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Unit 3 - Week 1

Course
outline

How to access
the portal

Pre-requisite
Assignment

Week 1

- Simple Linear Regression(Part A) (unit? unit=8&lesson=9)
- Simple Linear Regression (Part B) (unit? unit=8&lesson=10)
- Simple Linear Regression (Part C) (unit? unit=8&lesson=11)
- WEEK 1 - FEEDBACK - Regression analysis (unit? unit=8&lesson=12)
- Assignment 1 Solution (unit? unit=8&lesson=13)

Assignment 1

The due date for submitting this assignment has passed. **Due on 2019-08-14, 23:59 IST.**
As per our records you have not submitted this assignment.

1) If we fit the model $Y = \beta X + \epsilon$ (that P is, no intercept) to a set of data $(X_i, Y_i), i = 1, 2, \dots, n$, the sum of the residuals $\sum_{i=1}^n e_i$

1 point

- must be equal to zero
- is not necessarily equal to zero
- cannot say

No, the answer is incorrect.
Score: 0

Accepted Answers:
is not necessarily equal to zero

2)

1 point

○ Quiz :
Assignment 1
(assessment?
name=81)

Week 2

Week 3

Week 4

Week 5

Week 6

Week 7

Week 8

Week 9

Week 10

Week 11

Week 12

VIDEO
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The moisture of the wet mix of a product is considered to have an effect on the finished product density. The moisture of the mix was controlled and finished product densities were measured as shown below.

X (mix moisture)	Y (Density)
4.7	3
5.0	3
5.2	4
5.2	5
5.9	10
4.7	2
5.9	9
5.2	3
5.3	7
5.9	6
5.6	6
5.0	4

Consider fitting the model $Y = \beta_0 + \beta_1 X + \epsilon$ to the data. The least square estimate of β_1 is :

- 7.5
 5
 6
 6.5

No, the answer is incorrect.
Score: 0

Accepted Answers:
5

3) Consider the data in Problem 2. The least square estimate of β_0 is:

1 point

- 11.20
 -7.85
 18.18
 -21.33

No, the answer is incorrect.
Score: 0

Accepted Answers:
-21.33

4) Consider the data in Problem 2. Suppose we want to test the hypothesis $H_0 : \beta_1 = 0$ against $H_1 : \beta_1 \neq 0$ with level of significance $\alpha = 0.05$.

1 point

The value of the test statistic is

- 5.524
 6.237
 7.812
 2.228

No, the answer is incorrect.
Score: 0

Accepted Answers:
5.524

5) Consider the data in Problem 2. Suppose we want to test the hypothesis $H_0 : \beta_1 = 0$ against $H_1 : \beta_1 \neq 0$ with level of significance $\alpha = 0.05$

1 point

The decision is:

- accept the null hypothesis
- reject the null hypothesis
- cannot decide

No, the answer is incorrect.

Score: 0

Accepted Answers:

reject the null hypothesis

6) Consider the data in Problem 2. The degree of freedom of SS_{Res} is

1 point

- 8
- 9
- 10
- 11

No, the answer is incorrect.

Score: 0

Accepted Answers:

10

7) Consider the data in Problem 2. The degree of freedom of SS_{Reg} is

1 point

- 1
- 2
- 3
- 4

No, the answer is incorrect.

Score: 0

Accepted Answers:

1

8) Consider the data in Problem 2. Suppose we want to test the hypothesis $H_0 : \beta_0 = -15$ against $H_1 : \beta_0 \neq -15$ with level of significance $\alpha = 0.05$. **1 point**

The decision is:

- accept the null hypothesis
- reject the null hypothesis
- cannot decide

No, the answer is incorrect.

Score: 0

Accepted Answers:

accept the null hypothesis

