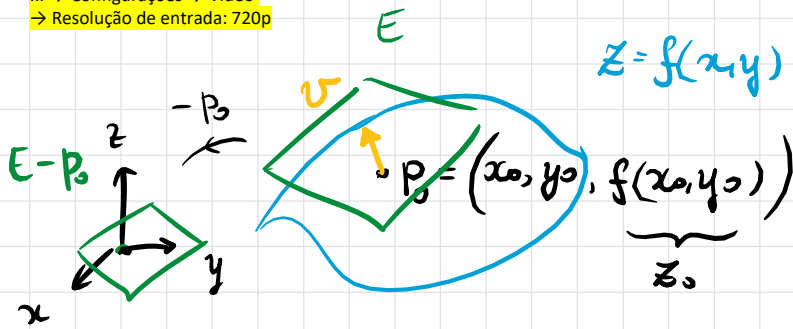


Para diminuir a latência:

... → Configurações → Vídeo
 → Resolução de entrada: 720p



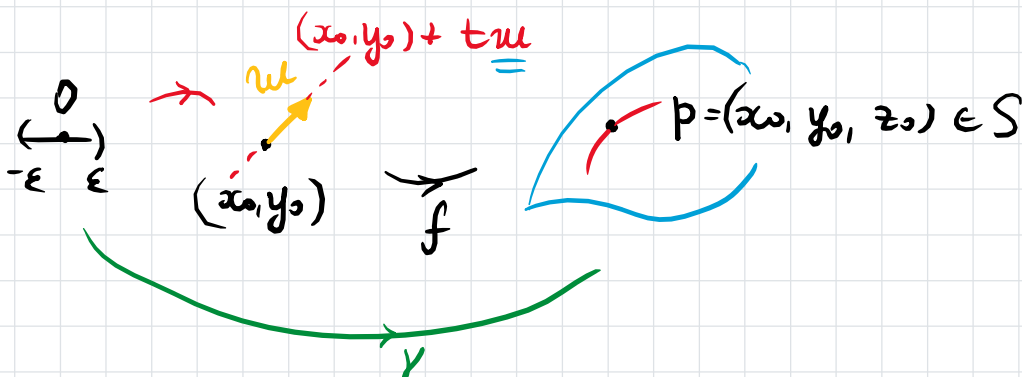
Plano do Cálculo II:

$$z = z_0 + \frac{\partial f}{\partial x}(x_0, y_0)(x - x_0) + \frac{\partial f}{\partial y}(x_0, y_0)(y - y_0) \quad \text{plano no } \mathbb{R}^3$$

$$E = \left\{ (x, y, z_0 + \frac{\partial f}{\partial x}(x_0, y_0)(x - x_0) + \frac{\partial f}{\partial y}(x_0, y_0)(y - y_0)) : (x, y) \in \mathbb{R}^2 \right\}$$

$$\begin{aligned} E - p_0 &= \left\{ (x - x_0, y - y_0, \frac{\partial f}{\partial x}(x_0, y_0)(x - x_0) + \frac{\partial f}{\partial y}(x_0, y_0)(y - y_0)) : (x, y) \in \mathbb{R}^2 \right\} \\ &= \left\{ (a, b, \frac{\partial f}{\partial x}(x_0, y_0)a + \frac{\partial f}{\partial y}(x_0, y_0)b) : (a, b) \in \mathbb{R}^2 \right\} \\ &= \left\{ (a, b, Df(x_0, y_0)(a, b)) : (a, b) \in \mathbb{R}^2 \right\} = \underline{\underline{\text{graf } Df(x_0, y_0)}} \end{aligned}$$

$$v \in \text{graf } Df(x_0, y_0) \Rightarrow \underline{v} = (a, b, Df(x_0, y_0)(a, b)) \text{ p/ algum } (a, b) = \underline{w}$$



$$\gamma(t) = (x_0 + \underline{ta}, y_0 + \underline{tb}, \underline{f(x_0 + ta, y_0 + tb)})$$

$$\Rightarrow \gamma(0) = (x_0, y_0, f(x_0, y_0)) = p_0$$

$$\dot{\gamma}(t) = (a, b, Df(x_0+ta, y_0+ta)(a, b))$$

$$\Rightarrow \dot{\gamma}(0) = (a, b, Df(x_0, y_0)(a, b)) = v$$

$$\Rightarrow E-p_0 = \left. \begin{array}{l} \text{espaço tg.} \\ \text{do cálculo II} \end{array} \right\} \subset T_{p_0} S = \left. \begin{array}{l} \text{espaço das} \\ \text{velocidades} \end{array} \right\}$$