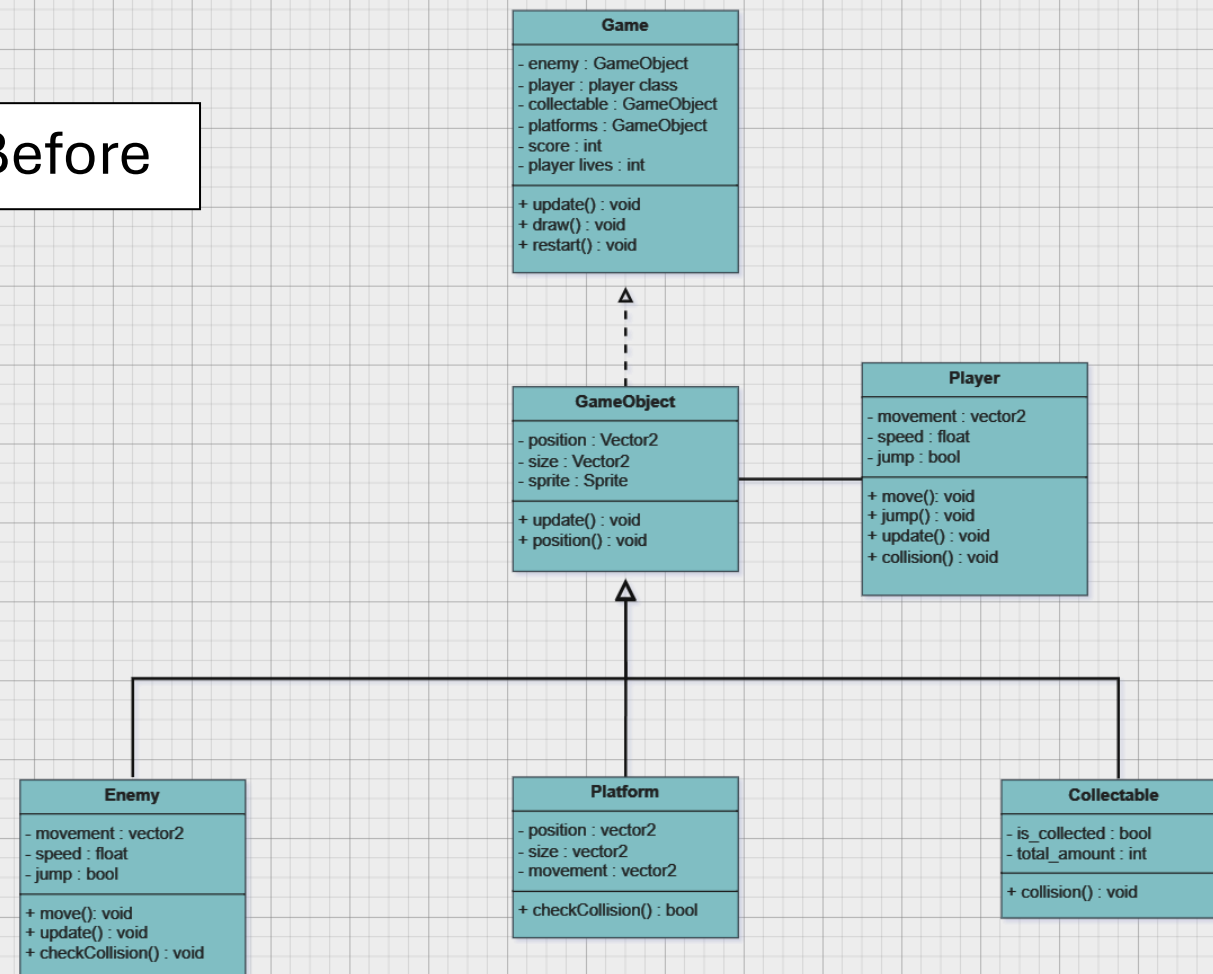
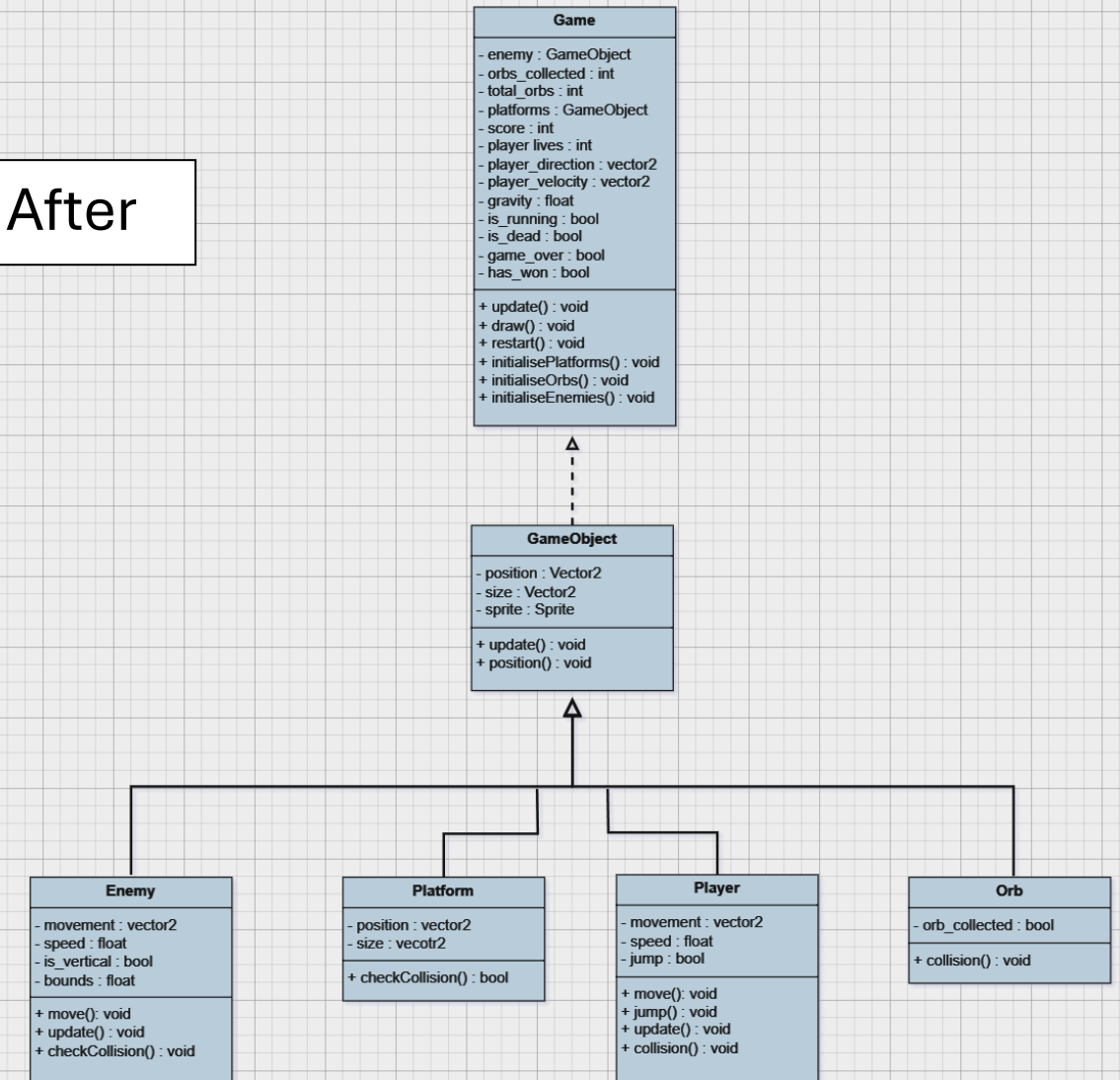


Before



The main difference between the two UML class diagrams is that I have added the player class in line with the other nodes which all inherit from GameObject. I have also added more methods to the game node, including all the initialising. I added more private variables inside the game node to help with clarity.

After



Pseudocode for character movement

```

// horizontal movement
if (A key pressed)
    Move character using vector2 struct (velocity.x) -----move_speed
else (D key is pressed)
    Move character using vector2 struct (velocity.x) -----move_speed
// jumping
If (space bar pressed)
    velocity.y ---- jump_strength
    Bool can_jump = true
// gravity
    Player velocity.y + gravity (float) * dt
    Player Move = player.x, player.y * dt
  
```