

Checkpoint-01: Quiz

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Section 1: Python (Coding Questions)

1. Basic Python - Variables and Data Types:

Write a Python program that:

- Takes two numbers as input.
- Adds the two numbers.
- Prints whether the result is odd or even.

Your code here

2. Lists and Loops:

Write a function `list_even_numbers(lst)` that:

- Takes a list of numbers as input.
- Returns a new list containing only the even numbers from the original list.

Example:

Input: [1, 2, 3, 4, 5, 6]

Output: [2, 4, 6]

Your code here

3. Arrays and Functions:

Write a function `calculate_average(array)` that:

- Takes an array of numbers as input.

- Returns the average of the numbers.

Example:

Input: [10, 20, 30, 40]

Output: 25.0

Your code here

4. Linear Regression Model:

Use the following dataset for the task.

```
x = np.array([[1], [2], [3], [4], [5]])
```

```
y = np.array([2, 4, 6, 8, 10])
```

Write a Python code to:

- Split the data into training and testing sets.
- Train a linear regression model.
- Print the predictions for the test set.

Your code here

Section 2: SQL (Coding Questions)

1. Create a Table:

Write an SQL statement to create a table called **Students** with the following columns:

- **student_id** (INT, Primary Key)
- **name** (VARCHAR(50))
- **age** (INT)
- **grade** (FLOAT)

-- Your SQL query here

2. Insert Data:

Insert the following data into the `Students` table:

- `student_id = 1, name = 'John', age = 20, grade = 85.5`
- `student_id = 2, name = 'Alice', age = 21, grade = 90.0`

-- Your SQL query here

3. Update Data:

Write an SQL query to update the `grade` of the student with `student_id = 1` to `88.0`.

-- Your SQL query here

4. Delete Data:

Write an SQL query to delete the student with `student_id = 2` from the `Students` table.

-- Your SQL query here

5. Join Tables:

Given two tables:

Courses:

course_id	course_name
1	Math
2	Physics

Enrollments:

student_id	course_id
1	1

1	2	
2	1	

Write an SQL query to return the names of students along with the courses they are enrolled in.

-- Your SQL query here

Section 3: Multiple Choice Questions (MCQ)

- Which of the following is a correct Python data type for a list?
 - []
 - ()
 - {}
- What does the `insert` method do in Python lists?
 - Adds an element at the end of the list.
 - Adds an element at a specific index.
 - Removes an element from the list.
- Which of the following SQL clauses is used to remove rows from a table?
 - DELETE
 - DROP
 - REMOVE
- Which of the following is not a machine learning model?
 - Linear Regression
 - Decision Tree
 - Neural Regression

Section 4: True or False

1. In Python, a list can contain elements of different data types.

True / False

2. The `for` loop in Python is used only with lists.

True / False

3. SQL `JOIN` is used to combine rows from two or more tables.

True / False

4. In linear regression, the relationship between input features and output is modeled as a straight line.

True / False