

# ~Weekly Agenda~

Topics:

- [January 4th, 2024](#)

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## . Dot product (scalar)

- Gives the length/magnitude

## . Cross product (vector)

- Normal
- Bitangent

## . Quaternions

- Gimbal lock
  - When two axes represents the same axis and you lose one degree of freedom

## . Euler Angles

## . Homogeneous Coordinates

## . Rotation Matrices

- . Graphics Pipeline
- . Implement Ray Casting
- . Implement Graph Traversal
- . Deferred Rendering vs Forward Rendering

- Forward Rendering depends on the lights

## HW:

- Get Unity Ready
- Why Quaternions doesn't have Gimbal lock and Euler does?
- Timecode and frame syncing