1 Intro

NN have been hugely used in the past years. As we can see in the number of publications on Reddit... The main advantage of those models is that they can learn complex structure and are highly customizable. However, one significant drawback is their poor explanability power. Neural networks are often categorized in the so-called category of "black box models". Fortunately, there are some very good tutorials on learning how a neural network actually works. Today, every data scientist know the tutorials of Andrew Ng.

After having done those tutorials, I personally found out that a 1-layer network is relatively easy to understand, however it gets very tricky when increasing the number of layers. This article is an attempt to understand in details the 2-layer neural network through the building of a small playground. We will even publish the playground online!

As a reminder, a 1-layer network looks like this:

I won't give much more details here, to know more about a 1-layer network I recommend this article or this one.
Whereas a 2-layer network looks like this:

Let's now go into deeper details on the working on such an algorithm.