**📝 30 Pandas Practice Questions**

**Data Loading & Inspection**

1. Load the CSV file and show the first 5 rows.
2. Check the shape of the dataframe.
3. Display column names and data types.
4. Show summary statistics.
5. Check which columns have missing values.
6. Find unique values and value counts for the Department column.

**Selection & Filtering**

1. Select the Name and Salary columns.
2. Filter employees with salary > 60,000.
3. Filter employees from IT department with salary > 50,000.
4. Select the first 10 rows using .iloc.
5. Select rows where Age is between 25 and 30.

**Cleaning & Preprocessing**

1. Fill missing salaries with the average salary.
2. Fill missing cities with "Unknown".
3. Remove duplicate rows.
4. Rename the column Salary to Salary\_Amount.
5. Strip extra spaces and convert all city names to lowercase.

**Sorting & Indexing**

1. Sort the dataframe by Salary in descending order.
2. Set ID as the index.
3. Reset the index.

**Aggregation & Grouping**

1. Find the average salary by Department.
2. Find the maximum salary by Department.
3. Count the number of employees per Department.
4. Find the average Rating by Department & Gender.

**Pivot Table**

1. Create a pivot table with Department as index, Gender as columns, and values = Salary (mean).

**Apply / Map / Lambda**

1. Create a new column Tax = 10% of Salary.
2. Create a new column Experience\_Level = "Junior" if Experience < 3 else "Senior".

**Merging & Joining**

1. Create a small bonus dataframe (ID, Bonus) and merge it with the main dataframe.

**Datetime Handling**

1. Extract Year and Month from JoiningDate.
2. Filter employees who joined after 2020-01-01.

**Descriptive Analysis & Insights**

1. Find the top 5 highest paid employees.