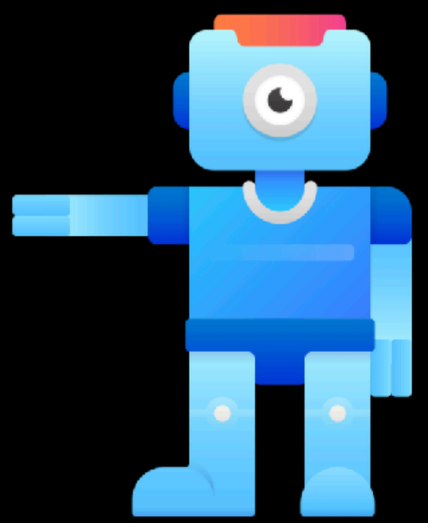

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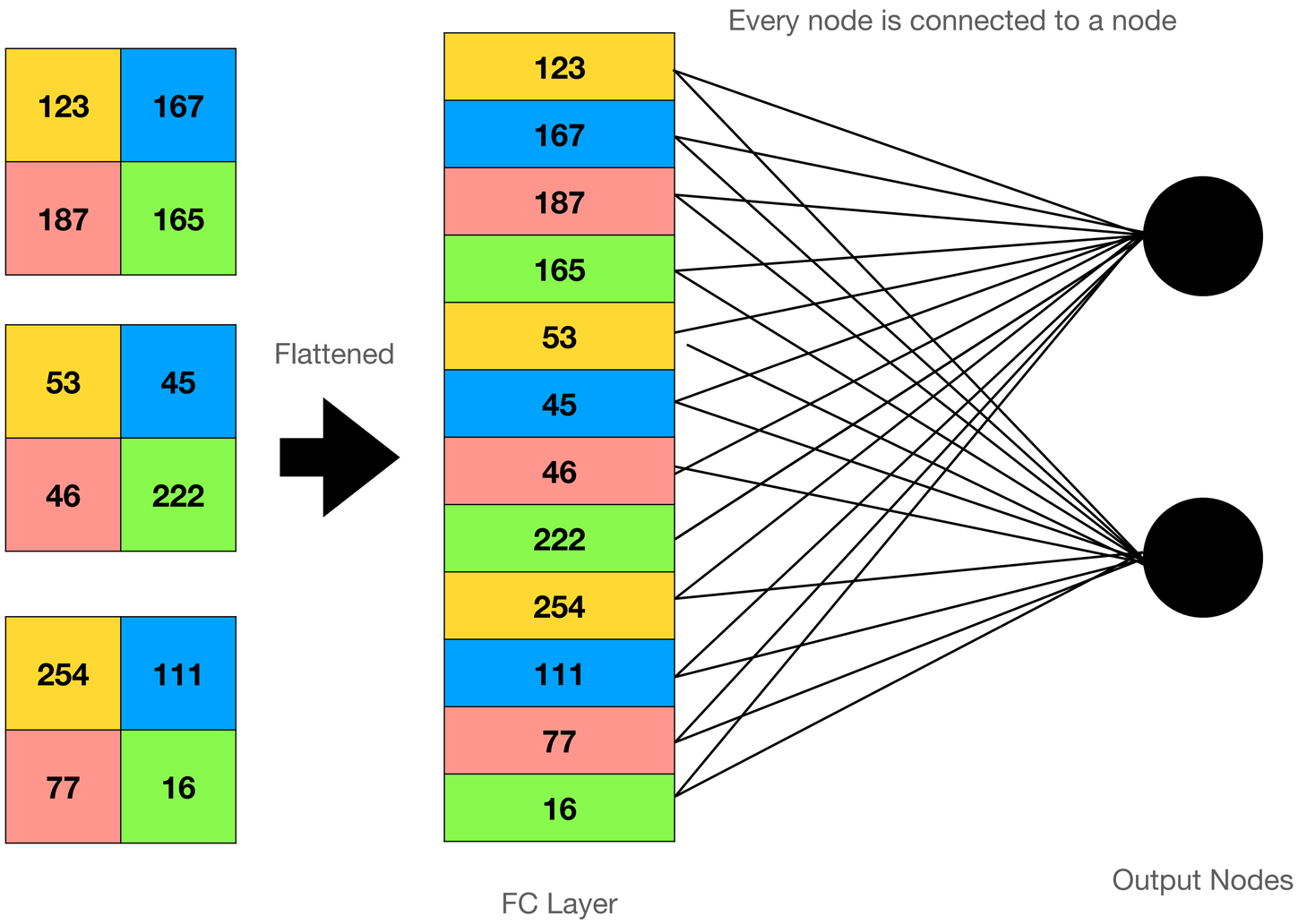
# Softmax Layer

## Softmax Layer to Probabilities

# The Fully Connected Layer



# Softmax Layer

- We now need to produce probability outcomes for each class in Network.
- Softmax converts the Logs into Probabilities
- It takes the exponents of every output and the normalises each output by the sum of the exponents.
- It guarantees a well behaved distribution i.e. all sum to 1 and no values are zero.

$$softmax(x)_i = \frac{exp(x_i)}{\sum_j exp(x_j))}$$

# Softmax Layer

Logits Scores

2.0

1.0

0.1

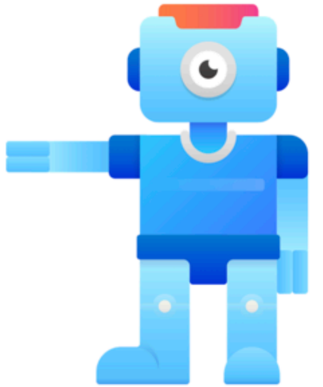
$$softmax(x)_i = \frac{exp(x_i)}{\sum_j exp(x_j))}$$

Probabilities

0.7

0.2

0.1



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# Next...

## Building a CNN