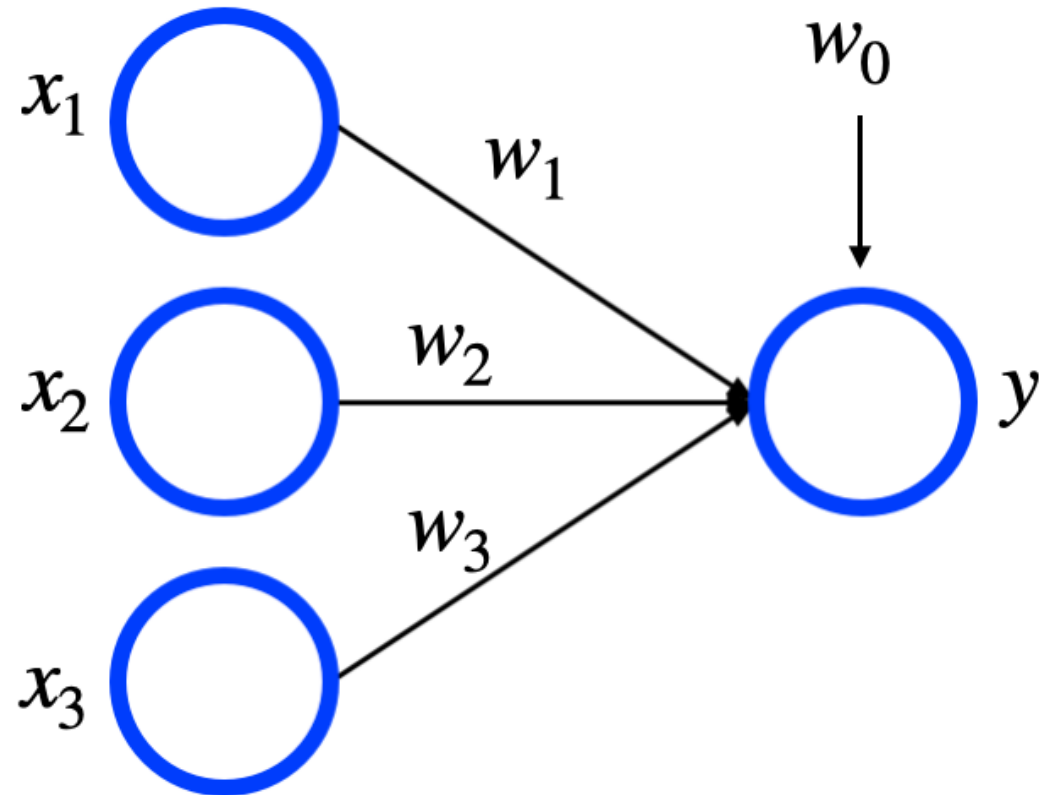


The following question will ask you about the below neural network, where we set $w_0 = -5$, $w_1 = 2$, $w_2 = -1$, and $w_3 = 3$. x_1 , x_2 , and x_3 represent input neurons, and y represents the output neuron.



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

- ☐ 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? * 0/1

☐ 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)
- ☐ One-to-one (single input, single output)
- ☒ Many-to-one (multiple inputs, 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 $[[a, b], [c, d]]$ where $[a, b]$ is the first row and $[c, d]$ is the second row.

- ☒ $[[16, 12], [32, 28]]$
- ☐ $[[16, 14], [32, 30]]$
- ☐ $[[22, 24], [32, 30]]$
- ☐ $[[14, 12], [30, 28]]$
- ☐ $[[16, 14], [22, 24]]$
- ☐ $[[16, 12], [32, 30]]$



Comments, if any

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This form was created inside of CS50.

Google Forms

