

COMP 132: Advanced Programming

LAB Assignment 5 – In-Lab

For the In-lab part, you are asked to implement and test the following:

- (1) Implement a new interface ***HealthBoostable*** with the method called ***boostHealth()***, where the classes implementing it have methods to change their health.
For Jedi instances, the instance health is multiplied by 5; for Sith instances, the health is multiplied by 2.
- (2) Let the classes Knight and Padawan implement the interface from their superclass, and the class Master implements the interface itself.
- (3) Implement a method called ***boostHealths*** in main class, which takes the character list in the story as argument and for the characters who have HealthBoostable property boosts its health.

public static void boostHealths(ArrayList<ForceWielder> allCharacters)

- (4) Call the ***boostHealths*** method at the end of the main function. After that, display the information of characters to check the differences in their health values.

Sample output

```
-----Health Boosts to characters-----  
Jedi Name: Yoda  
  Number of battles engaged: 31  
  Health: 1200.0  
  Damage of Lightsaber: 40.0  
  
Knight Jedi Name: Obi-Wan Kenobi  
  Number of battles engaged: 12  
  Health: 150.0  
  Damage of Lightsaber: 25.0
```

Padawan Jedi Name: Anakin Skywalker

Number of battles engaged: 5

Health: 0.0

Damage of Lightsaber: 20.0

Name: Kont Dooku

Number of battles engaged: 21

Health: 110.0

Damage of Lightsaber: 20.0

Master Name: Darth Sidious

Number of battles engaged: 40

Health: 400.0

Damage of Lightsaber: 30.0

Apprentice Name: Darth Maul

Number of battles engaged: 15

Health: 175.0

Damage of Lightsaber: 20.0