Neuron Sandbox Student Worksheet 1

https://www.cs.cmu.edu/~dst/NeuronSandbox

Can I make buttered toast? To do that, I need both bread and butter. Let's work through the steps to make a neuron answer this question.

1. There are four cases to consider, depending on whether we have bread, butter, neither, or both. Fill in the four rows of the Inputs table with 0 and 1 to lay out the four cases.

2. The Desired Output is the correct answer for each case. We can make buttered toast only if we have both bread and butter. Fill in the Desired Output column with the correct 0 and 1 values.

3. Decide on weight and threshold values that will get the neuron to solve the problem. In the neuron diagram at the center of the figure, fill in values for weights w_1 and w_2 and the threshold.

4. Using the weights you selected, compute the activation value for each of the four cases and write it in the Activation column.

5. Compare the activation with the threshold. If the value in the Activation column is greater than the threshold you selected, put a 1 in the Current Output column. Otherwise put a 0 there. Do this for all four cases.

6. If the current Output matches the Desired Output for all four cases, your solution is correct.

Can I Make Buttered Toast?

I need both bread and butter.

Inputs		Outputs		
Have Bread	Have Butter	Activation Σ	Current Output Σ >	Desired Output