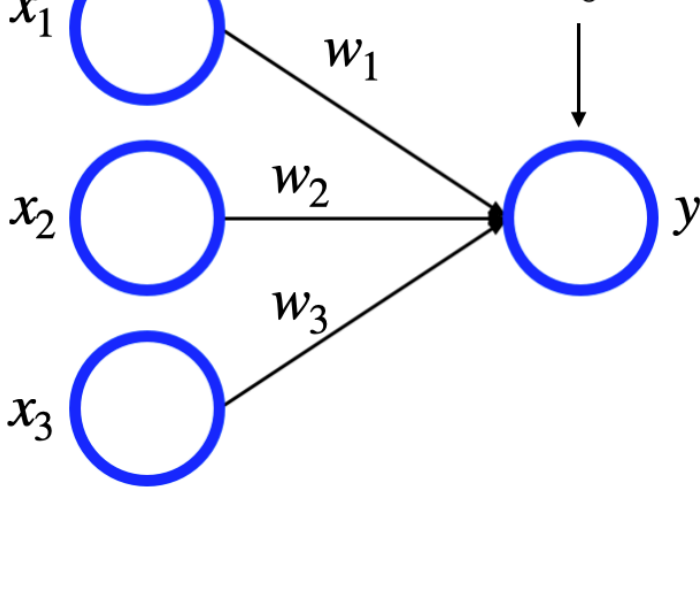


The following question will ask you about the below neural network, where we set $w_0 = -5$, $w_1 = 2$, $w_2 = -1$, and $w_3 = 3$. x_1 , x_2 , and x_3 represent input neurons, and y represents the output neuron.



✓ What value will this network compute for y given inputs $x_1 = 3$, $x_2 = 2$, and $x_3 = 4$ if we use a step activation function? What if we use a ReLU activation function? *1/1

- ☐ 0 for step activation function, 0 for ReLU activation function
- ☐ 0 for step activation function, 1 for ReLU activation function
- ☐ 1 for step activation function, 0 for ReLU activation function
- ☐ 1 for step activation function, 1 for ReLU activation function
- ☒ 1 for step activation function, 11 for ReLU activation function ✓
- ☐ 1 for step activation function, 16 for ReLU activation function
- ☐ 11 for step activation function, 11 for ReLU activation function
- ☐ 16 for step activation function, 16 for ReLU activation function

✓ How many total weights (including biases) will there be for a fully connected neural network with a single input layer with 3 units, a single hidden layer with 5 units, and a single output layer with 4 units? *1/1

- ☐ 9
- ☐ 12
- ☐ 20
- ☐ 35
- ☐ 39
- ☐ 40
- ☒ 44 ✓
- ☐ 60
- ☐ 69

✓ Consider a recurrent neural network that listens to a audio speech sample, and classifies it according to whose voice it is. What network architecture is the best fit for this problem? *1/1

- ☐ One-to-many (single input, multiple outputs)
- ☒ Many-to-one (multiple inputs, single output) ✓
- ☐ One-to-one (single input, single output)
- ☐ Many-to-many (multiple inputs, multiple outputs)

The following question will ask you about a 4x4 grayscale image with the following pixel values.

| | | | |
|----|----|----|----|
| 2 | 4 | 6 | 8 |
| 16 | 14 | 12 | 10 |
| 18 | 20 | 22 | 24 |
| 32 | 30 | 28 | 26 |

✓ What would be the result of applying a 2x2 max-pool to the original image? *1/1

Answers are formatted as a matrix $\begin{bmatrix} a & b \\ c & d \end{bmatrix}$ where $[a, b]$ is the first row and $[c, d]$ is the second row.

- ☒ $\begin{bmatrix} 16 & 12 \\ 32 & 28 \end{bmatrix}$ ✓
- ☐ $\begin{bmatrix} 16 & 14 \\ 32 & 30 \end{bmatrix}$
- ☐ $\begin{bmatrix} 22 & 24 \\ 32 & 30 \end{bmatrix}$
- ☐ $\begin{bmatrix} 14 & 12 \\ 30 & 28 \end{bmatrix}$
- ☐ $\begin{bmatrix} 16 & 14 \\ 22 & 24 \end{bmatrix}$
- ☐ $\begin{bmatrix} 16 & 12 \\ 32 & 30 \end{bmatrix}$