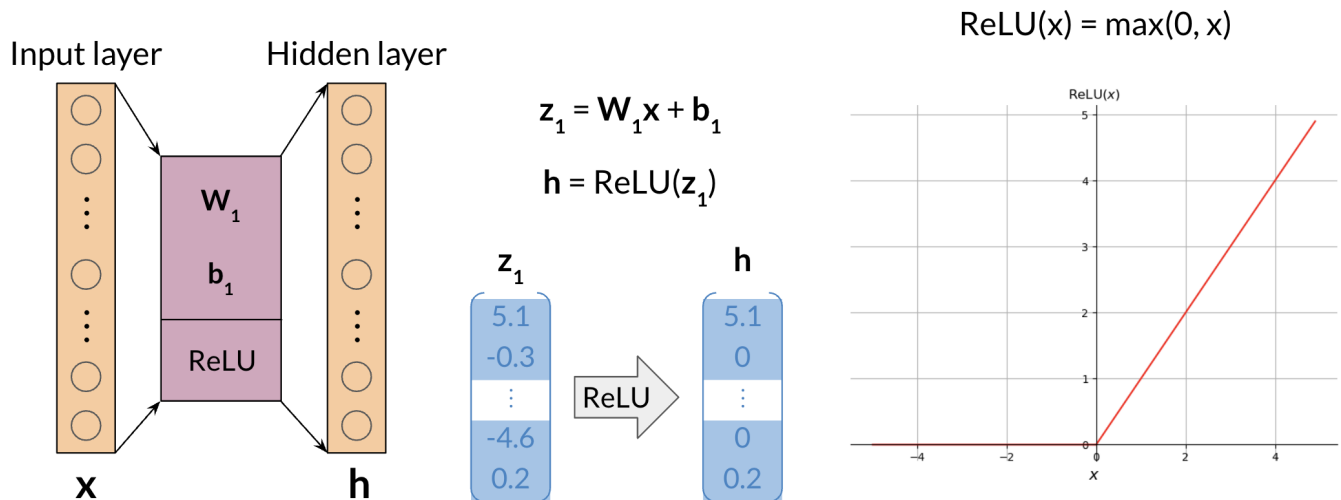# Architecture of the CBOW Model: Activation Functions

ReLU funciton

The rectified linear unit (ReLU), is one of the most popular activation functions. When you feed a vector, namely x, into a ReLU function. You end up taking $x = max(0, x)$. This is a drawing that shows ReLU.

Softmax function

The softmax function takes a vector and transforms it into a probability distribution. For example, given the following vector z, you can transform it into a probability distribution as follows.
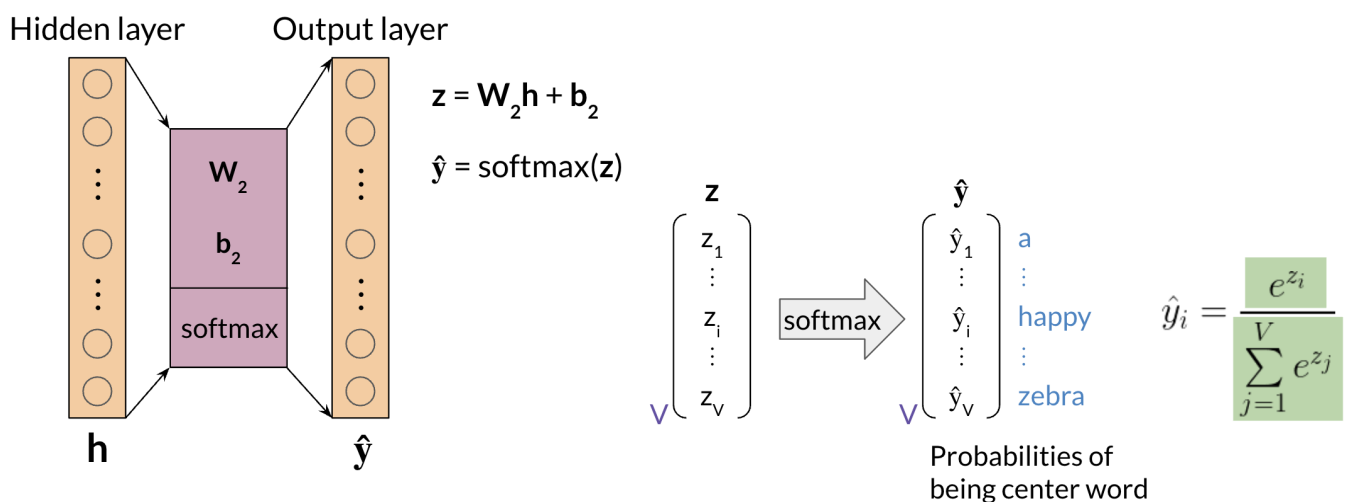
As you can see, you can compute $\hat{y} = \frac{e^{z_i}}{\sum_{j=1}^{V} e^{z_j}}$.