In [ ]:
```
Q1: List any five functions of the pandas library with execution.
```

In [ ]:
```
import pandas as pd

# Q1
df_q1 = pd.DataFrame({'A': [1, 2, 3], 'B': [4, 5, 6], 'C': [7, 8, 9]})

# Examples of five pandas functions
print("\nQ1:")
print("1. head():")
print(df_q1.head())
print("\n2. describe():")
print(df_q1.describe())
print("\n3. shape:")
print(df_q1.shape)
print("\n4. loc[]:")
print(df_q1.loc[0])
print("\n5. drop():")
df_q1_dropped = df_q1.drop(columns=['A'])
print(df_q1_dropped)
```

In [ ]:
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Q2: Write a Python function to re-index the DataFrame.
```

In [ ]:
```
import pandas as pd

# Q2
def reindex_df(df):
    df.index = range(1, 2 * len(df) + 1, 2)

# Example usage:
df_q2 = pd.DataFrame({'A': [1, 2, 3], 'B': [4, 5, 6], 'C': [7, 8, 9]})
reindex_df(df_q2)
print("\nQ2:")
print(df_q2)
```

In [ ]:
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Q3: Python function to calculate the sum of the first three values in the 'Values' column.
```

In [ ]:
```
import pandas as pd

# Q3
def sum_first_three_values(df):
    values_sum = df['Values'][:3].sum()
    print("\nQ3:")
    print(f"Sum of the first three values: {values_sum}")

# Example usage:
df_q3 = pd.DataFrame({'Values': [10, 20, 30, 40, 50]})
sum_first_three_values(df_q3)
```

In [ ]:
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Q4: Create a new column 'Word_Count' containing the number of words in each row of the 'Text' column
```

In [ ]:
```
import pandas as pd

# Q4
def count_words(df):
    df['Word_Count'] = df['Text'].apply(lambda x: len(str(x).split()))

# Example usage:
df_q4 = pd.DataFrame({'Text': ['This is a sample text.', 'Another example.']})
count_words(df_q4)
print("\nQ4:")
print(df_q4)
```

In [ ]:
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5: How are DataFrame.size() and DataFrame.shape() different?
```

In [ ]:
```
import pandas as pd

# Q5
df_q5 = pd.DataFrame({'A': [1, 2, 3], 'B': [4, 5, 6]})

print("\nQ5:")
print("DataFrame.size():", df_q5.size)
print("DataFrame.shape:", df_q5.shape)
```

In [ ]:
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Q6: Which function of pandas do we use to read an excel file?
```

In [ ]:
```
import pandas as pd

# Q6
df_q6 = pd.read_excel('example.xlsx')  # Replace 'example.xlsx' with your file name

print("\nQ6:")
print(df_q6)
```

In [ ]:
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Q7: Create a new column 'Username' in df containing only the username part of each email address.
```

In [ ]:
```
import pandas as pd

# Q7
def extract_username(df):
    df['Username'] = df['Email'].apply(lambda x: x.split('@')[0])

# Example usage:
df_q7 = pd.DataFrame({'Email': ['john.doe@example.com', 'alice.smith@example.com']})
extract_username(df_q7)
print("\nQ7:")
print(df_q7)
```

In [ ]:
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Q9: Calculate the mean, median, and standard deviation of the 'Values' column.
```

In [ ]:
```python
import pandas as pd

# Q9
def calculate_statistics(df):
    mean_value = df['Values'].mean()
    median_value = df['Values'].median()
    std_dev_value = df['Values'].std()

    print("\nQ9:")
    print("Mean:", mean_value)
    print("Median:", median_value)
    print("Standard Deviation:", std_dev_value)

# Example usage:
df_q9 = pd.DataFrame({'Values': [10, 20, 30, 40, 50]})
calculate_statistics(df_q9)
```

In [ ]:
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Q10: Create a new column 'MovingAverage' containing the moving average of the sales.
```

In [ ]:
```python
import pandas as pd

# Q10
def calculate_moving_average(df):
    df['MovingAverage'] = df['Sales'].rolling(window=7, min_periods=1).mean()

# Example usage:
df_q10 = pd.DataFrame({'Sales': [10, 20, 30, 40, 50, 60, 70, 80, 90]})
calculate_moving_average(df_q10)
print("\nQ10:")
print(df_q10)
```

In [ ]:
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Q11: Create a new column 'Weekday' containing the weekday name corresponding to each date.
```

In [ ]:
```python
import pandas as pd

# Q11
def add_weekday_column(df):
    df['Date'] = pd.to_datetime(df['Date'])
    df['Weekday'] = df['Date'].dt.day_name()

# Example usage:
df_q11 = pd.DataFrame({'Date': ['2023-01-01', '2023-01-02', '2023-01-03', '2023-01-04', '2023-01-05'
add_weekday_column(df_q11)
print("\nQ11:")
print(df_q11)
```