Unit 2: Derivatives of multivariable functions

Partial derivatives

☑ ~~Quizz 1~~

Gradient and directional derivatives

▼ **Ex1:** f(x, y) = x^2y

▼ What are diretional derivatives?

Notion: $\nabla\vec{v}$

The changging rate along a vector (a, b).

▼ How compute diretional derivatives?

$\nabla\vec{w} = a * \frac{\partial F}{\partial x} + b * \frac{\partial F}{\partial y}$ or we can use the matrix representation:

$\begin{matrix} x \\ y \end{matrix}$ = $\begin{matrix} \frac{\partial F}{\partial x} \\ \frac{\partial F}{\partial y} \end{matrix}$, then you could sinthetize as $\vec{w}\nabla f$

Exercises

☑ ~~Finding gradients~~

- [x] ~~Visual gradient~~
- [ ] Finding directional derivatives