



# COMP4432 Quiz 5



Please submit your answer before the deadline: 3:30pm, 12 April 2024

Hi, Fu Lai Korris. When you submit this form, the owner will see your name and email address.

1. Suppose you have 500 features prepared for an unsupervised learning task. You are asked to select 3 most important features to simplify the task, i.e., to keep 3 out of 500 available features. Which of the following is true? (Choose the best answer)  



- ☐ This is a dimensionality reduction problem that cannot be applied to unsupervised learning task.
- ☒ Features with higher variance should be chosen.
- ☐ Selecting only 3 features out of 500 features cannot be achieved by dimensionality reduction methods.
- ☐ None of the above

Features with higher variance should have higher priority to be kept in DR (feature selection) process.

2. Which of the following is implicitly followed by dimensionality reduction approaches? (Choose the best answer)  

- ☐ Removing feature columns which have high variance in data.
- ☐ Removing sample rows which are repeated.
- ☒ Removing feature columns which have many repeated values.
- ☐ None of the above

With many repeated values, the chance that the corresponding feature has small variance is high for potential removal.

3. Which of the following cannot be used to achieve dimensionality reduction? (Choose the best answer) (3 Points)  

- ☐ PCA (Principal Component Analysis)
- ☐ LSA (Latent Semantic Analysis)
- ☐ Autoencoder
- ☒ None of the above

All of them works on the idea of subspace of DR.

Statistics for your reference:

## COMP4432 Quiz 5

67

Responses

0


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1. Suppose you have 500 features prepared for an unsupervised learning task. You are asked to select 3 most important features to simplify the task, i.e., to keep 3 out of 500 available features. Which of the following is true? (Choose the best answer) (0 point)
- 2% of respondents (1 of 66) answered this question correctly.

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- ☒ This is a dimensionality reduction... 1 ✓
- ☐ Features with higher variance sh... 42
- ☐ Selecting only 3 features out of ... 3
- ☐ None of the above 20



2. Which of the following is implicitly followed by dimensionality reduction approaches? (Choose the best (0 point) answer)

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- ☐ Removing feature columns whic... 7
- ☐ Removing sample rows which ar... 4
- ☐ Removing feature columns whic... 39
- ☐ None of the above 16



3. Which of the following cannot be used to achieve dimensionality reduction? (Choose the best answer) (3 points)

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- ☐ PCA (Principal Component Anal... 1
- ☐ LSA (Latent Semantic Analysis) 4
- ☐ Autoencoder 1
- ☐ None of the above 60

