

Mini project: Viking war game



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Soldier class

We created the **Soldier** class:

- Initialized the class attributes in the constructor method receiving as arguments **health** and **strength**.
- Created the **attack** and **receiveDamage** public methods:
 - **attack** takes no arguments, and returns the strength of the soldier.
 - **receiveDamage** takes the damage as an argument and updates the health of the soldier. The method has no outputs.

Saxon class

We created **Saxon** soldier class inheriting the **Soldier** base class.

- Initialized the class attributes in the constructor method receiving as arguments **health** and **strength**. We used the **super()** function to initialize **health** and **strength** using the constructor from the parent class. The **Saxon** has the public methods **attack** and **receiveDamage**:
 - We inherit **attack** from the parent class.
 - Override **receiveDamage** to take the damage as an argument and updates the health of the soldier. The method outputs a status message about the Saxon soldier health telling us if he is dead or how damage he is ("A Saxon has received `damage` points of damage", "A Saxon has died in combat".)

Viking class

We created the **Viking** class inheriting from **Soldier**:

- Initialized the class attributes in the constructor method receiving as arguments **name**, **health** and **strength**. We used the **super()** function to initialize **health** and **strength** using the constructor from the parent class. The **name** was added as an additional instance attribute.
- The **Viking** has the public methods **attack**, **receiveDamage**, and **battleCry**:
 - We inherit **attack** from the parent class.
 - Override **receiveDamage** to take the damage as an argument and updates the health of the soldier. The method outputs a status message about the Viking soldier health (`"name has received damage points of damage"`, `"name has died in act of combat"`).
 - Create **battleCry**. The method takes no arguments and returns the viking soldier's battle cry (`"Odin Owns You All!"`).

War class

We create the **War** class:

- The attributes of the class are lists of soldiers from the Vikings and Saxon armies: lists of soldiers of the class **Viking (vikingArmy)**, and a list of soldiers of the class **Saxon (saxonArmy)**.
- We Initialize the class attributes in the constructor method as empty lists.
- Created the **addViking, addSaxon, vikingAttack, saxonAttack, showStatus** public methods.

War class methods

AddViking method:

- In this method we add the viking soldiers to the army list, one by one. The method takes a instantiated soldier of the class **Viking**, appends to the **vikingArmy** and has no output.

AddSaxon method:

- Like in **AddVikings**, we append instantiated soldiers of the class **Saxon** to the **saxonArmy**, one by one. The method has no output.

War class methods

- **VikingAttack** method does not take any argument. It randomly selects a viking and saxon from the **vikingArmy** and **saxonArmy**. It removes the dead saxon from the **saxonArmy**. It returns a status message about the health of the saxon.
- **SaxonAttack** method also does not take any argument. It randomly selects a viking and saxon from the **vikingArmy** and **saxonArmy**. It removes the dead viking from the **vikingArmy**. It returns a message about the health of the viking.

War class methods

- The showStatus method uses the sizes of the **vikingArmy** and **saxonArmy** to return three messages using conditional statements.
- It returns:
 - If there are no saxons left: "Vikings have won the war of the century!"
 - If there are no vikings left: "Saxons have fought for their lives and survive another day..."
 - If there are still at least one soldier of each army: "Vikings and Saxons are still in the thick of battle."

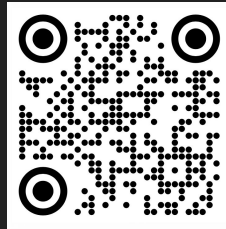
Issues

- Issue: Trying to get a random soldier from an empty list
 - Solution: try/except
- Tests not passing (missing return, logic issues)
 - Solution: Debugging together using prints.

Journey

- Revisiting topics
- Learning new things ...
- Getting things wrong, never giving up!

Modified Wargame-1



- Added peace:
 - peace probability if the two armies are of the same size
- Randomized army sizes, health, strength, who attacks first.
- Added status bar to see the size of each army
- Added colour on the messages from each army

```
Ingmar Erikson has died in act of combat
Vikings and Saxons are still in the thick of battle.
A Saxon has died in combat by the hand of Astrid Varangr. He said: Odin Owns You All!
Vikings and Saxons are still in the thick of battle.
Astrid Falk has received 117 points of damage
Vikings and Saxons are still in the thick of battle.
Hervor Snake-in-the-Eye has died in act of combat
Vikings and Saxons are still in the thick of battle.
A Saxon has received 17 points of damage by the hand of Sven Snake-in-the-Eye. He said: Odin Owns You All!
Vikings and Saxons are still in the thick of battle.
A Saxon has received 6 points of damage by the hand of Arn Hansen. He said: Odin Owns You All!
Vikings and Saxons are still in the thick of battle.
A Saxon has died in combat by the hand of Xander Hansen. He said: Odin Owns You All!
Vikings and Saxons are still in the thick of battle.
Einar Hansen has died in act of combat
Vikings and Saxons are still in the thick of battle.
A Saxon has died in combat by the hand of Bjorn Erikson. He said: Odin Owns You All!
Vikings and Saxons are still in the thick of battle.
Astrid Falk has died in act of combat
Vikings and Saxons are still in the thick of battle.
A Saxon has died in combat by the hand of Xander Erikson. He said: Odin Owns You All!
Vikings and Saxons are still in the thick of battle.
Hervor Anderson has received 131 points of damage
Vikings and Saxons are still in the thick of battle.
A Saxon has died in combat by the hand of Sven Varangr. He said: Odin Owns You All!
Vikings have won the war of the century!
Viking Army Soldiers 69% -:-:--
Saxon Army Soldiers 0% -:-:--
```

```
Vikings and Saxons are still in the thick of battle.
Sven Anderson has died in act of combat
Vikings and Saxons are still in the thick of battle.
Ingmar Erikson has died in act of combat
Vikings and Saxons are still in the thick of battle.
Helga Varangr has received 154 points of damage
Vikings and Saxons are still in the thick of battle.
A Saxon has died in combat by the hand of Helga Hansen. He said: Odin Owns You All!
Vikings and Saxons are still in the thick of battle.
A Saxon has received 9 points of damage by the hand of Bjorn Varangr. He said: Odin Owns You All!
Vikings and Saxons are still in the thick of battle.
A Saxon has died in combat by the hand of Astrid Falk. He said: Odin Owns You All!
Vikings and Saxons are still in the thick of battle.
Hervor Falk has died in act of combat
Vikings and Saxons are still in the thick of battle.
A Saxon has died in combat by the hand of Xander Erikson. He said: Odin Owns You All!
Vikings and Saxons are still in the thick of battle.
Frida Odinson has received 126 points of damage
Vikings and Saxons are still in the thick of battle.
A Saxon has died in combat by the hand of Sven Erikson. He said: Odin Owns You All!
Vikings and Saxons are still in the thick of battle.
A Saxon has died in combat by the hand of Einar Snake-in-the-Eye. He said: Odin Owns You All!
Vikings and Saxons are still in the thick of battle.
A Saxon has received 99 points of damage by the hand of Ingmar Anderson. He said: Odin Owns You All!
Vikings and Saxons are still in the thick of battle.
A Saxon has died in combat by the hand of Ingmar Anderson. He said: Odin Owns You All!
We reached peace!!!!
Viking Army Soldiers 49% 0:00:00
Saxon Army Soldiers 43% -:-:--
```

Modified Wargame- 2

We created a slightly different version by having three different wars running parallelly between vikings and saxons. In the end we collected all the remaining vikings and saxons for their final battle. In this we also had the randomization of the attack choice.

```
Vikings and Saxons are still in the thick of battle.  
round: 14 // Viking army: 1 warriors and Saxon army: 2 warriors  
Vikings and Saxons are still in the thick of battle.  
round: 15 // Viking army: 0 warriors and Saxon army: 2 warriors  
Saxons have fought for their lives and survive another day...  
round: 16 // Viking army: 4 warriors and Saxon army: 4 warriors  
Vikings and Saxons are still in the thick of battle.  
round: 17 // Viking army: 3 warriors and Saxon army: 4 warriors  
Vikings and Saxons are still in the thick of battle.  
round: 18 // Viking army: 2 warriors and Saxon army: 4 warriors  
Vikings and Saxons are still in the thick of battle.  
round: 19 // Viking army: 1 warriors and Saxon army: 4 warriors  
Vikings and Saxons are still in the thick of battle.  
round: 20 // Viking army: 0 warriors and Saxon army: 4 warriors  
Saxons have fought for their lives and survive another day...  
manish@Manishs-MacBook-Air mini-project-vikings-en %
```

Modified wargame - 3

- I add some colors for we see which one of the army's was fighting.
- I print text for beginning and end of the war, so we now when it's ended.
- I create some unique units with specific health and strength stats.
- I implement the right to be chosen another army to start between both of them.

--- THE BATTLE BEGINS ---

Round: 1
Viking Army: 10 warriors left
Saxon Army: 10 warriors left
Current Status: Vikings and Saxons are still in the thick of battle.

Round: 2
Viking Army: 10 warriors left
Saxon Army: 10 warriors left
Current Status: Vikings and Saxons are still in the thick of battle.

Round: 3
Viking Army: 10 warriors left
Saxon Army: 10 warriors left
Current Status: Vikings and Saxons are still in the thick of battle.

Round: 21
Viking Army: 6 warriors left
Saxon Army: 1 warriors left
Current Status: Vikings and Saxons are still in the thick of battle.

Round: 22
Viking Army: 6 warriors left
Saxon Army: 0 warriors left
Current Status: Vikings have won the war of the century!

=====
FINAL WAR RESULT
===== {Reset}
Vikings have won the war of the century!

Conclusion

- Classes are great for saving time during development
 - modular
 - simpler
 - reutilization of code
 - everything related to the class is grouped in one place



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