

QUIZ 1

Problem 1. Which of these is a categorical variable?

- a) Temperature
- b) Height
- c) Country
- d) Test score

Problem 2. What does EDA stand for?

- a) Efficient Data Allocation
- b) Exploratory Data Analysis
- c) Event Data Arrangement
- d) Equalized Decision Algorithm

Problem 3. What is the main purpose of Principal Component Analysis (PCA)?

- a) To reduce the dimensionality of the data while preserving as much variability as possible
- b) To eliminate correlated variables by selecting only the most important original features
- c) To standardize features so they all contribute equally to the model
- d) To project the data onto the components that best separate different class labels

Problem 4. What is the purpose of using a polynomial model instead of a linear one?

- a) It's faster.
- b) It always fits better.
- c) It can capture non-linear patterns in the data.
- d) It avoids overfitting.

Problem 5. What does it mean if your training RMSE is low but the model performs poorly on new data?

- a) Underfitting
- b) Great model
- c) Overfitting
- d) High bias

Problem 6. Which encoding should you use for data like ['California', 'Texas', 'Iowa', 'New York']? (???)

- a) Label encoding
- b) Ordinal mapping with custom order
- c) One-hot encoding
- d) Frequency encoding

Problem 7. What is the main purpose of Git?

- a) Hosting websites
- b) Tracking changes in source code over time
- c) Compiling code
- d) Running machine learning models

Problem 8. Which graph would best show the relationship between sleep hours and test score?

Answer: Scatterplot

Problem 9. What does a correlation of zero suggest?

Answer: No LINEAR relationship

Problem 10. Briefly explain the difference between histogram and bar plot.

Answer: histogram: continuous numerical, bar plot: categorical

Problem 11. You want to add a new feature to a shared Git project without affecting the main branch. Arrange the following steps in the correct logical order:

- (1) Stage your changes
- (2) Push your work to the remote repository
- (3) Create a pull request
- (4) Create a new branch
- (5) Merge the pull request into the main branch
- (6) Commit your changes

Answer: 4-1-6-2-3-5

Please use the back of this sheet to write any feedback about the past week's classes. You can share what you enjoyed, what was challenging, or anything we could improve.

Answer keys will be uploaded to Lab 05 webpage.