Neural Network

The concept is simple, think about how to make a computer to take a decision, some kind of smart people proposed: $z = \mathrm{x1} * \mathrm{w1} + \mathrm{x2} * \mathrm{w2} + b$

Where:

- x1 and x2 mean: How much i want to do this activity?
- w1 and w2 mean: What benefits am i going to get for doing these activities?
- b means: What is my mood right now?
- If the output is over 1 i will do it, otherwise i don't

Obviously /ˈɒb.vi.əs.li/, you can add as many variables as you want. Suppose you fell in love with a girl and she got pregnat, now i am going to to help you to decide if stay or leave the country. Let's define the situation:

- x1: How much do i want to have a baby right now? I mean, I am not really excited, so "0.3"
- x2: Do I love this girl? Yes and i don't want her to carry a baby alone so "0.9"
- w1: How good is having a baby? the stress and money point out to a fair "-0.15"
- w2: She loves me? all womans are crazy, but this one is my entire world so 1 (I suppose you love her)
- b: Today i had a really beautiful day, i am doing well in my job so a fair 0.7

$$z = 0.3 * -0.15 + 0.9 * 1 + 0.7 = 1.555$$

It seems like you are gonna be a father. If you weren't in love, probably the baby will be like one of the many children in Latin America (I am a Latino). We know 1.555 is our number, then we can use the step function to decide rapidly /ˈræpɪdli/ what we're gonna do (take care of them) or just use the sigmoid function to give a porcentage of how willing i am.

$$\mathrm{step}(z) = \begin{cases} 0 & , \text{if } z < 0 \\ 1 & , \text{if } z \geq 0 \end{cases}; \ \sigma(z) = \frac{1}{1 + e^{-z}}$$