

Quiz 5 Submission

Total points 4/4 ?

A score of 3/4 or 4/4 is required to be considered to have "passed" a quiz. Please do not resubmit a quiz if you obtain a score of 3/4. You don't receive a final grade at the end of the course, so it will have no bearing on your certificate!

Your quiz will be graded and returned to you within a few minutes in most cases. However, it may take up to three weeks for your work to appear in your Gradebook. Do be patient, please!

Quizzes (which are submitted via Google Forms and not submit50) may not show up as submitted in your Gradebook until the scores have been imported, and even then will only show up if you have received a passing score.

Remember, you are limited to a maximum of EIGHT attempts at a quiz in a single calendar year. If you submit this assignment more than eight times, **all** of your submissions will be deleted, and you **will not be eligible to earn a certificate in CS50AI during this calendar year**. Take this assignment seriously! (Submissions from 28 December 2022 count towards 2023 eligibility.)

Attempts to circumvent this policy, if detected, will be treated as violations of the course's academic honesty policy and will result in permanent expulsion from the course.

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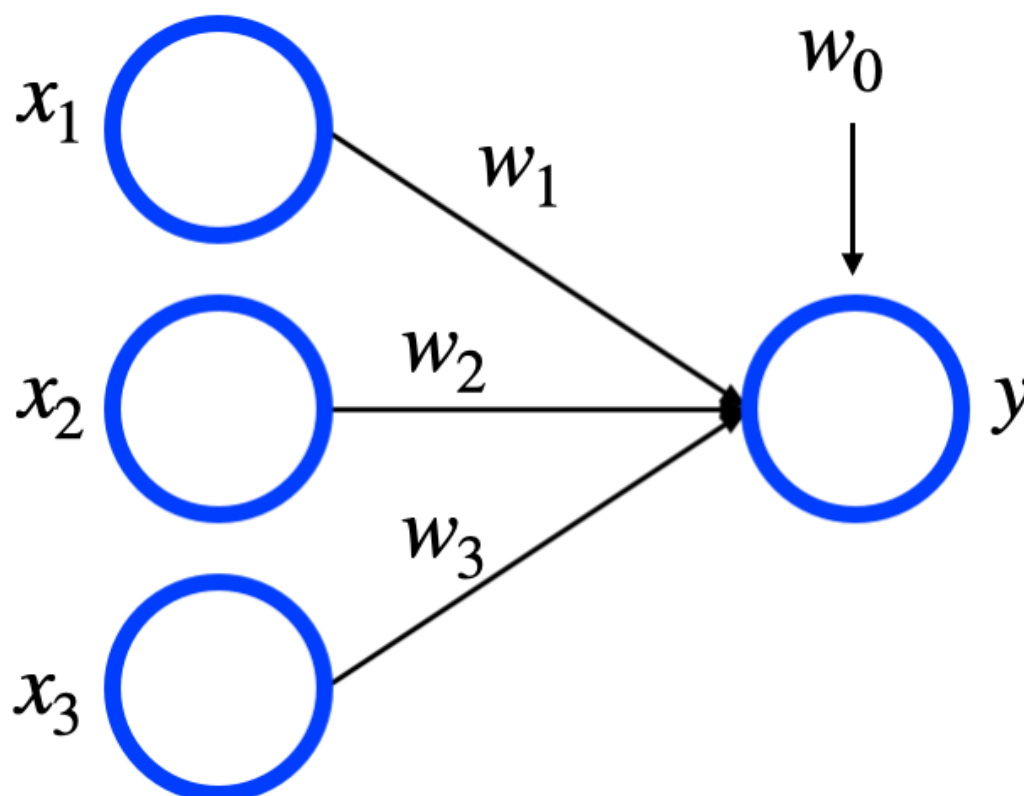
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Ankara, Cankaya, Turkey

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

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



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

This form was created inside of CS50.

Google Forms





