Answer Submitted.
X

Week 2: Assignment 2 (Non Graded)

Your last recorded submission was on 2021-09-06, 12:36 IST
Note : This assignment is only for practice purpose and it will not be counted towards the Final score

1) If a data matrix does not have a full column rank, one can then: ***1 point***

- [ ] Work with a reduced set of variables
- [ ] Dependent variables can be calculated if they are from the same data generation process
- [x] Adding more samples from the same data generation process will not change the rank of the matrix
- [ ] Dependent attributes cannot be calculated if they are from the same data generation process

Partially Correct.
Score: 0.34
Accepted Answers:
Work with a reduced set of variables
Dependent variables can be calculated if they are from the same data generation process
Adding more samples from the same data generation process will not change the rank of the matrix

2) Which of the following is True about null space of a matrix? ***1 point***

- [x] The null space of a matrix A consists of all vectors $\boldsymbol{\beta}$ such that $\boldsymbol{A\beta} = \mathbf{0}$ and $\boldsymbol{\beta} \neq \mathbf{0}$
- [x] Nullity of a matrix is the number of vectors in the null space of the given matrix
- [x] The size of the null space of a matrix provides us with the number of linear relations among the attributes
- [x] The null space vectors $\boldsymbol{\beta}$ are useful to identify these linear relationships

Yes, the answer is correct.
Score: 1

Accepted Answers:
The null space of a matrix A consists of all vectors $\boldsymbol{\beta}$ such that $\boldsymbol{A\beta = 0}$ and $\boldsymbol{\beta \neq 0}$
Nullity of a matrix is the number of vectors in the null space of the given matrix
The size of the null space of a matrix provides us with the number of linear relations among the attributes
The null space vectors $\boldsymbol{\beta}$ are useful to identify these linear relationships

3) ***1 point***

The rank of the matrix $A = \begin{bmatrix} 0 & 0 & 0 & 0 \\ 4 & 2 & 3 & 0 \\ 1 & 0 & 0 & 0 \\ 4 & 0 & 3 & 0 \end{bmatrix}$

- (●) 3
- ( ) 2
- ( ) 1
- ( ) 0

Yes, the answer is correct.
Score: 1

Accepted Answers:
3

4) ***1 point***

The determinant of the matrix $Z = \begin{bmatrix} 5 & 4 & 7 \\ 5 & -6 & 5 \\ 4 & 2 & -3 \end{bmatrix}$ is

- ( ) 166
- (●) 418
- ( ) 215
- ( ) 314

Yes, the answer is correct.
Score: 1

Accepted Answers:
418

Check Answers and Submit

Your score is: 3.34/4