

# Neural Networks

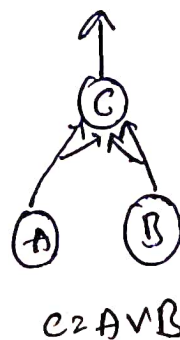
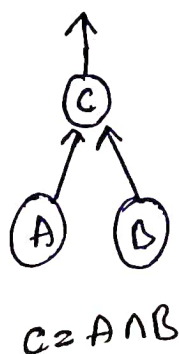
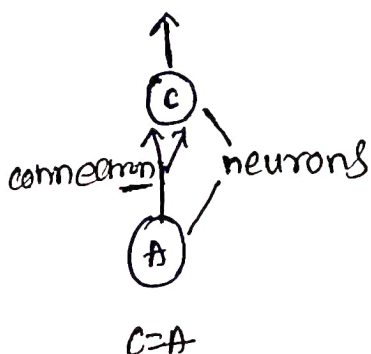
→ At its core, a neural network is inspired by the human brain's structure, with interconnected nodes mimicking neurons. These nodes, also known as artificial neurons, are organized into layers, also inspired from brain where neurons are organized into consecutive layers.

→ Let's get a bit biological, the neurons in our body receive short impulses called signals from other neurons. When a neuron receives sufficient number of signals from other neurons within a few milliseconds, it fires its own signals.

## Artificial neuron

→ Based on the above understanding, a very first artificial neuron idea was proposed such as,

A neuron receives multiple binary inputs each assigned a weight, if the weighted sum of inputs exceed the threshold, then the neuron fires (output = 1), else the neuron remains inactive (output = 0)



→ we can see that the expression can be represented through neuron diagram idea,