What is NLP?

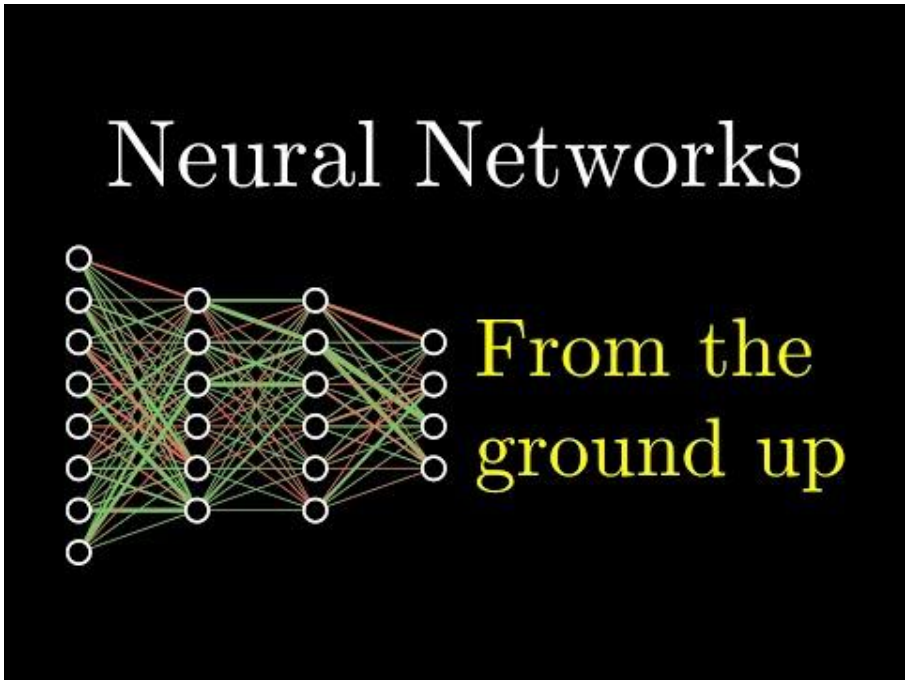
Neural Network Activity

Definitions

Parts of a **Neural Network**

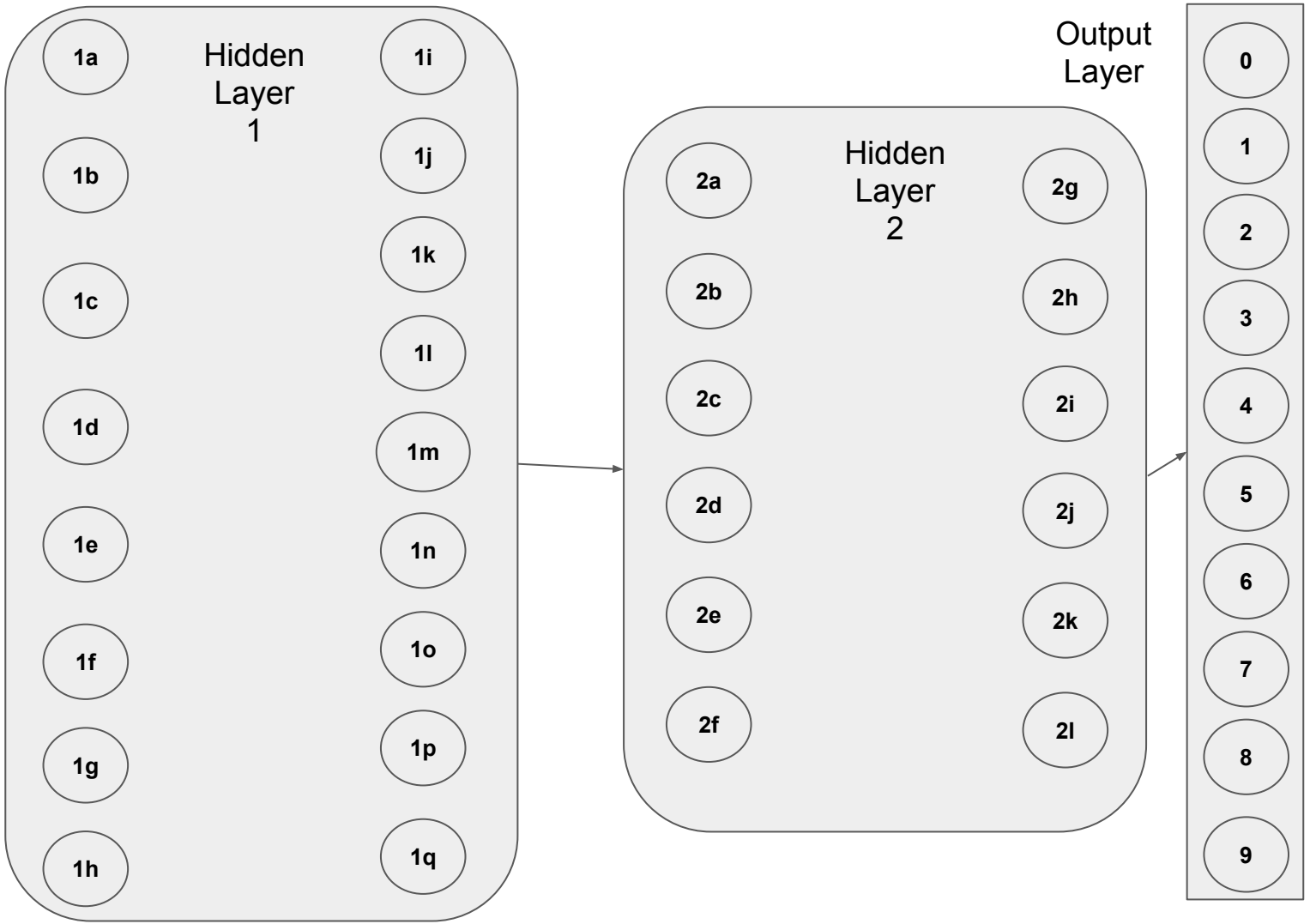
- **Neuron**: Essentially, a calculation. It gets sent input, does calculations on that input, and outputs a number. Each layer of neurons uses each of the numbers produced by the previous layer as its input.
- **Input layer**: All the starting information that can be used as input. In pictures this is often pixel values; in NLP this is often lots of bodies of text.
- **Output layer**: Contains whatever the neural net was looking to produce - sometimes what the image is, sometimes a new image, sometimes the most likely next word in a sentence, etc.
- **Hidden layers**: All the layers between the input and the output layers.
- **Activation**: When a neuron finds what it is looking for. (i.e. the calculation output returns a number high enough to say the input did what this neuron is looking for.)
- **Neural Network -** a collection of neurons trained to solve a problem

But what is a neural network?



Let’s act like a trained neural network

When you are activated, place your post-it note next to your neuron name



Which number were we looking at?

DISCUSSION

Analyze the effectiveness of the neural network

- What did the neural net do well?
- What didn’t it do well?
- How could we improve if we ran this again?

Exit ticket: Unit 1.06a - How Neural Networks Work

1. What does a hidden layer do?
2. How do neural networks recognize things?