Introduction to Unity

Unity is a cross-platform game engine developed by Unity Technologies.
It supports 2D and 3D game creation, with tools for physics, rendering, and more.
Licensing: Personal (free) and commercial (Plus, Pro, Enterprise).

Unity's extensive features make it popular among indie and AAA developers.

Physics in Unity

Unity incorporates NVIDIA's PhysX for 3D and Box2D for 2D physics.
Key components include Rigidbodies, Colliders, and Joints.
Physics simulations allow realistic interactions and animations.

Sample code:

```
■void Start() {■    Rigidbody rb = GetComponent<Rigidbody>();■    rb.AddForce(Vector3.up * 10, ForceMode.I
```

Simulation of Physical Phenomena

Unity simulates gravity, collisions, and overlaps in 2D/3D environments.

Complex formula:

$\tau = I * \alpha$

Where τ is torque, I is moment of inertia, and α is angular acceleration.

Efficient collision detection involves AABB and bounding volume hierarchies.

Practical Applications

Unity supports game creation for over 25 platforms, including mobile and VR.
Popular games made with Unity: Cuphead, Ori, Fall Guys.
Unity's flexibility makes it suitable for indie and AAA game development.

Table: Features of Unity Licenses

```
License   | Revenue Limit | Features
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Personal  | < $100,000   | Free, basic tools
Plus      | > $100,000   | Advanced analytics
Pro       | No limit      | Full features and support
```