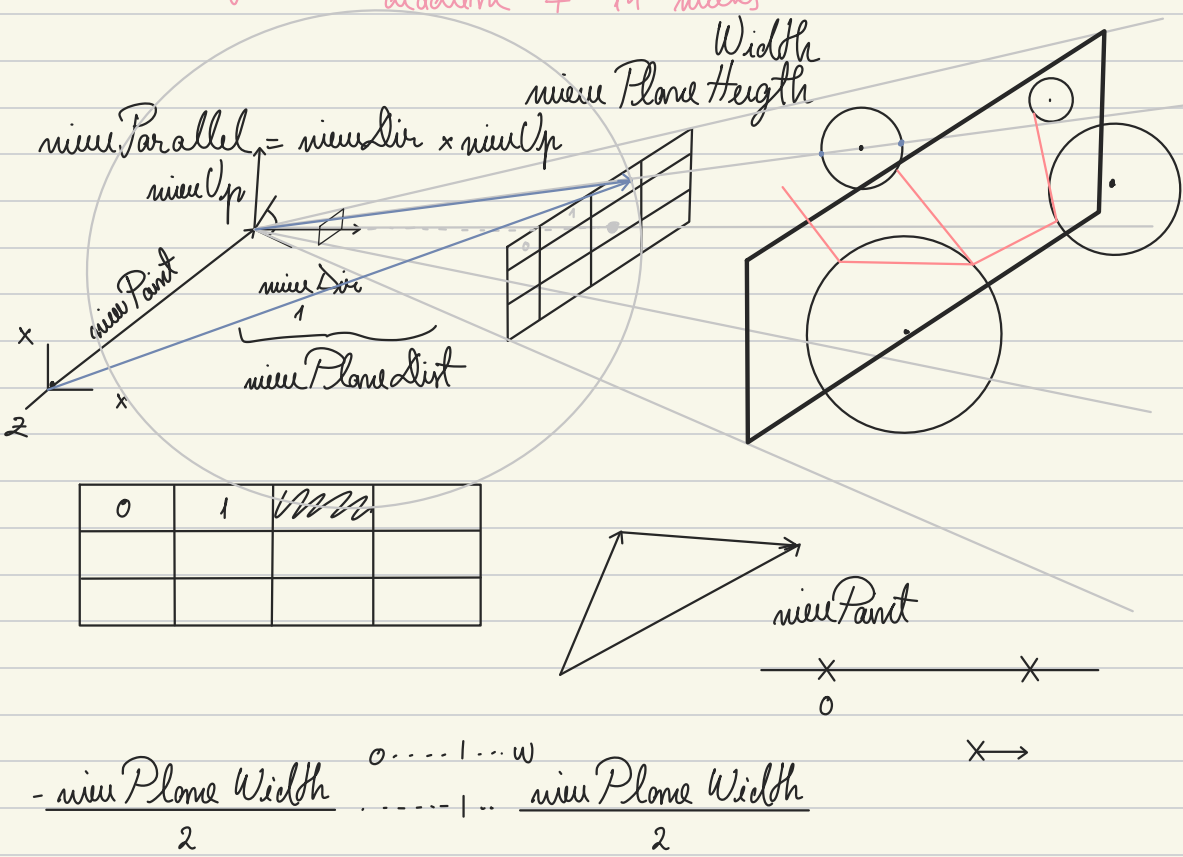


# Lecture 1

I. Rendering: - ray tracing  
ray sampling (in vanilla c#)  
deadline: 1-6 weeks

II. Scene graph + Physics: Unity 3D with c#  
deadline: 5-8 weeks

III. Theme project: (our choice - most people choose Unity)  
deadline 7-14 weeks



for i

for j

image To View Plane

$$(i, j) \longrightarrow (x, y, z) = \text{new Point} + \text{new Plane list} \cdot \text{new dir} + K_1 \cdot \text{new Up} + K_2 \cdot \text{new Parallel}$$

$$\begin{cases} (x - x_c)^2 + (y - y_c)^2 + (z - z_c)^2 = R^2 \\ x = a \cdot t + b \\ y = c \cdot t + d \\ z = e \cdot t + f \end{cases}$$

$$\begin{cases} \|\vec{v} - \vec{c}\|^2 = R^2 \\ y = dx \cdot t + x_0 \end{cases}$$

dx x

$$dx = \frac{x_1 - x_0}{\|x_1 - x_0\|}$$

