Code Writing: Path Parameters

- Write a FastAPI route that accepts a path parameter for user identification (user_id) and returns the user's profile information.
- Implement error handling for the case when the user_id path parameter is missing.

Code Writing: Query Parameters

- Create a FastAPI route that accepts query parameters for filtering a list of products by category and price range.
- Implement default values for the query parameters (category defaulting to 'all' and price_range defaulting to a specific range).

Combining Path and Query Parameters:

- Write a FastAPI route that accepts a path parameter for city (city_id) and query parameters for filtering restaurants by cuisine type (cuisine) and rating (min_rating).
- Ensure that the city ID is a path parameter while cuisine type and minimum rating are query parameters.

Data Validation:

- Modify an existing FastAPI route that accepts a path parameter for user_id to ensure that user_id is an integer and greater than zero.
- Add validation to a query parameter start_date to ensure it is a valid date format.

Usage and Benefits:

- Analyze a given FastAPI application and identify instances where using path parameters would be more appropriate than query parameters, and vice versa.
- Discuss the benefits of using path and query parameters in the provided FastAPI application and how it enhances API design.

SUBMISSION:

1. In the github repo called Backend Learning African Plan

2. Put the answers of the above questions in a "path-query_ass.py" file and push

3. Please arrange your answers by headers using python comments like above in your "path-query_ass.py" file.