

# CSE519 Quiz 5

Total points **6/7**

This quiz is set to analyze your basic understanding about the last lecture of the course. Be sure to answer all questions carefully because this will be graded.

The respondent's email address (**aditya.choudhary@stonybrook.edu**) was recorded on submission of this form.

Section score **6/7**

✓ Which statement is true when  $x$  and  $y$  are negatively correlated? ( $X' = x$  mean and  $Y' = y$  mean) \* 1/1

☐ Equal frequency of positive and negative values in the covariance

☒ Some values of  $x$  are above  $X'$  and corresponding values of  $y$  are below  $Y'$  ✓

☐ All  $x$  values are below  $X'$  and all  $y$  values are below  $Y'$

☐ Whenever  $x$  goes below  $X'$ , corresponding value of  $y$  goes below  $Y'$

✓ Roughly how much of variance in  $Y$  is explained by  $X$  when the  $r$  value is 0.65? \* 1/1

☐ 30%

☒ 42% ✓

☐ 50%

☐ 60%

✗ Which of these events will not yield highly autocorrelated 0/1

✗ Which of these events will not yield highly autocorrelated sequences? \*

0/1

- ☐ Attendance at a museum per day
- ☐ Amount of rainfall per day
- ☒ Holiday sales
- ☐ Hours of sunlight per day

✗

Correct answer

- ☒ Amount of rainfall per day

✓ Check all of the following statements that are true. \*

1/1

- ☐ Correlation implies causation.
- ☐ The statistical correlation depends solely on the sample size.

☒ A large number of weak correlations may together denote strong predictive power. ✓

☒ Correlation of -0.5 between x and y denotes more predictive power than a correlation of 0.4 ✓

✓ In what scenario can the Spearman correlation be 1 when the Pearson correlation is 0.70 for the same data? \*

1/1

- ☐ When x increases y decreases by the same amount for all dataset.
- ☐ When x decreases, y increases by various amounts for all dataset.
- ☐ When x increases, y also increases by the same amount for all dataset.
- ☒ When x increases, y increases by various amounts for all dataset. ✓

✓ Which of these statements is true about the Pearson

1/1

✓ Which of these statements is true about the Pearson correlation coefficient? \*

1/1

- ☐ Correlation can never be zero
- ☐ It can exceed above 1
- ☒ It is symmetric i.e  $\text{Corr}(X,Y) = \text{Corr}(Y,X)$
- ☐ It shows more than a linear correlation



✓ Which technique is used to compute the autocorrelation function? \*

1/1

- ☐ Singular Value Decomposition
- ☐ Wavelet Transform
- ☐ Cosine Transform
- ☒ Fast Fourier Transform



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