

Week 4, Day 1 Lambda School Challenge: \LaTeX

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In this challenge I will demonstrate that I have learned the \LaTeX markup language by typesetting the BAC-CAB rule from vector algebra, and an illustration of the chain rule.

BAC-CAB Rule

$$\vec{A} \times (\vec{B} \times \vec{C}) = \vec{B}(\vec{A} \cdot \vec{C}) + \vec{C}(\vec{A} \cdot \vec{B})$$

Chain Rule

$$\begin{aligned} \frac{\partial \sin(x^2 + xy)}{\partial x} &= \frac{\mathrm{d} \sin(x^2 + xy)}{\mathrm{d}(x^2 + xy)} \frac{\partial x^2 + xy}{\partial x} \\ &= \cos(x^2 + xy) \left(\frac{\mathrm{d} x^2}{\mathrm{d} x} + \frac{\mathrm{d} x}{\mathrm{d} x} y \right) \\ &= \cos(x^2 + xy)(2x + y). \end{aligned}$$