Pseudo code for linear regression algorithm.

Get vectors of x and y values as inputs and define a and b as outputs.
Calculate the length of the vectors using MATLABs size function

- $N_x = \text{size}(x)$;
- $N_y = \text{size}(y)$;

Ensure the vectors are the same length.
Calculate the sums using MATLAB sum function and element-wise operations:

- $S_x = \text{sum}(x)$;
- $S_y = \text{sum}(y)$;
- $S_{xy} = \text{sum}(x .* y)$;
- $S_{xx} = \text{sum}(x .\hat{} 2)$;

Solve for the constants:

- $a = \frac{N_x \times S_{xy} - S_x \times S_y}{N_x \times S_{xx} - S_x .\hat{} 2}$;
- $b = \frac{S_{xx} \times S_y - S_{xy} \times S_x}{N_x \times S_{xx} - S_x .\hat{} 2}$;