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a) Explain the behavior of Time.deltaTime in Unity in a few sentences. Add a C# script

that associates Time.deltaTime to your primitive object (The specifics of the

implementation of Time.deltaTime are left to you, and you may choose to implement it

as you see fit). [4 pts]

- Time.deltaTime allows developers to see how long each frame took to execute. If you multiply by it, the game becomes frame rate independent. So the game behaves the same on fast and slow computers.

b) Watch the video of the racing game, Forza Horizon:

https://www.youtube.com/watch?v=WtuBLc3cU-o. Based on your understanding of

Time.deltaTime, please try to explain where it may have been used in the game.

Also, explain how the user experience would vary depending on the machine if it

weren’t used. [3 pts]

* It probably was used in the code that contributes to the movement of the vehicle so that all users can see the same behavior in online races.
* The user experience would vary depending on the machine if it weren’t used since slower machines would have a completely different user experience than faster machines since the lack of Time.deltaTime removes that “frame rate independence” making the game behavior

Mesh Renderer [1 pt]

- Responsible for rendering a 3D mesh in the scene so the camera can pick it up. Characters, environment objects, and 3D assets.

b) Box collider [1 pt]

- Defines a box shaped collision area around a game object so objects can have physical interactions and collisions can be detected.

c) Input.GetAxis method [1 pt]

- Input.GetAxis returns the value of the virtual axis, so input can be detected from devices such as keyboards, and game controllers.

d) Rigid body [1 pt]

- The rigid body allows the game object to act under the control of the Unity Physics engine enabling realistic physical behaviors like collision, gravity, and forces.