Ewan Chang – 100787343

Prime Number: 7

2. To alert the player of the arrival of the ambulance ship, the observer pattern would be used by having the player object as an observer watching the subject that is the ambulance ship. Once the ambulance ship shows up, it triggers an event like a message popping up on screen alerting the player to the arrival of the ambulance. The opposite can be done with the ambulance as the observer and the player object as the subject being watched. If the player health stays at 100%, the trigger event that causes the ambulance to show up will never trigger as shown in the no damage gameplay video.
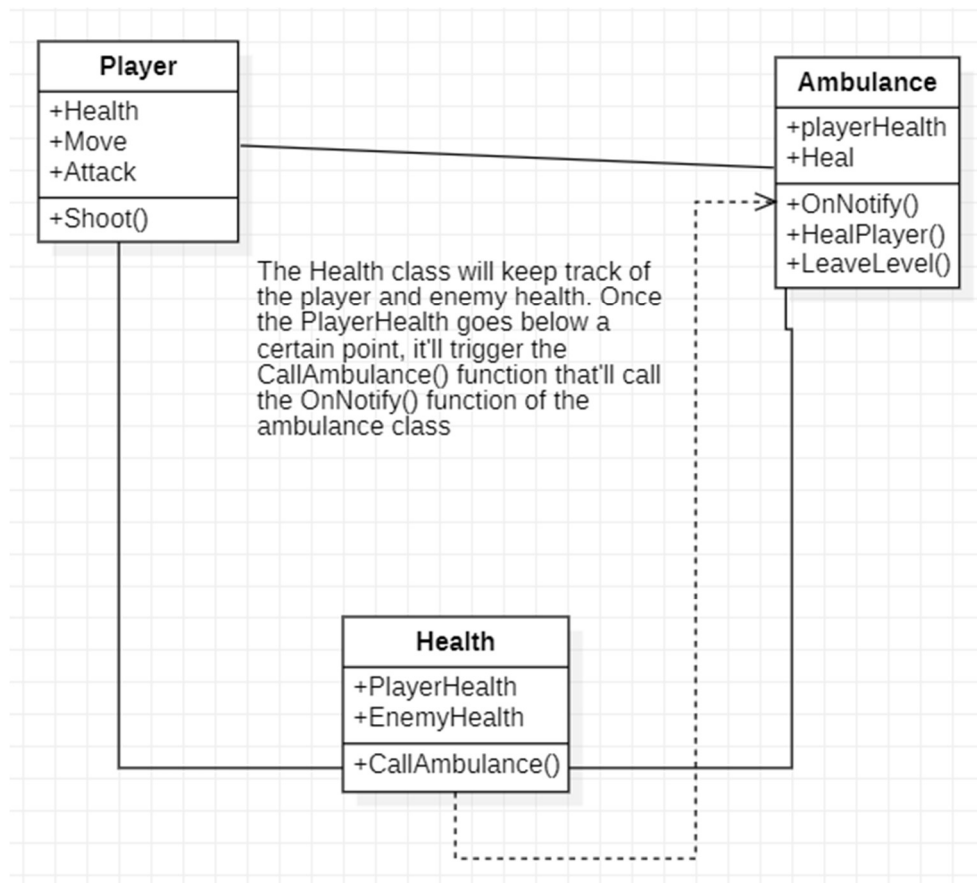
In this UML chart, the health class/object is the subject, and the ambulance object is the observer. The health class will keep track of the player's health, and once it drops down a certain point, it'll call the CallAmbulance() function. The CallAmbulance() function will trigger the event in the ambulance's OnNotify() function, causing the ambulance to appear and triggering another event that'll alert the player to the ambulance's arrival at the same time.