PLLG 7 – Critical thinking Assessment

Course – QM 310

Following question is taken from final Exam. Student have to use Excel (Data analysis toolpak, excel functions related to distributions) to solve problem.

Consider the following set of ordered pairs.

x	4	3	2	3
y	7	7	3	7

Calculate the coefficient of determination and test its significance using $\alpha = 0.05$.

⊞ Click the icon to view a partial ANOVA table.

📄 Click the icon to view a partial table of critical F-scores with 0.05 in the right tail of the distribution.

Calculate the coefficient of determination.

$R^2 = \boxed{}$ (Round to three decimal places as needed.)

Determine the null and alternative hypotheses. Choose the correct answer below.

○ A. $H_0: \rho^2 < 0$
$H_1: \rho^2 \geq 0$

○ B. $H_0: \rho^2 \leq 0$
$H_1: \rho^2 > 0$

○ C. $H_0: \rho^2 > 0$
$H_1: \rho^2 = 0$

○ D. $H_0: \rho^2 \geq 0$
$H_1: \rho^2 < 0$

Determine the critical F-score, F_α.

$F_\alpha = \boxed{}$ (Round to three decimal places as needed.)

Calculate the F-score for this test.

$F = \boxed{}$ (Round to three decimal places as needed.)

Determine the correct conclusion. Choose the correct answer below.

○ A. Reject H_0. There appears to be a relationship between x and y.

○ B. Do not reject H_0. There appears to be a relationship between x and y.

○ C. Do not reject H_0. There does not appear to be a relationship between x and y.

○ D. Reject H_0. There does not appear to be a relationship between x and y.

Following rubric is used to record assessment results.

		Exemplary	Satisfactory	Unsatisfactory	Total
Section No	Understand Problem				
	Analyze Information				
	Propose Solution				

1. Understand Problem:
   Student have to select four alternatives for hypothesis. Based on level of correctness they are classified as Exemplary, Satisfactory, or Unsatisfactory.

2. Analyze Information:
   Student have to list correct value for test statistics and critical value.   Based on level of correctness they are classified as Exemplary, Satisfactory, or Unsatisfactory.

3. Solution:
   Student have to select correct alternative for problem decision. Based on level of correctness they are classified as Exemplary, Satisfactory, or Unsatisfactory.