Exercise 12: Move That Game Object

Although this exercise isn't worth any points, it gives you valuable programming experience. You're almost definitely going to have to complete the exercises to succeed in the course.

Clone your repository

1. Click the appropriate link and accept the assignment to create your repository for submitting your work:
    a. Gallant AM: https://classroom.github.com/a/kocTd_-h
    b. Gallant PM: https://classroom.github.com/a/rBvTEPgj
    c. Nunn AM: https://classroom.github.com/a/kV-4u2-S
    d. Nunn PM: https://classroom.github.com/a/xrsN1hWt
    e. Wijaya AM: https://classroom.github.com/a/rftIdn2r
    f. Wijaya PM: https://classroom.github.com/a/fbE9n8S5
2. In GitHub Desktop, clone the repository you just created to your desktop.

Create your Unity project and prepare for GitHub tracking

3. Use Unity Hub to create a new 2D Unity project named **Exercise12**. Save the project in your new repository folder.
4. Once the project opens in Unity, go to File Explorer and move the **_UnityProjectRoot.gitignore** file into the Unity project folder and rename it to **.gitignore**
5. Go to GitHub desktop and commit your changes with the message: "Create initial Unity project". Make sure there are only about 30 files being committed.
    a. If you have thousands of changed files, return to step 2 to make sure you've named the gitignore file properly and that it is placed at the root of the *Unity* project not in its original location. Ask for help if you are unsure.
6. Push your changes to the remote.

At this point you are ready to proceed with this assignment. We encourage you to make interim commits as you go. Use your commit message to indicate which step (e.g.: "Completed through step 5").

Problem 1 - Add a game object with physics

7. Rename **SampleScene** to **Scene0**. Add a new Sprites folder and use your OS to copy a sprite of your choosing into that folder. Drag the sprite into the Hierarchy window to create a game object in the scene. Run the game and watch nothing happen.
8. Add a Rigidbody 2D component to your game object. To do this, left click your game object in the Hierarchy window, click the Add Component button near the bottom of the Inspector and select Physics 2D > Rigidbody 2D.
9. Run the game. Your game object should fall down out of the Game view.
10. Remove gravity from the game by selecting Edit > Project Settings > Physics 2D from the main menu bar and setting the Y component of Gravity to 0. Run the game and watch nothing happen again.

11. In GitHub Desktop, commit your changes with comment: “Completed problem 1”.

Problem 2 - Move the game object

12. Create a new Scripts folder and create a new C# script in that folder called Mover. Open the new script in Visual Studio and add a documentation comment for the class.

13. Delete the **`Update`** method and add the following code to the **`Start`** method

```
// get the game object moving
GetComponent<Rigidbody2D>().AddForce(
new Vector2(0, 5),
ForceMode2D.Impulse);
```

    Make sure you understand what the **`GetComponent`** method does, what the **`AddForce`** method does, what the **`new Vector2(0, 5)`** piece of code does, and how the **`ForceMode2D.Impulse`** argument works. You'll need to read the Unity Scripting Reference to figure this out, but make sure you understand all the pieces.

14. Run the game and swear because nothing happens. Attach the Mover script to your game object.

15. Run the game and watch your game object move up in the Game pane.

16. In GitHub Desktop, commit your changes.

Problem 3 – Play with force

17. Play around with the values in the force vector to move your game object in different ways.

Submit Your Work

18. When you’re done, commit your work in GitHub Desktop with comment “Completed problem3 “ and push your changes to the remote.

19. Return to CodeHS and respond to the prompt.