Week 5:Assignment 5

The due date for submitting this assignment has passed.

Due on 2021-09-01, 23:59 IST.

As per our records you have not submitted this assignment.

1) *1 point*

The correlation coefficient between two variables is same as -

a. Square of coefficient of determination when we run a regression with these variables

b. Square root of coefficient of determinationwhen we run a regression with these variables

c. Equal to coefficient of determinationwhen we run a regression with these variables

d. Inverse of coefficient of determinationwhen we run a regression with these variables

- a
- b
- c
- d

No, the answer is incorrect.
Score: 0
Accepted Answers:
b

2) *1 point*

In a regression model if $r^2 = 1$, then which of the following is CORRECT

a) Residual sum of square (RSS) = Total sum of square (TSS)

b) Sum of Square Explained (SSE) = 1

c) Residual sum of square(RSS) = Sum of Square Explained(SSE)

d) Sum of Square Explained(SSE) = Total sum of square(TSS)

- a
- b
- c
- d

No, the answer is incorrect.
Score: 0
Accepted Answers:
d

3) *1 point*

Which of the following will be **TRUE** if a relevant and uncorrelated variable is omitted from a regression equation?

a. The standard errors would be biased

b. the slope coefficients can be inconsistent.

c. theintercept coefficient can be inconsistent.

d. all ofthe slope and intercept coefficients will be consistent and unbiased but inefficient.

- a
- b
- c
- d

No, the answer is incorrect.
Score: 0
Accepted Answers:
a
b
c

4) *1 point*

Which of the following statements correctly defines a 95% confidence interval?

a) The confidence interval would contain the estimated value of the parameter 95% of the time in repeated samples

b) The confidence interval would contain the true value of the parameter 95% of the time in repeated samples

c) The null hypothesis will be rejected 95% of the time

d) 95% of the time in repeated samples we will fail to reject the null hypothesis, if the null hypothesis is true

- a
- b
- c
- d

No, the answer is incorrect.
Score: 0
Accepted Answers:
b
d

5) *1 point*

For a regression model the residual sum of squares is 4132 and the sum of squares explained is 3993, what is the value of coefficient of determination?

a) 0.60

b) 0.49

c) 0.90

d) 0.51

- a
- b
- c
- d

No, the answer is incorrect.
Score: 0
Accepted Answers:
b

6) *1 point*

Which of the following statements are FALSE for a standard regression model?

a) The dependent variable has a probability distribution

b) The independent variable has a probability distribution

c) The error term is assumed to be correlated with independent variables.

d) The independent variable is non-stochastic

- a
- b
- c
- d

No, the answer is incorrect.
Score: 0
Accepted Answers:
b
c

7) *1 point*

Please indicate the true statements -

a. the correlation coefficient value ranges from -1 to +1
b. the correlation coefficient value ranges from 0 to 1
c. the value the the correlation coefficient is equal to zero means there is no correlation between the variables
d. A high value of coefficient of determination essentially means the variables are causally related

- a
- b
- c
- d

No, the answer is incorrect.
Score: 0
Accepted Answers:
a
d

8) *1 point*

The value of the adjusted coefficient of determination

a. Will increase if additional irrelevant variables are added to the regression equation

b. It is usually larger than coefficient of determination

c. It is usually smaller than coefficient of determination

d. Will decrease if additional irrelevant variables are added to the regression equation

- a
- b
- c
- d

No, the answer is incorrect.
Score: 0
Accepted Answers:
c
d

9) *1 point*

Which of the following relationships violates the regression assumption of linearity in parameter and correct specification?

(a) $Y = a + bX$
(b) $Y = a + bX^2$
(c) $Y = a + bX^b$
(d) None of the above

- a
- b
- c
- d

No, the answer is incorrect.
Score: 0
Accepted Answers:
c

10) *1 point*

If coefficient of determination of a regression model is exactly zero, then which of the following statements are TRUE?

a. Coefficients corresponding to the independent variables will be zero

b. The intercept coefficient estimate will be zero.

c. The regression line fails to explain any of the variability of *y* about its mean value

d. The fitted line will be horizontal with respect to all of the explanatory variables

- a
- b
- c
- d

No, the answer is incorrect.
Score: 0
Accepted Answers:
a
c
d