The `execute()` method will be override to enable the zombie to have a probability of 25% to one limb, and 10% of losing two limbs when it's attacked. (Randomly chosen between arms and legs, and a zombie cannot lose more than 2 arms and 2 legs)
- Has `dropItem()` method that determines if the zombie will drop the weapons it's holding (50% of dropping if it still has one arm, and 100% of dropping if it loses both arms)
- When a limb is knocked off, it will deduct the number of limbs knocked off from the zombie attribute arm or leg, then it will create a matching number of arm object or leg object at adjacent location to the zombie.

Class modified: **Zombie**

Roles and responsibilities:

- Has a field of type `int` called `arm` to store the number of arms that are still attached to the zombie.
- Has a field of type `int` called `leg` to store the number of legs that are still attached to the zombie.
- Both field `arm` and `leg` are initialised to 2 to represent all zombie will have 2 arms and 2 legs upon creation.
- Has `getArm()` method that returns the number of arms that are still attached to the zombie.
- Has `getLeg()` method that returns the number of legs that are still attached to the zombie.

Class modified: **AttackAction**

Roles and responsibility:

- This class is modified into an abstract class so that it can be a parent class for `AttackZombieAction` class and `AttackHumanAction` class, since they share some similar functionality such as the execution part when the target dies.
- Has a new method called `targetDead()` that is responsible for the action when the target dies so it can be used by all the child classes.