Here are some commonly asked **Pandas interview questions** along with their answers:

**1. What is Pandas?**

**Answer**:  
Pandas is a Python library for data manipulation and analysis. It provides two main data structures:

* **Series** (1D)
* **DataFrame** (2D)  
  It is widely used for data preprocessing, cleaning, transformation, and analysis.

**2. What are the key data structures in Pandas?**

**Answer**:

1. **Series** – One-dimensional labeled array.
2. import pandas as pd
3. s = pd.Series([10, 20, 30, 40], index=['a', 'b', 'c', 'd'])
4. print(s)
5. **DataFrame** – Two-dimensional labeled data structure.
6. data = {'Name': ['Aishwarya', 'John'], 'Age': [28, 34]}
7. df = pd.DataFrame(data)
8. print(df)

**3. How do you create a DataFrame from a list of dictionaries?**

**Answer**:

data = [{'Name': 'Alice', 'Age': 25}, {'Name': 'Bob', 'Age': 30}]

df = pd.DataFrame(data)

print(df)

**4. How do you check for missing values in Pandas?**

**Answer**:

df.isnull().sum() # Count missing values in each column

df.dropna(inplace=True) # Remove rows with missing values

df.fillna(value="Unknown", inplace=True) # Fill missing values

**5. What is the difference between loc[] and iloc[]?**

**Answer**:

* loc[] – Label-based indexing
* df.loc[0, 'Name'] # Access value by row label and column name
* iloc[] – Integer-based indexing
* df.iloc[0, 1] # Access value by row index and column index

**6. How do you drop columns in Pandas?**

**Answer**:

df.drop(columns=['Age'], inplace=True) # Drop column 'Age'

df.drop(['Age'], axis=1, inplace=True) # Same as above

**7. How do you filter data in a DataFrame?**

**Answer**:

df[df['Age'] > 25] # Filter rows where Age > 25

**8. How do you group data in Pandas?**

**Answer**:

df.groupby('City')['Age'].mean() # Group by City and calculate average Age

**9. How do you merge two DataFrames?**

**Answer**:

df1 = pd.DataFrame({'ID': [1, 2], 'Name': ['Aishwarya', 'John']})

df2 = pd.DataFrame({'ID': [1, 2], 'Salary': [50000, 60000]})

merged\_df = pd.merge(df1, df2, on='ID')

print(merged\_df)

**10. How do you read and write CSV files in Pandas?**

**Answer**:

df = pd.read\_csv('data.csv') # Read CSV file

df.to\_csv('output.csv', index=False) # Save DataFrame as CSV

**11. What is the difference between apply() and map()?**

**Answer**:

* apply() – Used for row/column-wise operations in DataFrame
* df['Age'] = df['Age'].apply(lambda x: x + 5) # Add 5 to all Age values
* map() – Used for element-wise operations in Series
* df['Name'] = df['Name'].map(str.upper) # Convert names to uppercase

**12. How do you get unique values in a DataFrame column?**

**Answer**:

df['City'].unique()

**13. What is the difference between concat() and merge()?**

**Answer**:

* concat() – Stacks DataFrames vertically or horizontally
* pd.concat([df1, df2], axis=0) # Vertical stacking
* merge() – Joins DataFrames based on a key column
* pd.merge(df1, df2, on='ID') # Merge on ID column

**14. How do you convert a column's data type?**

**Answer**:

df['Age'] = df['Age'].astype(float) # Convert Age to float

**15. How do you reset the index in Pandas?**

**Answer**:

df.reset\_index(drop=True, inplace=True)

Would you like more **advanced** Pandas interview questions? 😊