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## Knowledge Checks

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### DAT236x-M2-04

1/1 point (graded)

What is the maximum output value of a softmax node?

☐ -100

☐ -1

☐ 0

☒ 1 ✓

☐ 100

Submit

You have used 1 of 2 attempts

✓ Correct (1/1 point)

### DAT236x-M2-05

1/1 point (graded)

what is the correct 1-hot encoding for the 3rd of 5 classes?

☐ 3☒ 00100 ✓☐ 11011☐ 00300☐ 11311

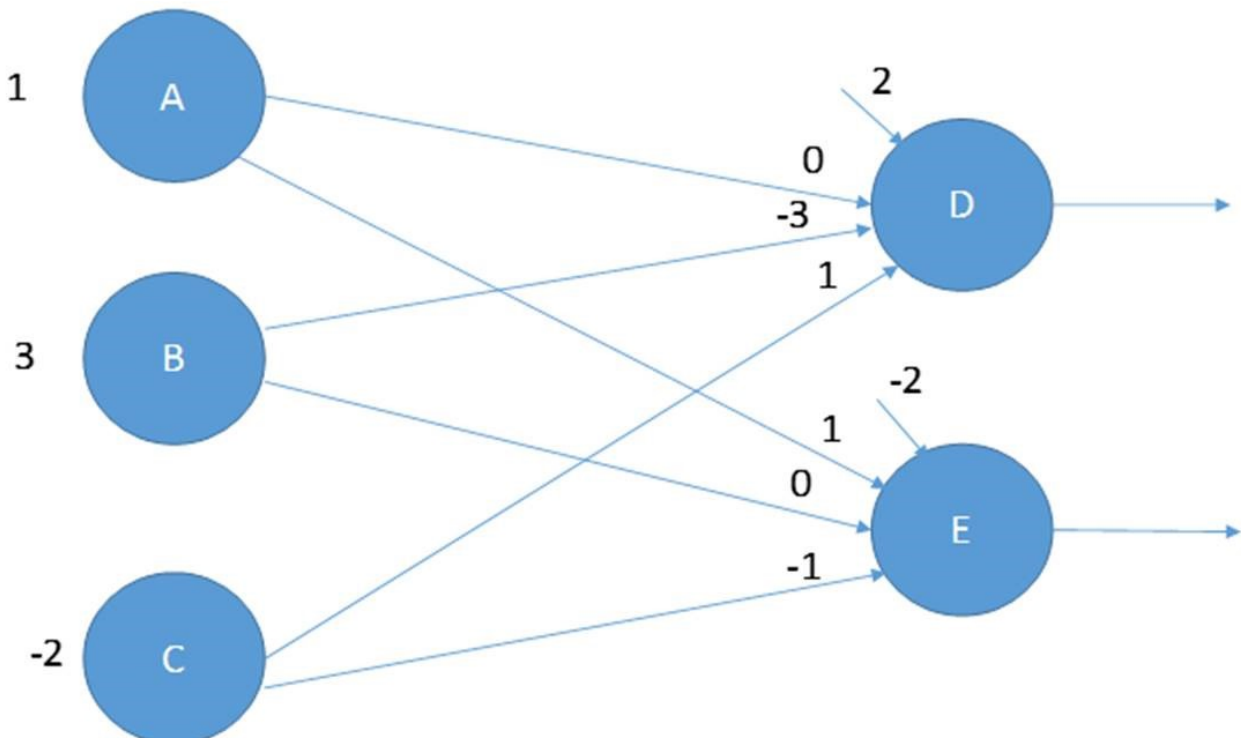
You have used 1 of 2 attempts

✓ Correct (1/1 point)

## DAT236x-M2-06

1/1 point (graded)

Consider the following Logistic Regression model where A, B, and C are the inputs and D and E are the outputs.



What is the output of D?



You have used 1 of 2 attempts

---

✓ Correct (1/1 point)

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## DAT236x-M2-10

1/1 point (graded)

Which two activation function can be used for a binary Logistic Regression model?

☐ cos☒ softmax☒ sigmoid☐ abs

You have used 1 of 2 attempts

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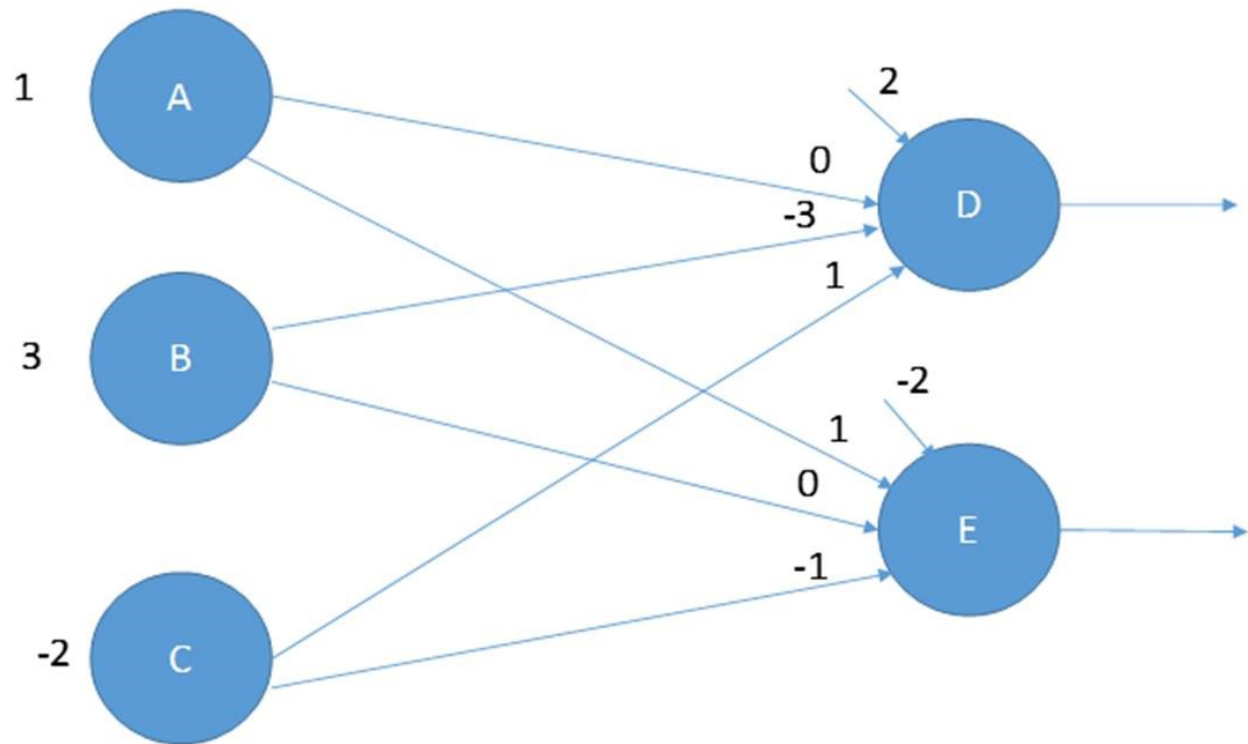
✓ Correct (1/1 point)

---

## DAT236x-M2-08

1/1 point (graded)

Consider the following Logistic Regression model where A, B, and C are the inputs and D and E are the outputs.



What is the **bias** value of D?

☐ 0

☐ -3

☐ 1

☒ 2 ✓

Submit

You have used 1 of 2 attempts

✓ Correct (1/1 point)

## DAT236x-M2-01

1/1 point (graded)

Which three of these options are used to guide the weight changes of a logistic regression (LR) model during training?

☒ Loss function☒ Learner☐ Test Data☒ Training Data

Submit

You have used 1 of 2 attempts

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✓ Correct (1/1 point)

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## DAT236x-M2-09

1/1 point (graded)

How are the weights and bias values of a Logistic Regression model adjusted during **testing**?

☒ they are not adjusted ✓☐ using the learning rate parameter and the gradient of the loss function☐ using a constant value learning during training☐ using the gradient of the test accuracy

Submit

You have used 1 of 2 attempts

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✓ Correct (1/1 point)

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## DAT236x-M2-02

1/1 point (graded)

How many bias values are used in a multi-class logistic regression (LR) model with 256 inputs, each of which takes values between 1 and 10, and 3 outputs?

☐ 1

☒ 3 ✓

☐ 256

☐ 10

Submit

You have used 1 of 2 attempts

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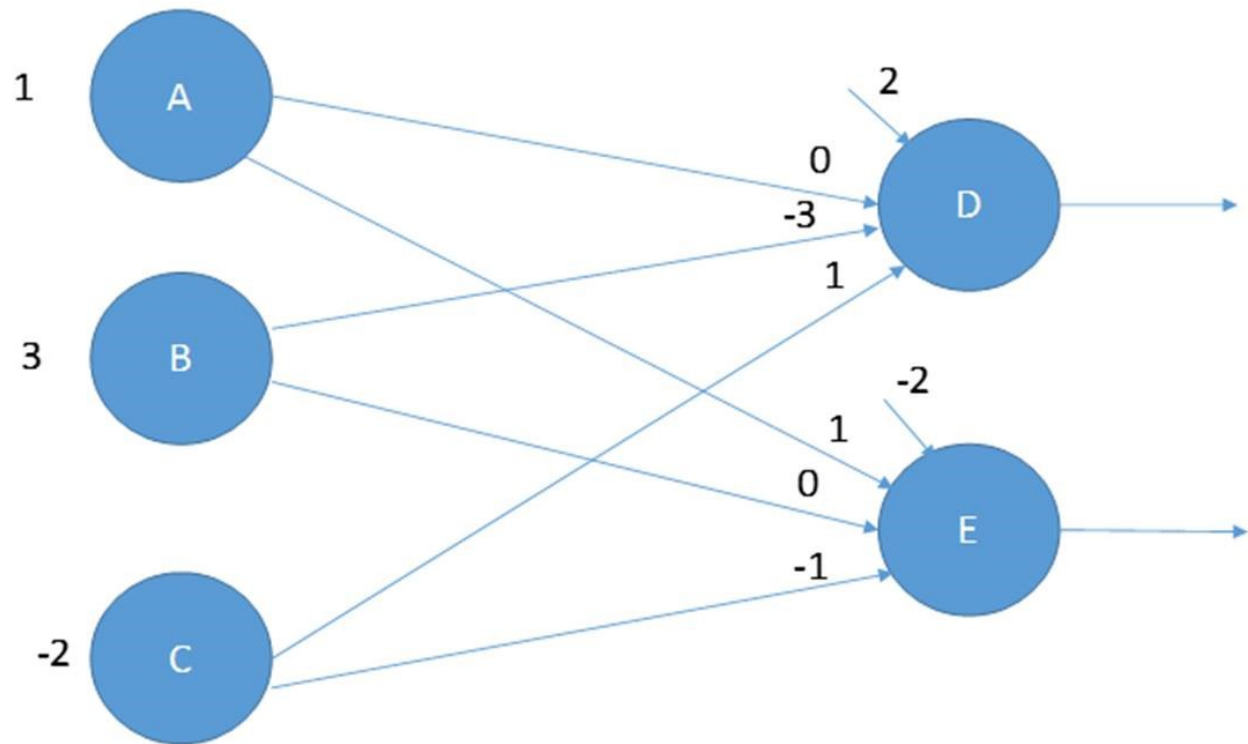
✓ Correct (1/1 point)

---

## DAT236x-M2-07

1/1 point (graded)

Consider the following Logistic Regression model where A, B, and C are the inputs and D and E are the outputs.



What is the output of E?

1



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You have used 1 of 2 attempts

✓ Correct (1/1 point)

## DAT236x-M2-03

1/1 point (graded)

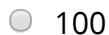
What is the minimum output value of a softmax node?

☐ -100

☐ -1

☒ 0 ✓

☐ 1

 100

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You have used 1 of 2 attempts

 Correct (1/1 point)

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### DAT236x-M2-06

question posted 14 days ago by LoreaArrizabalaga

$\ln[P(\text{success})/P(\text{failure})] = B(\text{intercept or bias}) + X_1W_1 + X_2W_2$   $D=2 + 1*(0) + 3*(-3) + (-2)*1 = -9$   $P(\text{success}) = \frac{\exp(-9)}{1 + \exp(-9)} = \frac{1}{1 + \exp(9)} = 0.000123$  or as per python 0.00012339 Could you possibly tell me where this is wrong? many thanks



This post is visible to everyone.

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1 response

**phidesigner**

14 days ago



You don't have to apply softmax as we are not calculating the statistical probability. The output is the direct calculation of the sum of the weighed inputs plus the Bias.

That is what I thought when I saw the answer had been rated as wrong, then following the python script, I saw the following definition : In Binary Logistic Regression, the input features are each scaled by an associated weight and summed together. The sum is passed through a squashing (aka activation) function and generates an output in [0,1]. So according to the definition, the OUTPUT is passed through!



posted 11 days ago by LoreaArrizabalaga



I don't agree with being asked the questions M2-06 and M2-07 that are the output of D and the output of E. First of all, I don't think the lectures gave enough clues to answer these. Furthermore, Logistic regression will give you the probability that y is 1 or 0. Therefore, @LoreaArrizabalaga's post makes sense that softmax is applied. When the expected correct answer is from a straight multiplication and addition in the form of  $D = B(\text{intercept or bias}) + X1W1 + X2W2 + X3W3$  as is, then this equation is linear regression, not logistic regression. Did I misunderstand anything?



posted 6 days ago by **kayap**

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