

Comprehensive Quiz

Section 1: Bash Scripting (Multiple Choice Questions)

1. Which command is used to change the current directory?
 - a) `ls`
 - b) `pwd`
 - c) `cd`
 - d) `mkdir`
2. What does the `mkdir` command do?
 - a) Lists files and directories
 - b) Creates a new directory
 - c) Changes file permissions
 - d) Displays the current working directory
3. Which command shows the full path of the current working directory?
 - a) `pwd`
 - b) `ls`
 - c) `touch`
 - d) `rm`
4. The command `ls -l` displays:
 - a) The current directory
 - b) A detailed list of files and directories
 - c) Hidden files only
 - d) The home directory

Section 2: SQL (Multiple Choice Questions)

1. Which SQL command is used to add data into a table?
 - a) INSERT
 - b) ADD
 - c) UPDATE
 - d) MODIFY
2. What does the JOIN clause do in SQL?
 - a) Deletes rows from a table
 - b) Combines rows from two or more tables
 - c) Modifies data in a table
 - d) Creates a new table
3. Which SQL keyword is used to remove duplicates from a result set?
 - a) UNIQUE
 - b) DISTINCT
 - c) DELETE
 - d) REMOVE
4. Which SQL command is used to modify the structure of a table (e.g., adding a new column)?
 - a) ALTER TABLE
 - b) MODIFY
 - c) INSERT INTO
 - d) CREATE TABLE

Section 3: Python (Multiple Choice Questions)

1. Which data type in Python is used to store a collection of items in an ordered way?
 - a) Tuple
 - b) Set

- c) List
- d) Dictionary

2. What is the output of the following code snippet?

```
x = 5  
y = 2  
print(x > y and y < 10)
```

- a) True
- b) False
- c) SyntaxError
- d) None

3. Which function is used to get the number of elements in a list?

- a) `size()`
- b) `count()`
- c) `length()`
- d) `len()`

4. In Python, which of the following is used to create a function?

- a) `function`
- b) `def`
- c) `define`
- d) `lambda`

Section 4: Machine Learning (Multiple Choice Questions)

1. In linear regression, what is the goal of the model?

- a) To classify data into categories
- b) To predict continuous numerical values
- c) To cluster data points
- d) To reduce dimensionality of data

2. Logistic regression is used for:
 - a) Regression tasks
 - b) Clustering tasks
 - c) Classification tasks
 - d) Dimensionality reduction tasks
3. What is the purpose of the kernel trick in Support Vector Machines (SVM)?
 - a) To handle non-linear data
 - b) To reduce the number of features
 - c) To perform feature scaling
 - d) To simplify the model
4. In a logistic regression model, the output is a probability value. Which threshold is commonly used to classify this output as 0 or 1?
 - a) 0.25
 - b) 0.5
 - c) 0.75
 - d) 1.0

Section 5: True/False Questions

1. The command `cd ..` moves to the parent directory.
True / False
2. In SQL, `DELETE` removes an entire table from the database.
True / False
3. In Python, lists are immutable, meaning their contents cannot be changed.
True / False
4. In linear regression, the relationship between the independent variable and dependent variable is modeled as a linear equation.
True / False
5. Logistic regression can only be used for binary classification problems.
True / False
6. Support Vector Machine (SVM) is used primarily for classification tasks, but it can also be adapted for regression.
True / False

7. In bash, the command **pwd** is used to change the directory.
True / False
8. In SQL, the JOIN clause only works when tables have a primary key and foreign key relationship.
True / False