

Day-7 Quiz-DataScience-Training

Welcome to the Python Programming Quiz! This quiz tests your knowledge of daily learnings. Please read the instructions carefully before starting the quiz.

Instructions and Rules

- **Time Limit:** You have 20 minutes to complete the quiz.
- **Number of Questions:** The quiz consists of 20 multiple-choice questions.
- **Scoring:** Each correct answer is worth 1 point. There is no negative marking for incorrect answers.
- **Single Attempt:** You are allowed only one attempt to complete the quiz.
- **Required Fields:** All questions are mandatory. You must answer each question to submit the quiz.
- **Resources:** This is a closed-book quiz. Do not use any external resources, including books, notes, or the internet.
- **Honesty:** Please answer the questions honestly and to the best of your ability. Cheating or dishonesty will result in disqualification.
- **Environment:** Ensure you are in a quiet environment where you can concentrate without interruptions.
- **Technical Issues:** In case of technical issues, please contact the quiz administrator immediately.
- **Retakes:** There are no retake opportunities for this quiz. Ensure you are prepared before starting.

Good luck, and do your best!

* Indicates required question

1. Email *

2. **1. Which function is used to calculate the R-squared value in sklearn? ***

Mark only one oval.

- ☐ A) r2()
- ☐ B) r2_score()
- ☐ C) r_squared()
- ☐ D) rsq()

3. **2. What does the intercept term in a linear regression model represent? ***

Mark only one oval.

- ☐ A) The slope of the regression line
- ☐ B) The value of the dependent variable when all predictors are zero
- ☐ C) The average error of the model
- ☐ D) The variance of the error terms

4. **3. In the context of linear regression, what does the term 'residual' refer to? ***

Mark only one oval.

- ☐ A) The difference between the actual and predicted values
- ☐ B) The predicted value
- ☐ C) The error term in the model
- ☐ D) The coefficient of a predictor

5. **4. Which of the following methods can be used to select important features for a regression model? ***

Mark only one oval.

- ☐ A) Recursive Feature Elimination (RFE)
- ☐ B) Principal Component Analysis (PCA)
- ☐ C) Lasso Regression
- ☐ D) All of the above

6. **5. Which of the following regularization techniques adds an L1 penalty to the loss function? ***

Mark only one oval.

- ☐ A) Ridge Regression
- ☐ B) Lasso Regression
- ☐ C) Elastic Net
- ☐ D) None of the above

7. **6. What does the coef_ attribute of a linear regression model represent? ***

Mark only one oval.

- ☐ A) Intercept of the model
- ☐ B) Coefficients of the features
- ☐ C) Residuals of the model
- ☐ D) Predicted values

8. **7. Which plot is useful for checking the linearity assumption in a regression model? ***

Mark only one oval.

- ☐ A) Residual plot
- ☐ B) Scatter plot
- ☐ C) Histogram
- ☐ D) Box plot

9. **8. What does a high Mean Squared Error (MSE) indicate about the model's predictions? ***

Mark only one oval.

- ☐ A) The model predictions are accurate
- ☐ B) The model predictions have a high variance
- ☐ C) The model predictions are far from the actual values
- ☐ D) The model is overfitting the data

10. **9. Which metric is commonly used to evaluate the performance of a regression model? ***

Mark only one oval.

- ☐ A) Mean Absolute Error (MAE)
- ☐ B) Accuracy
- ☐ C) Precision
- ☐ D) Recall

11. **10. What does the term 'overfitting' mean in the context of model training? ***

Mark only one oval.

- ☐ A) The model performs well on training data but poorly on test data
- ☐ B) The model performs poorly on both training and test data
- ☐ C) The model performs well on both training and test data
- ☐ D) The model performs well on test data but poorly on training data

12. **11. Which of the following regression models can be used for property price prediction? ***

Mark only one oval.

- ☐ A) Linear Regression
- ☐ B) Decision Tree Regression
- ☐ C) Random Forest Regression
- ☐ D) All of the above

13. **12. What is the purpose of feature scaling in the context of property price prediction? ***

Mark only one oval.

- ☐ A) To handle categorical data
- ☐ B) To normalize the range of independent variables
- ☐ C) To increase the number of features
- ☐ D) To convert the target variable to categorical

14. **13. Which of the following methods can be used to handle missing values in the dataset? ***

Mark only one oval.

- ☐ A) Dropping rows with missing values
- ☐ B) Imputing with the mean or median
- ☐ C) Imputing with a constant value
- ☐ D) All of the above

15. **14. Which of the following is NOT a common step in data preprocessing? ***

Mark only one oval.

- ☐ A) Handling missing values
- ☐ B) Scaling features
- ☐ C) Training the model
- ☐ D) Encoding categorical variables

16. **15. Which of the following is an advantage of using regularization in linear regression? ***

Mark only one oval.

- ☐ A) It increases the model complexity
- ☐ B) It reduces the number of features
- ☐ C) It prevents overfitting
- ☐ D) It improves the interpretability of the model

17. **16. What is the main purpose of using feature scaling in machine learning? ***

Mark only one oval.

- ☐ A) To make features orthogonal
- ☐ B) To transform features to a common scale
- ☐ C) To reduce the number of features
- ☐ D) To handle missing values

18. **17. In feature selection, which of the following methods can be used to rank features based on their importance?** *

Mark only one oval.

- ☐ A) RFE
- ☐ B) PCA
- ☐ C) SMOTE
- ☐ D) K-Means

19. **18. Which regularization technique adds the absolute value of the magnitude of the coefficients as a penalty term to the loss function?** *

Mark only one oval.

- ☐ A) Lasso
- ☐ B) Ridge
- ☐ C) Elastic Net
- ☐ D) Dropout

20. **19. Decomposition of variability in linear regression involves dividing total variability into: ***

Mark only one oval.

- ☐ A) Explained and unexplained variability
- ☐ B) Residuals and coefficients
- ☐ C) Predictors and responses
- ☐ D) Bias and variance

21. **20. How do you import the mean_squared_error function from sklearn? ***

Mark only one oval.

- ☐ A) from sklearn.metrics import mse
- ☐ B) from sklearn.metrics import mean_squared_error
- ☐ C) from sklearn.metrics import mse_error
- ☐ D) from sklearn.error_metrics import mean_squared_error

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