■ Pandas Brackets vs Parentheses Cheat Sheet

1. Square Brackets []

- Used for indexing / selecting columns & rows.
- Think of [] as "accessing data".

Examples:
df["column_name"] → select ONE column (Series)
df[["col1", "col2"]] → select MULTIPLE columns (DataFrame)
df[0:5] → row slicing
df[df["Marks"] > 80] → filtering rows with condition

2. Dot Notation .

- Shortcut for column selection (only works if column has no spaces/special characters).

Example:
df.Marks → same as df["Marks"]

3. Parentheses ()

- Used for functions / methods.
- Think of () as "doing something".

Examples:
df.head(5) → show first 5 rows
df.describe() → summary statistics
df["Marks"].mean() → average marks
df["Name"].apply(len) → apply function to each row

4. Both Together [] + ()

- Very common! [] chooses the data, () applies a method.

Examples:
df["Marks"].max() → take column, then find max
df["Marks"].apply(lambda x: x*2) → apply function

Golden Rule

■ Use [] when you want to access data (columns/rows).
■ Use () when you want to apply a function/method.

Quick Test

Which one is correct?
1. df["Price"].mean ■ (forgets the parentheses)
2. df["Price"].mean() ■ (correct, calls the function)
3. df.mean["Price"] ■ (wrong order)