

# NEW TECHNOLOGY IN IT APPLICATION DEVELOPMENT

Augmented reality - Virtual reality

# Augmented reality technology

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- “Augmented Reality” is all about using digital content to improve our real world to add better information, understanding, and value to our experiences.
- Augmented reality can overlay additional information on the physical targets to be observed or learned.
- Augmented reality can simply be defined as a system combining computer-generated objects with the real world

# Augmented reality Samples

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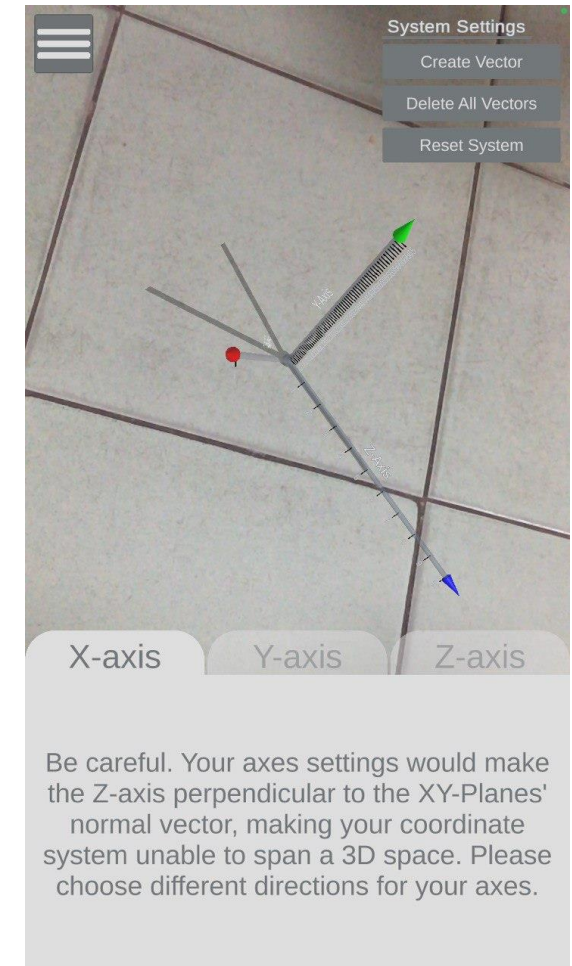
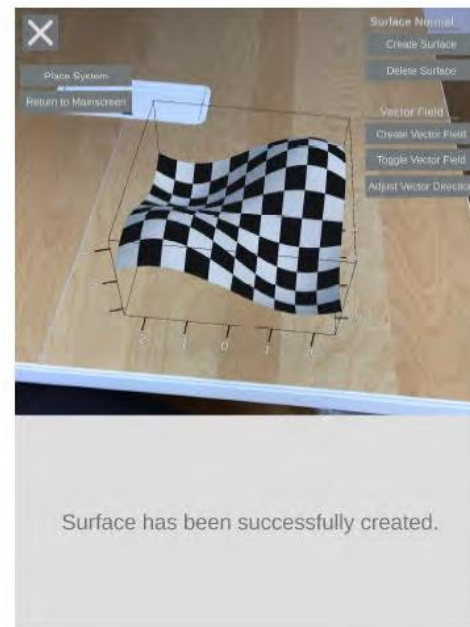
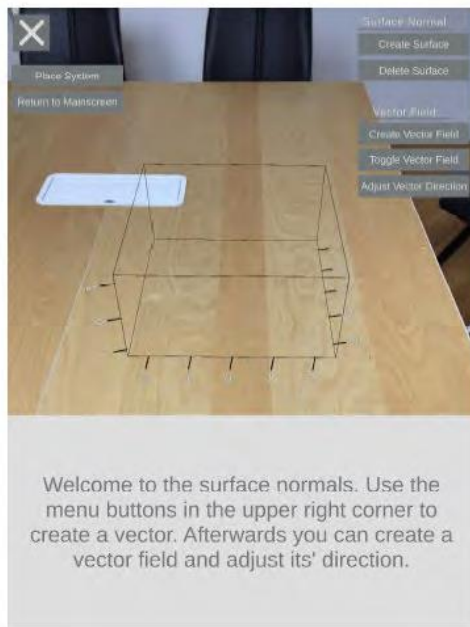
# Augmented reality Samples

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# Augmented reality Samples



# Virtual reality (VR) technology

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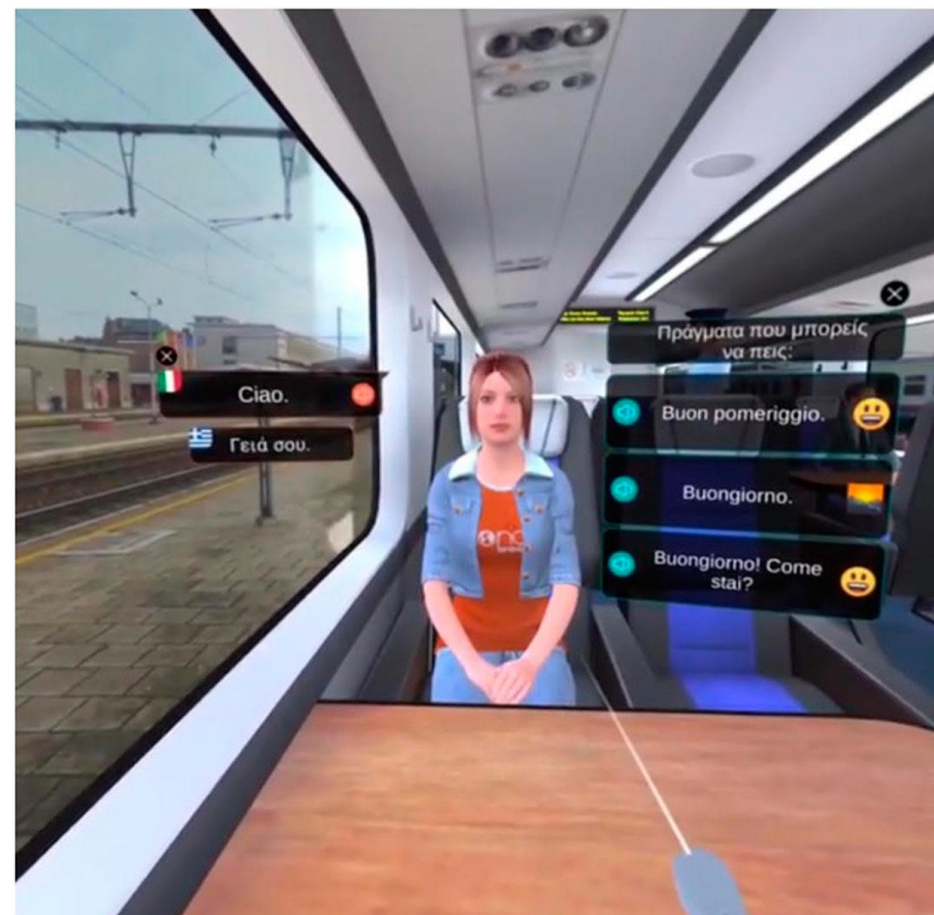
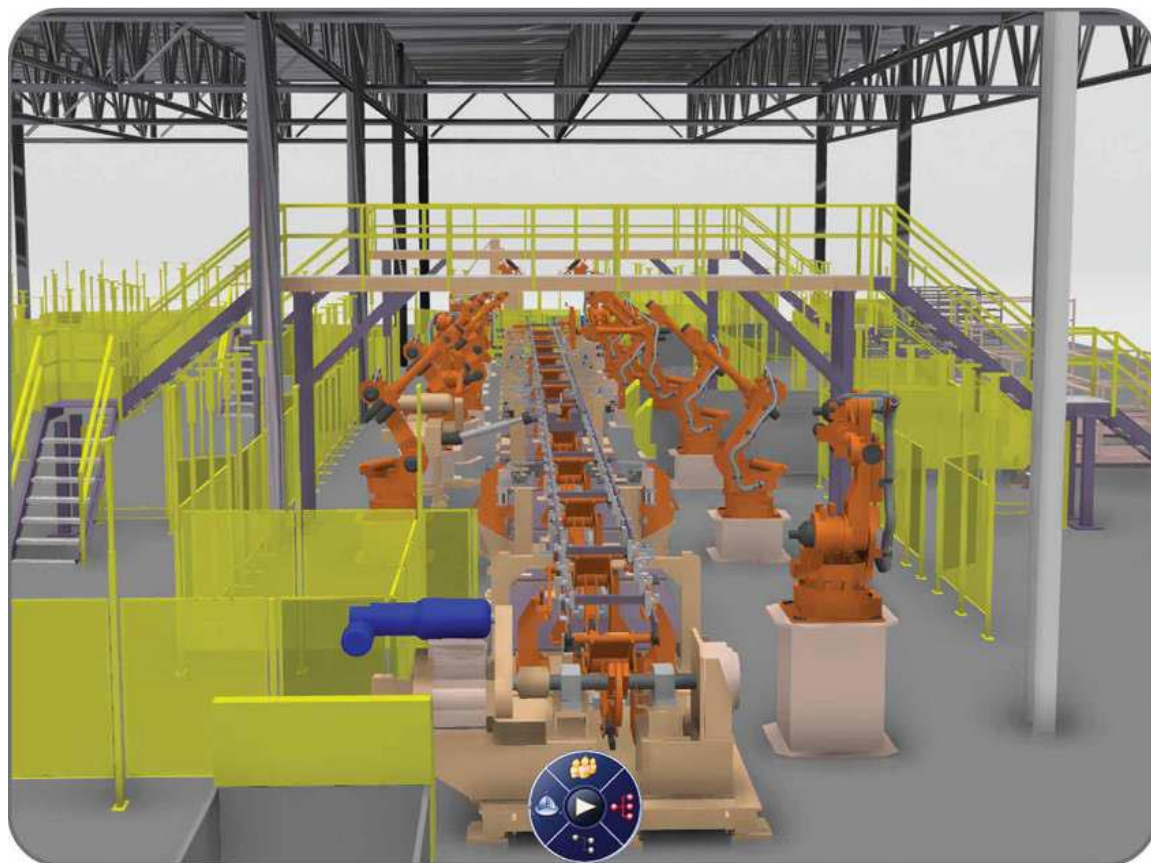
- VR technology imitates a realistic environment in which users
  - Conduct a particular task
  - Experience immersion
  - Arousal
  - Enjoyment
- VR car driving simulation
  - Learn driving skills and knowledge in a virtual environment
  - Safe and cost-effective

# Virtual reality Samples





# Virtual reality Samples



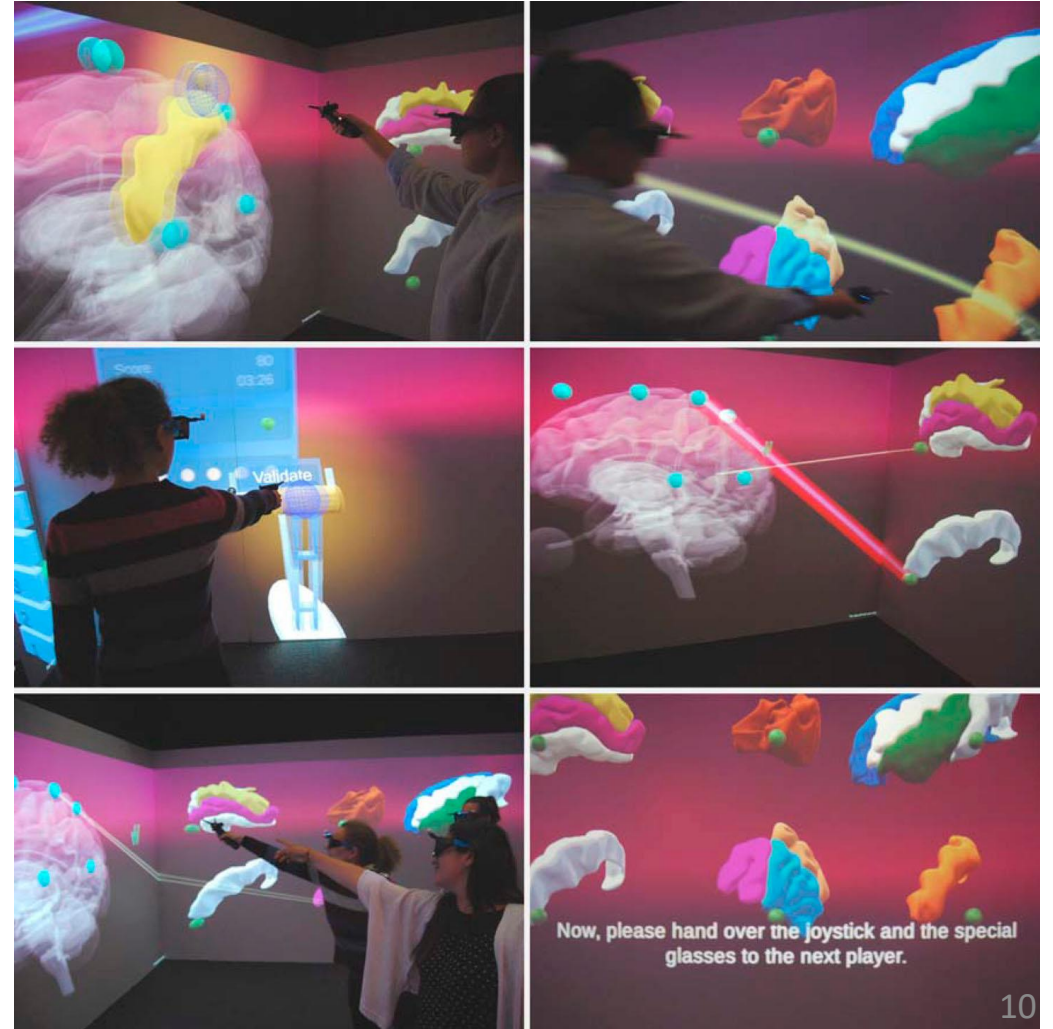


# Virtual reality Samples

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# Virtual reality Samples



8/10/2024

# Unity Installation

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- Unity Hub
- Unity
- Modules

# Unity Hub Installation

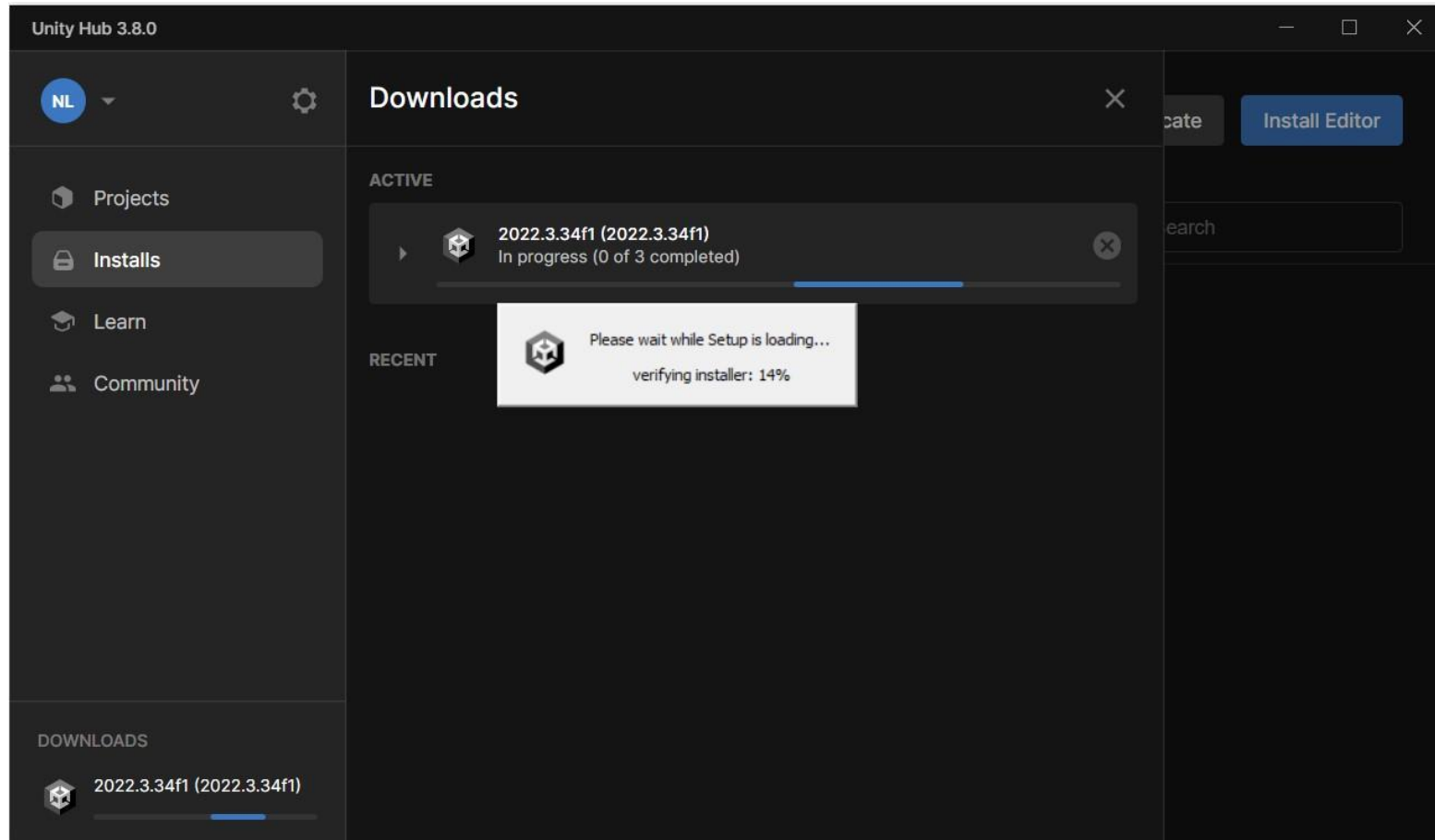
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- <https://unity.com/download>

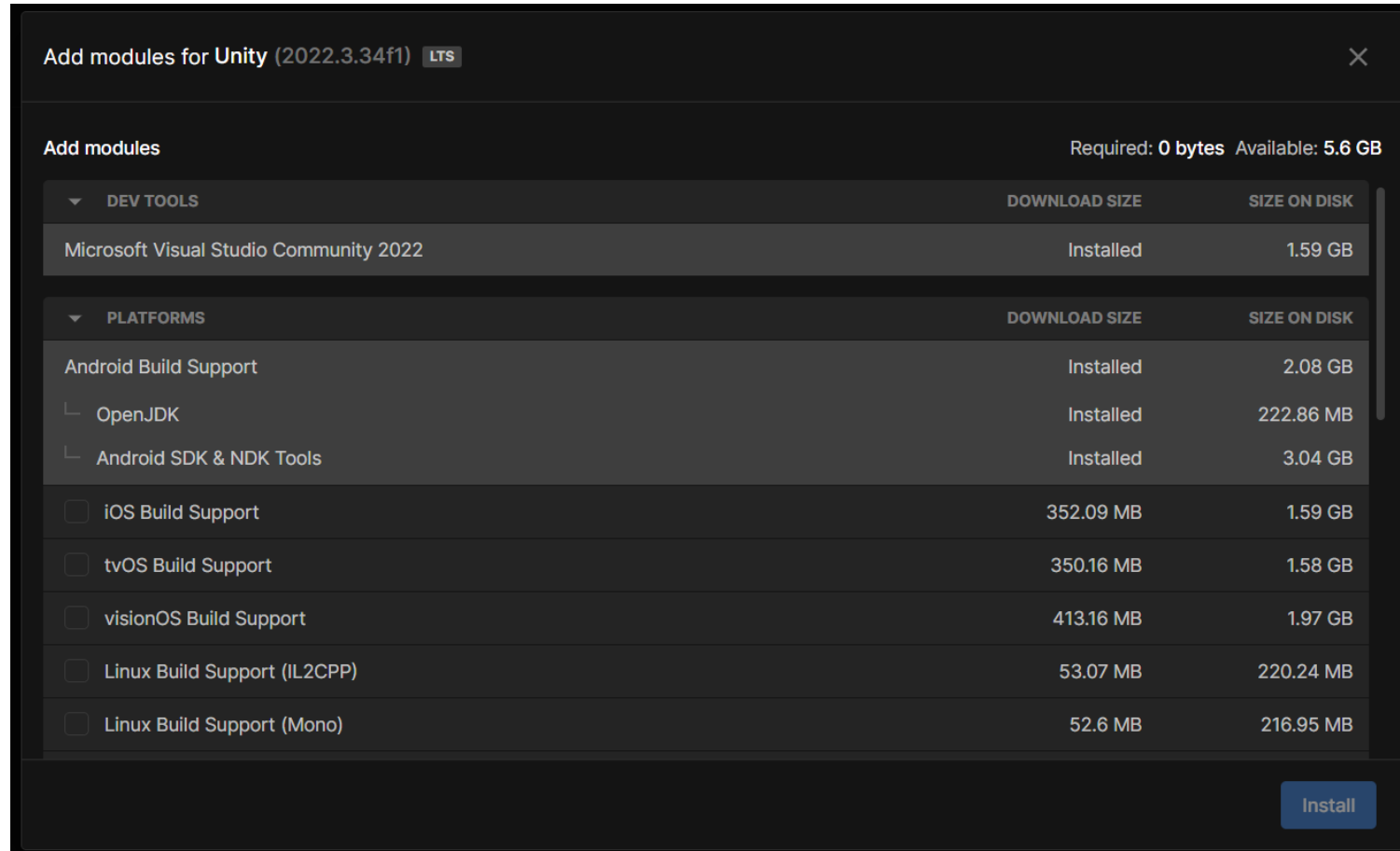




# Unity Installation



# Module Installation



# Create Object

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- Hierarchy > GameObject\3D Object > Cube
- Hierarchy > GameObject\3D Object > Sphere
- Hierarchy > GameObject\3D Object > Cylinder
- ....

# Main Camera

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- Hierarchy > GameObject/Align With View



# Materials

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- Project > Assets > Create\Folder\ Materials
- Assets > Materials > Create\ Material\Red

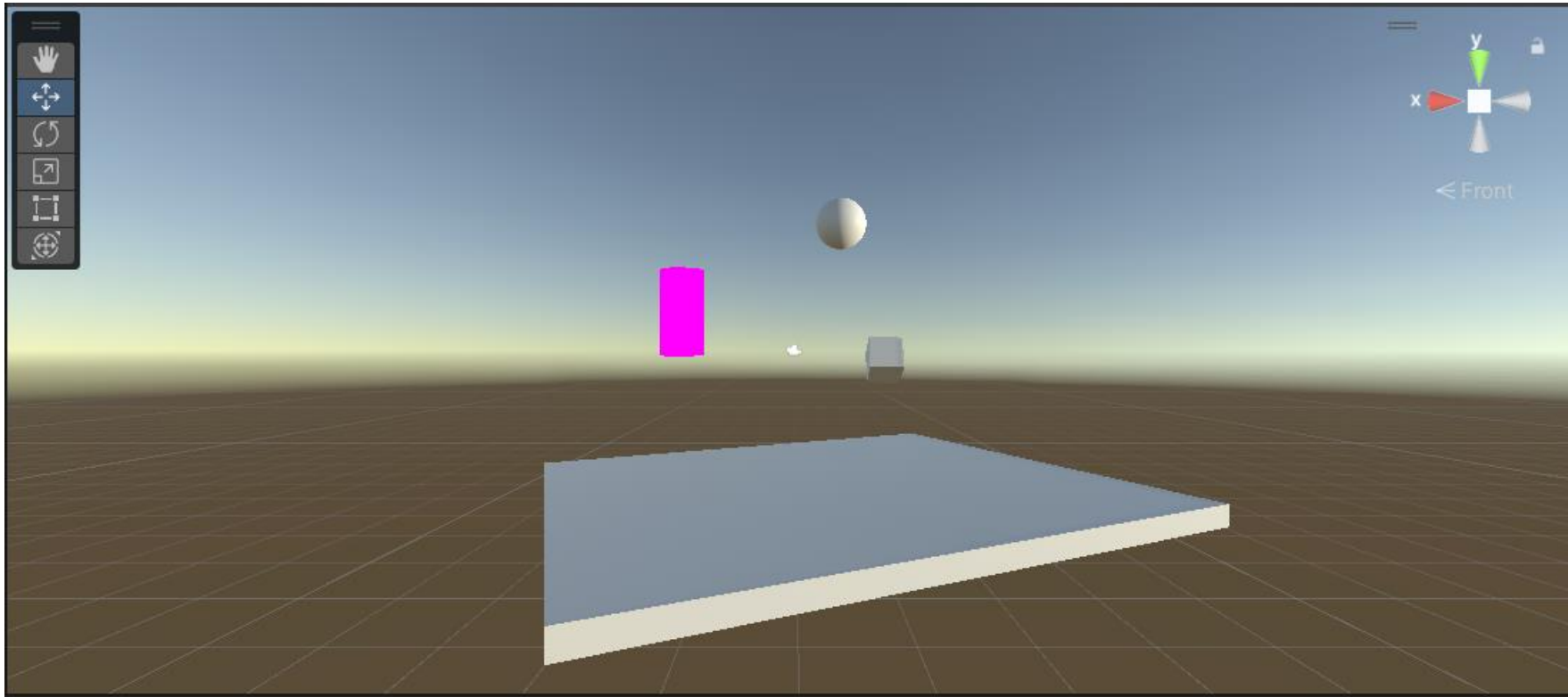
# Empty object

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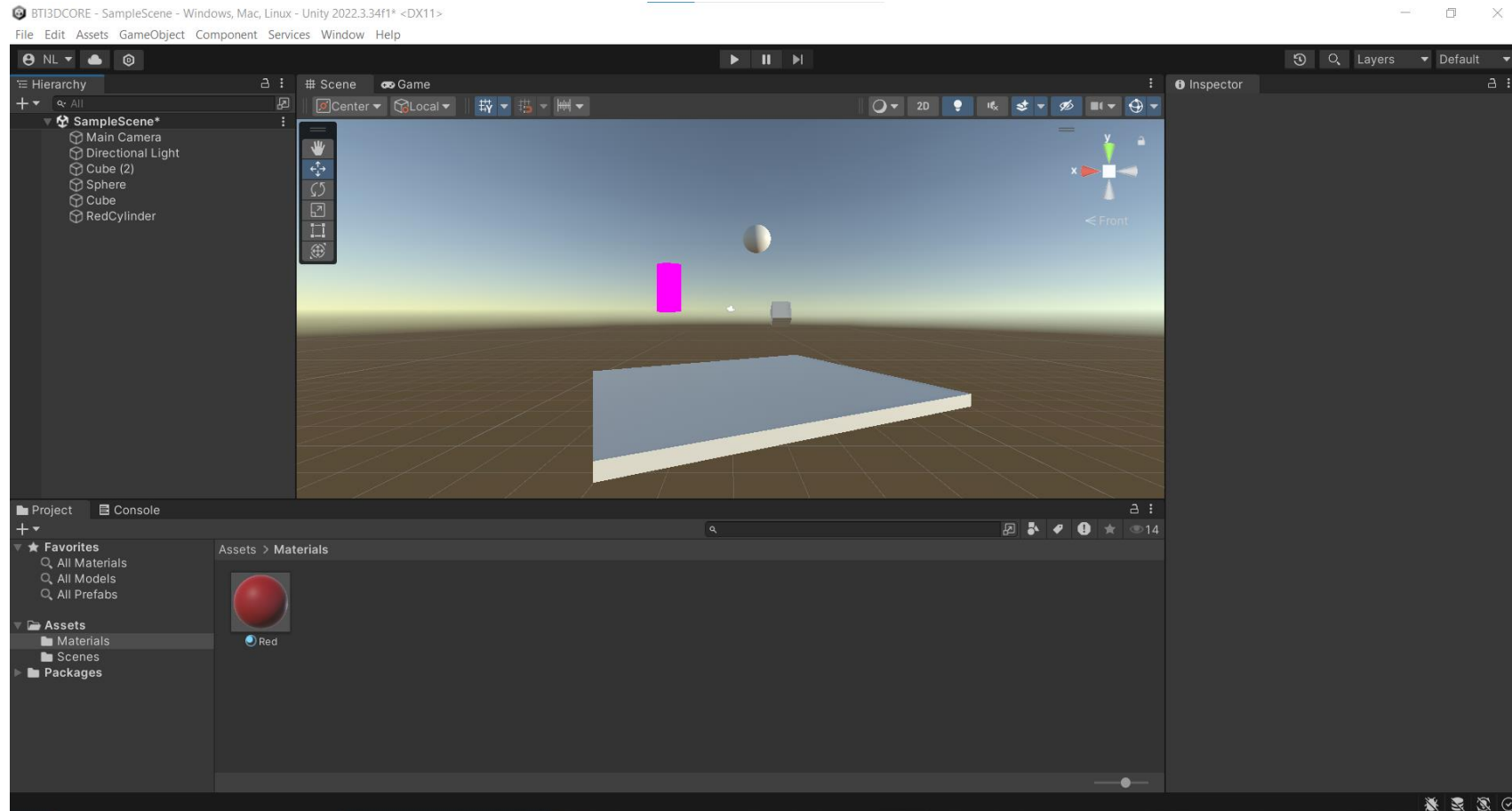
- Hierarchy > Create empty
- Inspector > Ad component > Mesh filter/Cylinder
- Inspector > Ad component > Mesh render
- Inspector > Ad component > Box Collider
- Inspector > Ad component > Physics/Rigidbody

# Mesh render

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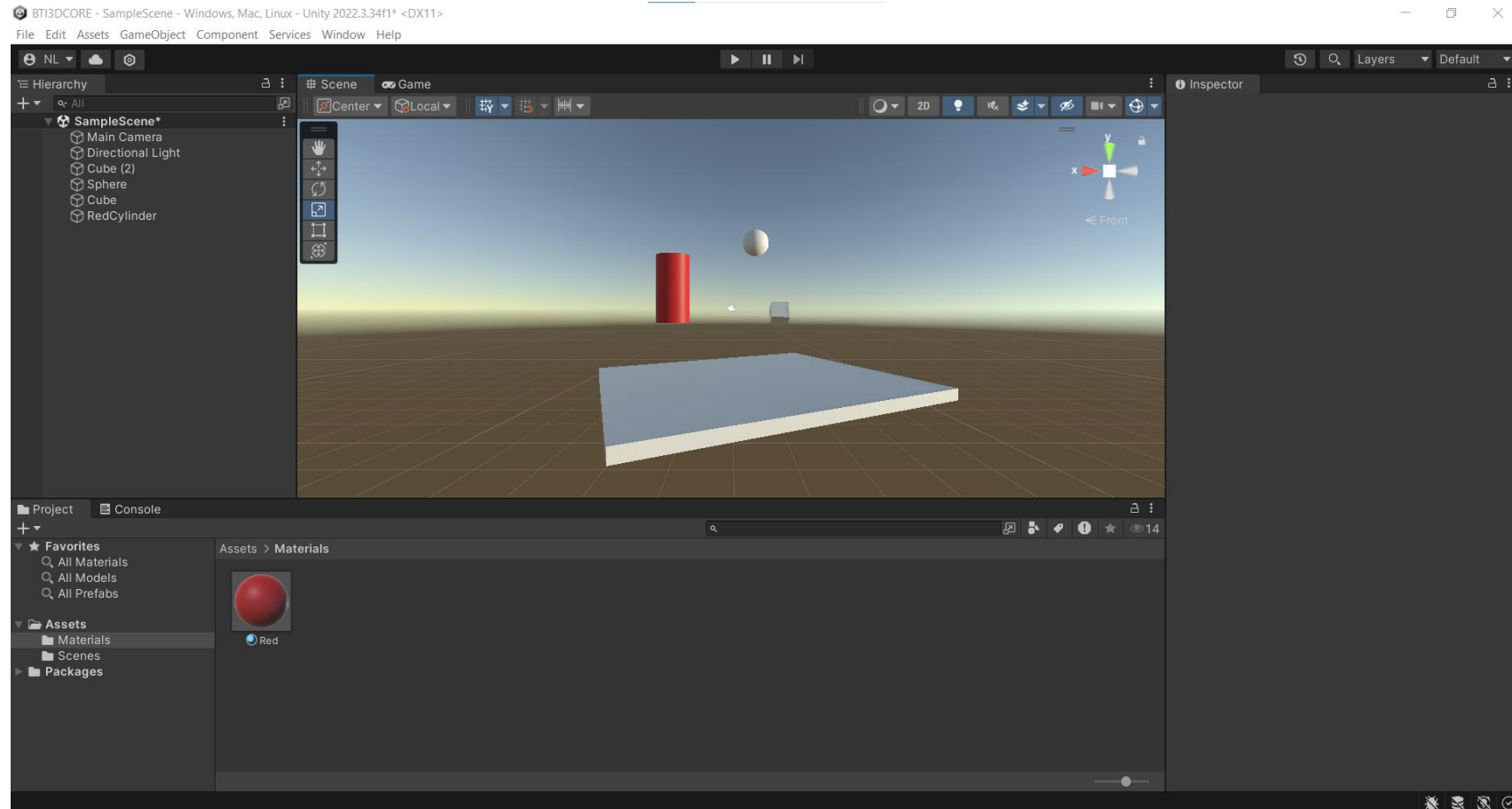


# Mesh render

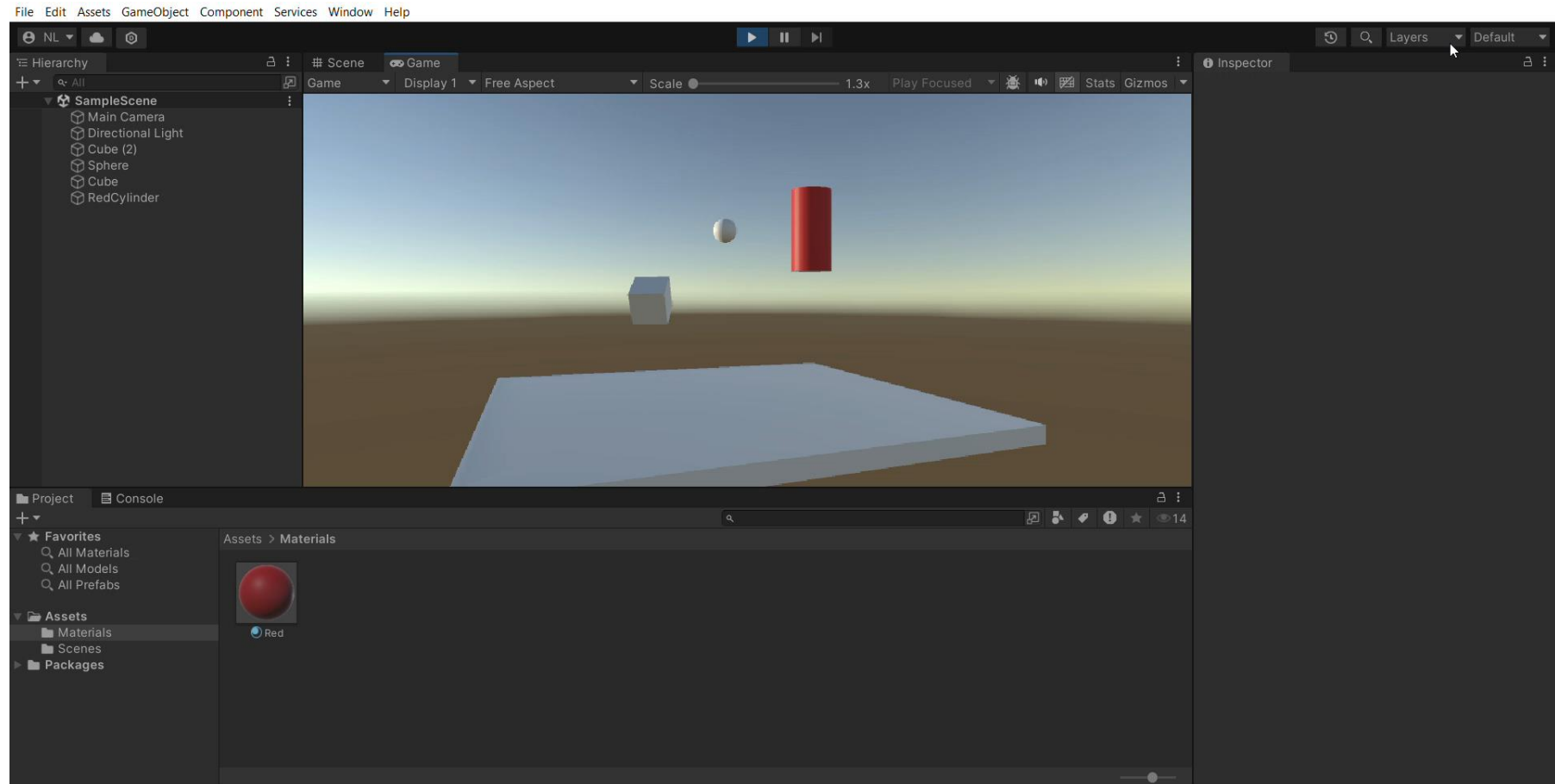




# Add Material: Red

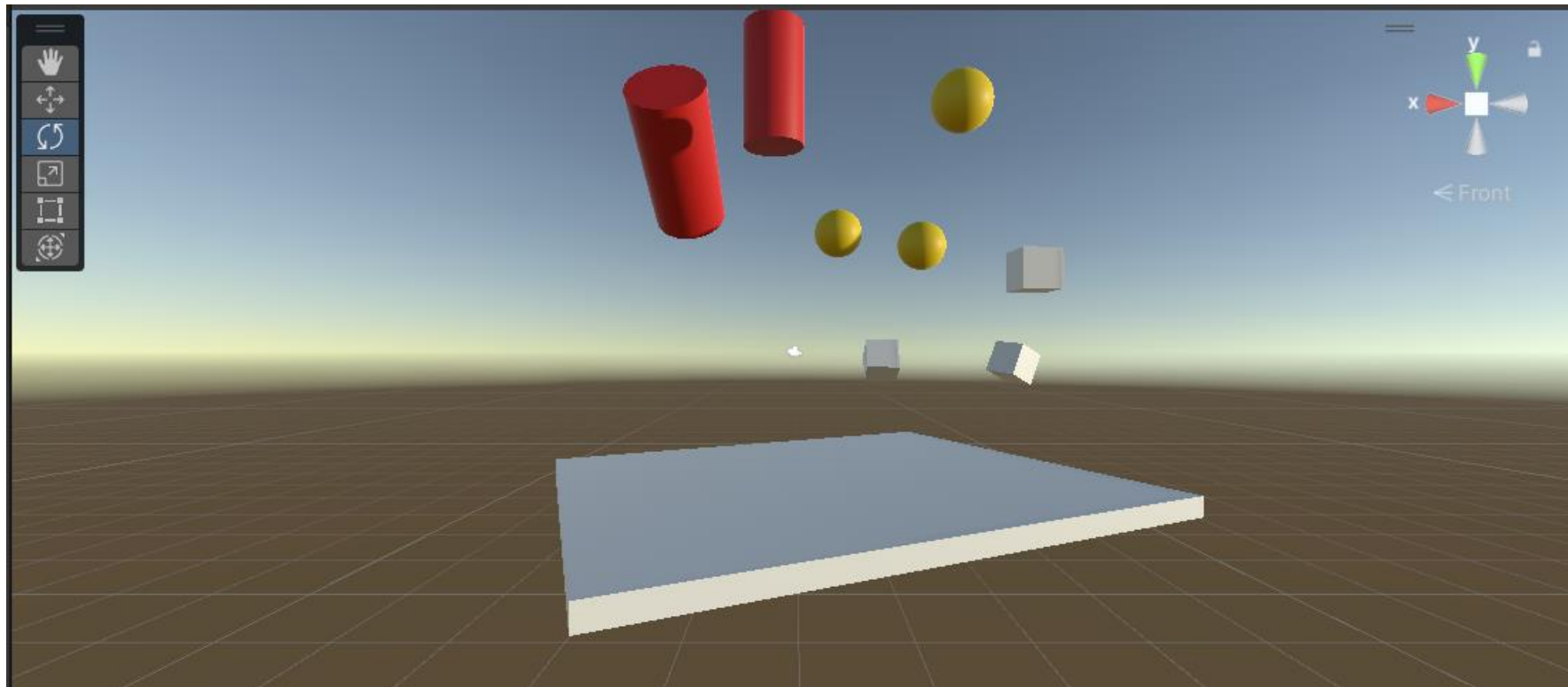


# Play

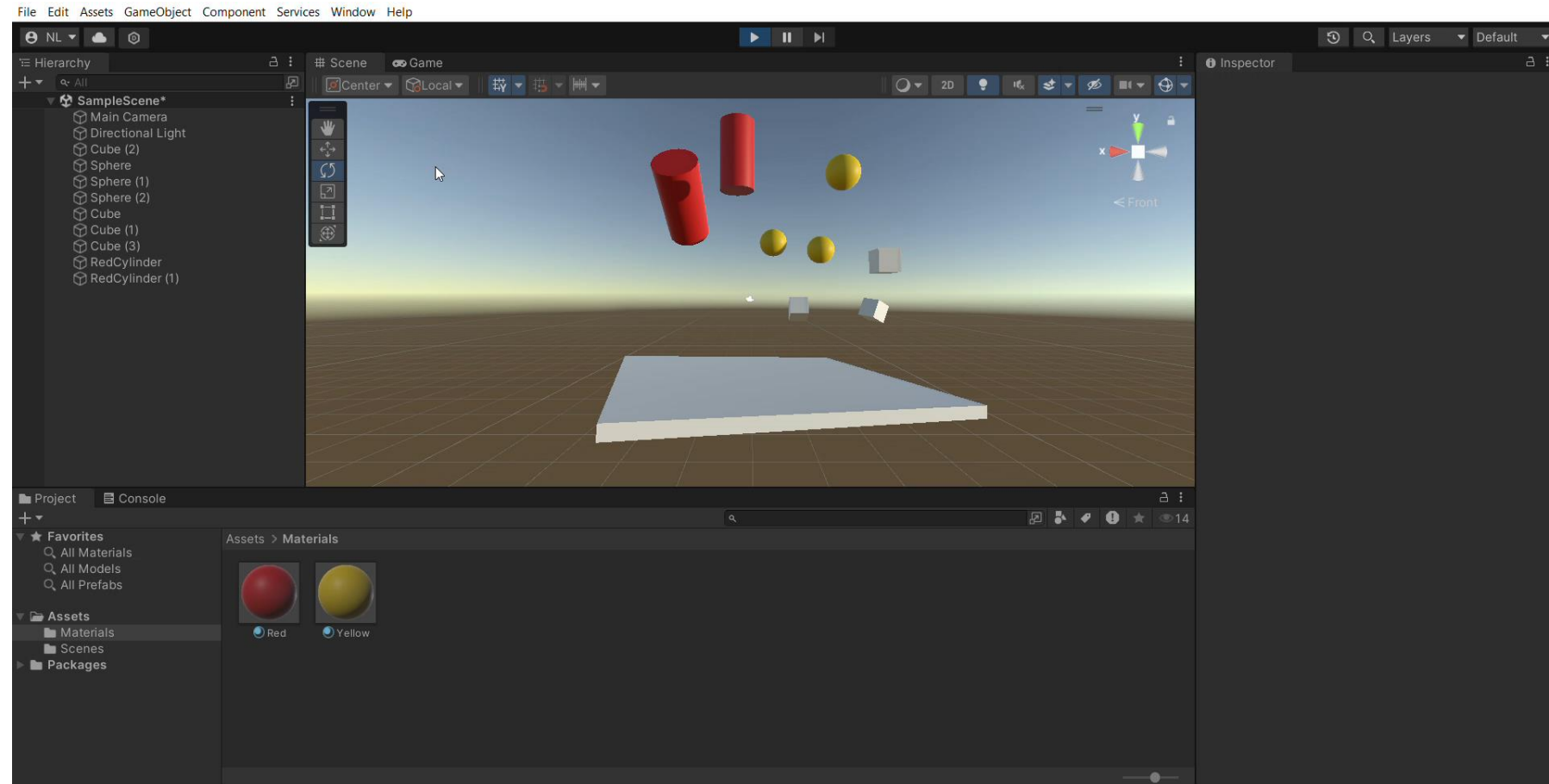


# Exercises

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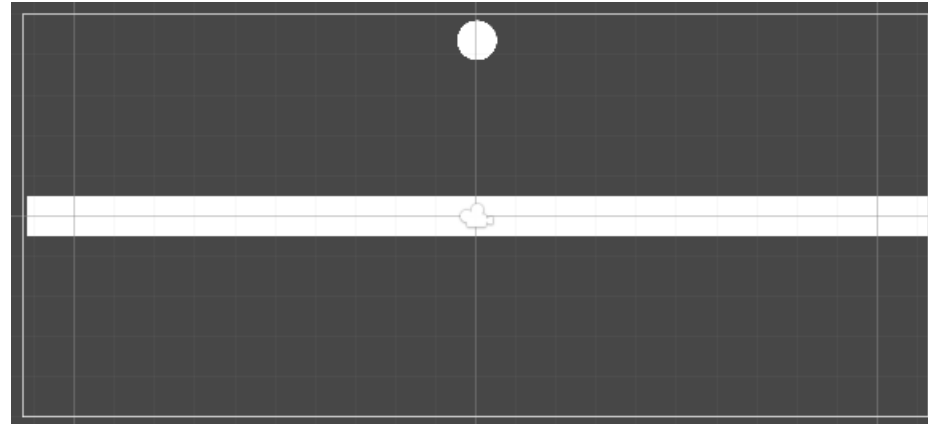
# Exercises





# Physics 2D – Bounce Circle

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# Physics 2D – Bouncy Circle

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- Create Materials **New Physics Material 2D**
  - Friction = 0.4
  - Bounciness = 1
- Create Bar object
  - Add component Collider 2D
- Create Ball object
  - Add component Collider 2D
  - Add component Rigidbody 2D
- Set Material of Bar and Ball to **New Physics Material 2D**

# Physics 2D – Bounce Circle

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- Adjust
  - Friction = ?
  - Bounciness = ?

# Physics 2D – Bouncy Box

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- Friction = 0.4
- Bounciness = 0

