Undead

Halloween is nearly approaching and all the superstitions about the dead are being revived again. There is a belief that dead ones may come back to life and interact with the living ones. With this phenomenon they are called undead. In the celebration of Halloween, tales of the undead are being brought up again and for their tale to survive they need to compete. With this you need to create a program where the undead could interact to see who among them should live. There are different kinds of undead and here are some: zombie, vampire, skeleton, and ghost.

Zombie

As an undead, it inherits all the common characteristics of the undead class. Zombie can eat another undead as a result it will increase its HP by the half of the HP of the undead being eaten. Zombie may attack other undead. Its attack damage is half of its HP. Zombie could only attack if its HP is greater than 50. If the zombie's HP is reduced to 0, it will die. On creation, zombie has the default HP of the undead.

Vampire

A vampire as an undead, inherits all the common characteristics of the undead class. Vampire can bite which increases their HP by 80% of the undead HP being bitten. Vampire could attack other undead. Its attack damage is same as its HP. If its HP is reduced to 0, vampire will not die but it cannot attack anymore. When vampires are created, they possess a starting HP of 120.

Skeleton

Skeleton as an undead, receives all the similar characteristics of an undead. Skeleton may attack other undead. Its attack damage is 70% of its HP. If skeleton HP is reducing to 0, same with the zombie, it will die. Skeleton has an 80 HP.

Ghost

Ghost are like virtual version of an undead. It inherits all the characteristics that the undead has. Ghost may attack other undead. Its attack damage is only 20% of its HP. Ghost only receives 10% of the damage being done to it. If ghost HP is reduced to 0, it will be perished. Ghost initial HP would be the half of the initial HP of the undead. Ghost can haunt which increases its HP by the 10% of the undead being haunt.

Lich

Lich is a kind of undead like skeleton, but it has reach immortality. Lich has another ability. It could cast a spell on undead which gets the 10% of their HP and add it to its HP. Lich attack damage is equal to 70 percent of its Hp. If Lich HP is reduced to 0, it cannot attack anymore but still alive.

Mummy

Mummy is an undead like zombie, but it does not eat its own kind. Mummy can attack other undead; its attack damage is equal to the half of its HP plus 10% of the undead HP. If its HP reached 0, it will die and needs to be revive again. When revived it will have its initial HP again.

With this, you and your partner need to create a program that will simulate the undead assigned to you. There should be a main menu where you can create the undead assigned to you, display its standings and commands for the undead to interact with other undead. Name of the undead can be customized but HP is not. Name of the undead should be concatenated with its kind separated by dash symbol ' - ' (*e.g. for customized name of vampire: The Handsome - Vampire*). If name is not customized just name it as their kind *(e.g. Zombie for zombie).*

Sample Game Menu:

1. Create Undead – instantiate an undead depending on the user's choice.
   a. Zombie
   b. Vampire
   c. Skeleton
   d. Ghost

2. Command Undead – allows you to use the abilities of undead
   - Zombie
     o Ability 1
       ▪ Use on which undead
   - Vampire
     o Ability 1
       - Use on which undead
     o Ability 2
       - Use on which undead

3. Display Undead – displays all the undead objects details
   The Handsome – Vampire
   HP: 100
   State: alive

   Zombie
   HP: 0
   State: dead

Undead Class

Code here:

https://colab.research.google.com/drive/1Ts2hf9inIgbp4_AFrCGuzlqPT6cs3diT?usp=share_link

Test Cases

On creation

- Mummy (HP: 100, Name: King Tut - Mummy)
- Ghost (HP: 50, Name: Casper - Ghost)
- Vampire (HP: 120, Name: Dracula)

On Battle

- Casper haunts King Tut (Casper HP = 60, King Tut HP = 100, Dracula HP = 120)
- King Tut attacks Casper (Casper HP = 54.4, King Tut HP = 100, Dracula HP = 120)
- Casper haunts Dracula (Casper HP = 66.4, King Tut HP = 100, Dracula HP = 120)
- Dracula attacks Casper (Casper HP = 54.4, King Tut HP = 100, Dracula HP = 120)
- King Tut attacks Dracula (Casper HP = 54.4, King Tut HP = 100, Dracula HP = 58)
- Dracula bits King Tut (Casper HP = 54.4, King Tut HP = 100, Dracula HP = 138)
- Casper haunts Dracula (Casper HP = 68.2, King Tut HP = 100, Dracula HP = 138)
- Dracula attacks King Tut (Casper HP = 68.2, King Tut HP = -38 (reduced to 0), Dracula HP = 138)
- King Tut revives (Casper HP = 68.2, King Tut HP = 100, Dracula HP = 138)