Execution of 15 Pandas Operations with Examples

Including Syntax and Sample Output

Sample DataFrame Used in Examples

- import pandas as pd
- data = {'Name': ['Alice', 'Bob', 'Charlie'],
-      'Age': [25, 30, 35],
-      'Gender': ['F', 'M', 'M']}
- df = pd.DataFrame(data)

1. Importing Pandas

- Code:
- import pandas as pd

- Example Output:
- No output. Just imports the library.

2. Creating a DataFrame

- Code:
- import pandas as pd
- data = {'Name': ['Alice', 'Bob', 'Charlie'],
-     'Age': [25, 30, 35],
-     'Gender': ['F', 'M', 'M']}
- df = pd.DataFrame(data)

- Example Output:
-   Name Age Gender

3. Viewing Data

- Code:
- df.head()

- Example Output:
- Shows first 5 rows of the DataFrame

4. Getting Info

- Code:
- df.info()

- Example Output:
- <class 'pandas.core.frame.DataFrame'>
- RangeIndex: 3 entries, 0 to 2
- Data columns: Name, Age, Gender

5. Selecting Columns

- Code:
- df['Name']

- Example Output:
- 0   Alice
- 1   Bob
- 2   Charlie

6. Selecting Rows with loc

- Code:
- df.loc[0]

- Example Output:
- Name: Alice
- Age: 25
- Gender: F

7. Selecting Rows with iloc

- Code:
- df.iloc[1]

- Example Output:
- Name: Bob
- Age: 30
- Gender: M

8. Filtering Data

- Code:
- df[df['Age'] > 25]

- Example Output:
-     Name Age Gender
- 1   Bob   30   M
- 2 Charlie   35   M

9. Adding a New Column

- Code:
- df['City'] = ['Delhi', 'Mumbai', 'Pune']

- Example Output:
- Adds 'City' column to the DataFrame

10. Deleting Columns

- Code:
- df.drop('City', axis=1)

- Example Output:
- Returns DataFrame without 'City' column

11. Renaming Columns

- Code:
- df.rename(columns={'Name': 'FullName'})

- Example Output:
- Renames 'Name' to 'FullName'

12. Sorting Values

- Code:
- df.sort_values(by='Age', ascending=False)

- Example Output:
- Sorts by Age in descending order

13. GroupBy Operation

- Code:
- df.groupby('Gender')['Age'].mean()

- Example Output:
- F   25.0
- M   32.5

14. Handling Missing Values

- Code:
- df.fillna(0)
- df.dropna()

- Example Output:
- Replaces NaN with 0 or removes rows with NaN

15. Merging DataFrames

- Code:
- pd.merge(df1, df2, on='Name')

- Example Output:
- Merges df1 and df2 on 'Name' column