Q11 (through Classification 2)

• This is a preview of the published version of the quiz

Started: Dec 14 at 9:51am

Quiz Instructions

Question 1	0.1 pts
Say that Ir is a LinearRegression and that we have already fit it to our training What will we find in Ir.coef_?	j data.
○ a list of numbers	
○ a numpy array of numbers	
○ a list of booleans	
○ a numpy array of booleans	
○ a list of strings	

Question 2 0.1 pts

Say we have two vectors of unknown numbers, like this:

a = np.array([???, ???, ???, ????])

b = np.array([???, ???, ???, ????])

What expression is equal to the dot product of a.reshape(1,-1) and b.reshape(-1,1)?

 \bigcirc a[3]*b[3] + a[2]*b[2] + a[1]*b[1] + a[0]*b[0]

 \bigcirc (a[0] + b[0]) * (a[1] + b[1]) * (a[2] + b[2]) * (a[3] + b[3])

(a[0] - b[0]) * (a[1] - b[1]) * (a[2] - b[2]) * (a[3] - b[3])	
○ a*b[0] + a*b[1] + a*b[2] + a*b[3]	

 Question 3
 0.1 pts

 Which vector is NOT in the column space of matrix X?

 X = np.array([[7,8,9], [7,8,9],

What is a valid simplification of the following, assuming the code runs without error?

X @ np.linalg.solve(X, y)

y

x

x

x*y

x @ y

np.array([[5], [5]])

	.,	,	
\bigcirc	Х	/	J

Question 5	0.1 pts
What does the following compute with respect to matrix a?	
<pre>(a > 5).astype(int).sum()</pre>	
how many cells are greater than 5	
the sum of the cells that are greater than 5	

\Box	Question 6	0.1 pts
	Question o	0.1 pts

Say we plan to run the following:

the sum of the cells that are greater than or equal to 5

O the sum of the cells in a slice of the values from index 6 to the end

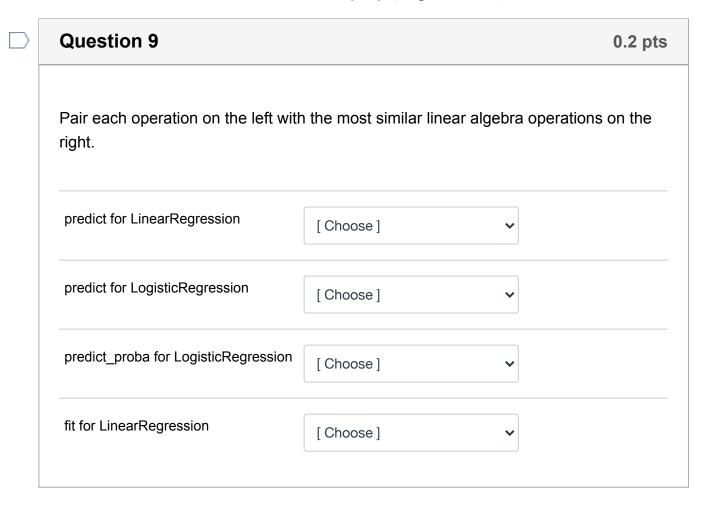
$$y = X @ c$$

X is a matrix with 4 rows and 3 columns, containing only values >0. c is a vertical vector with 3 values.

If someone tells us all the values in X, and two of the values in c (that is, one value in c is a mystery), how many values in y can we compute?

- **1**
- 7
- 5
- \bigcirc 6

○ 3	
<u> </u>	
○ 2	
○ 0	
Question 7	0.1 p
When you have 5 variables, and 7 equations, it is SC values for all 5 variables to satisfy the 7 equations.	DMETIMES possible to find
○ False	0.1 n
	0.1 p
○ False	0.1 p
○ False Question 8	0.1 p
O False Question 8 Sometimes, we can't compute this:	
Question 8 Sometimes, we can't compute this: c = np.linalg.solve(X, y) So instead, we compute the following, where y2 is wh	
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Question 8 Sometimes, we can't compute this: c = np.linalg.solve(X, y) So instead, we compute the following, where y2 is wl product of X's projection matrix with y. c = np.linalg.solve(X, y2) What is special about y2?	0.1 p



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