Design Rational for Assignment 1

1. **ZombieActionClass**

This class is created that extends the AttackAction class to accommodate the need for zombie to decrease their probability of punch when they lose one or both their limb. It is created because, both zombies and human inherit from the AttackAction class previously, hence we will have to create a new class so that it won’t affect the human attack. Besides, having a class for zombie attack means that we will have shorter code at the zombie class.

1. **WeaponLimb**

This class is created to create a weapon obtained from fallen zombie’s limb. It inherits from the WeaponItem class. We created this class, to make it easier to create an instance of this weapon every time a zombie’s limb fall off. It will be used in the in the *hurt* method in the zombie class, where every time a zombie is hurt, there will be a probability its limb will fall.

1. **Zombie**

*GetIntrinsicWeapon* method is changed to add the probability of having a bite attack. The reason it is added here instead of adding it to the weapon because biting it’s an attack from a part of the zombie (i.e. not weapon), hence its more suitable to have it in the *GetIntrinsicWeapon* method.

*PlayTurn* method is also modified to check for broken leg, so that it can reduce the movement speed on the zombie based on the last action of the zombie. Its implemented in this method because, it’s the only method that keeps track of the zombie last action and its in the zombie class, so it is also easier to access the condition of the zombie (e.g. how many legs left).

A private variable for limb and leg will also be created to keep track of the zombie’s leg and limb.

This design reduces dependencies as most of the method that required access to the zombie class is implemented inside the zombie class.