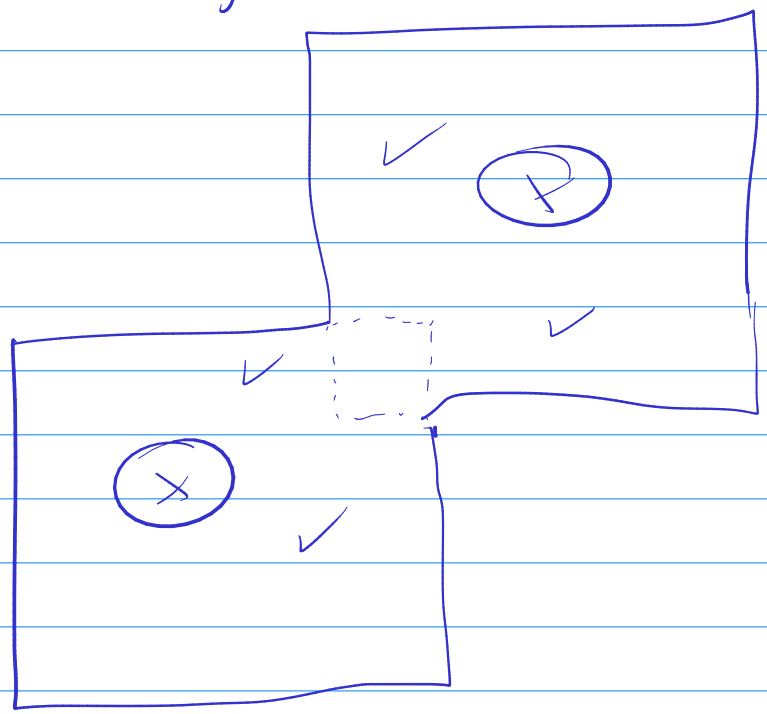
$\int \nabla u \nabla v + \sigma \int u \cdot v \, dx$



$$u(x,y) = \sin(2\pi x)\cos(2\pi y)$$

$$\begin{aligned}\Delta u &= -4\pi^2 \sin(2\pi x)\cos(2\pi y) \\ &\quad - 4\pi^2 \sin(2\pi x)\cos(2\pi y) \\ &= -8\pi^2 \sin(2\pi x)\cos(2\pi y)\end{aligned}$$

$$-\Delta u = 8\pi^2 \sin(2\pi x)\cos(2\pi y)$$

+ ASSEMBLE IN ERRORE

$$u(x,y) = \sin(2\pi x) + \cos(2\pi y)$$

$$\Delta u = -4\pi^2 \sin(2\pi x) - 4\pi^2 \cos(2\pi y)$$

$$-\Delta u = 4\pi^2 \left(\sin(2\pi x) + \cos(2\pi y)\right)$$

$$\frac{\sqrt{\int_\Omega (u - u_{ex})^2 \, dx}}{\sqrt{\int_\Omega (u_{ex})^2 \, dx}}$$

$$\sqrt{\int_\Omega |\nabla (u - u_{ex})|^2}$$

$$\sqrt{\quad}$$