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- How do we find lines?

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- The derivative of an image is found using the Sobel operator, which filters an image matrix with a matrix kernel.
- Let $A$ be our image matrix and $G$ be the derivative (gradient) approximation of it.

$$G_x = SobelKernel_{vertical} * A \qquad G_y = SobelKernel_{horizontal} * A$$

- Then, combining $G_x$ and $G_y$ should give you the derivative of the image matrix $A$

# Lines: From Derivative to Lines