Congratulations! You passed!

Grade received 90%
Latest Submission Grade 90%
To pass 80% or higher

Go to next item

1. In logistic regression given the input $\mathbf{x}$, and parameters $w \in \mathbb{R}^{n_x}$, $b \in \mathbb{R}$, how do we generate the output $\hat{y}$? **1 / 1 point**

Expand

Correct
Right, in logistic regression we use a linear function $W\mathbf{x} + b$ followed by the sigmoid function σ, to get an output y, referred to as ŷ, such that $0 < \hat{y} < 1$.

2. Which of these is the "Logistic Loss"? **1 / 1 point**

Expand

Correct
Correct, this is the logistic loss you've seen in lecture!

3. Suppose img is a (32,32,3) array, representing a 32x32 image with 3 color channels red, green and blue. How do you reshape this into a column vector x? **1 / 1 point**

Expand

Correct

4. Consider the following random arrays a and b, and c: **1 / 1 point**

$a = np.random.randn(3, 3)$ # $a.shape = (3, 3)$

$b = np.random.randn(2, 1)$ # $b.shape = (2, 1)$

$c = a + b$

What will be the shape of c?

↙↗ **Expand**

✓ **Correct**
Yes. It is not possible to broadcast together a and b. In this case there is no way to generate copies of one of the arrays to match the size of the other.

5. Consider the two following random arrays a and b: **1 / 1 point**

$a = np.random.randn(1, 3)$ # $a.shape = (1, 3)$

$b = np.random.randn(3, 3)$ # $b.shape = (3, 3)$

$c = a * b$

What will be the shape of c?

Expand

Correct
Yes. Broadcasting allows row a to be multiplied element-wise with each row of b to from c.

6. **1 / 1 point**

Suppose you have n_x input features per example. If we decide to use row vectors $\mathbf{x}_j$ for the features and $X = \begin{bmatrix} \mathbf{x}_1 \\ \mathbf{x}_2 \\ \vdots \\ \mathbf{x}_m \end{bmatrix}$.

What is the dimension of X?

Expand

Correct
Yes. Each $\mathbf{x}_j$ has dimension $1 \times n_x$, X is built stacking all rows together into a $m \times n_x$ array.

7. Consider the following array: **1 / 1 point**

$a = np.array([[2, 1], [1, 3]])$

What is the result of $a * a$?

↙↗ **Expand**

✓ **Correct**
Yes, recall that * indicates element-wise multiplication.

8. Consider the following code snippet: **0 / 1 point**

$a.shape = (3, 4)$

$b.shape = (4, 1)$

for i in range(3):

for j in range(4):

c[i][j] = a[i][j] + b[j]

How do you vectorize this?

Expand

Incorrect

9. Consider the code snippet: **1 / 1 point**

$a.shape = (3, 3)$

$b.shape = (3, 3)$

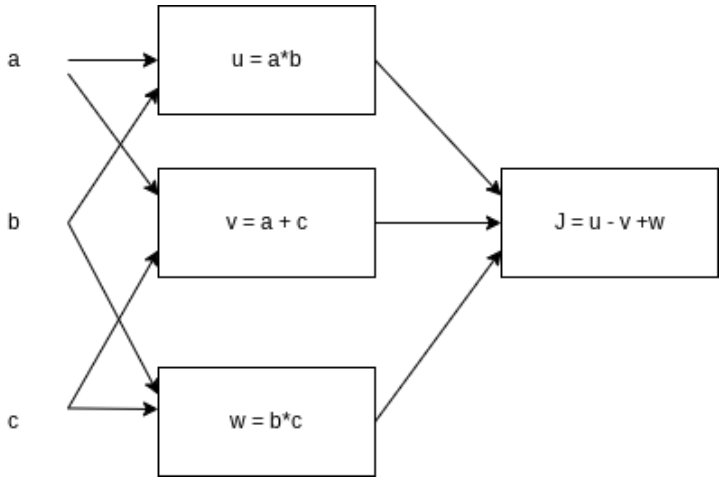
$c = a**2 + b.T**2$

Which of the following gives an equivalent output for c?

Expand

Correct
Yes. This code squares each entry of a and adds it to the transpose of b square.

10. Consider the following computational graph. **1 / 1 point**



What is the output of J?

Expand

Correct

Yes.

$J = u - v + w = ab - (a + c) + bc = ab - a + bc - c = a(b - 1) + c(b - 1) = (a + c)(b - 1)$