In [1]:
```
pip install pandas
```

```
Requirement already satisfied: pandas in c:\users\engin\anaconda3\lib\sit
e-packages (2.0.3)
Requirement already satisfied: python-dateutil>=2.8.2 in c:\users\engin\a
naconda3\lib\site-packages (from pandas) (2.8.2)
Requirement already satisfied: pytz>=2020.1 in c:\users\engin\anaconda3\l
ib\site-packages (from pandas) (2023.3.post1)
Requirement already satisfied: tzdata>=2022.1 in c:\users\engin\anaconda3
\lib\site-packages (from pandas) (2023.3)
Requirement already satisfied: numpy>=1.21.0 in c:\users\engin\anaconda3
\lib\site-packages (from pandas) (1.24.3)
Requirement already satisfied: six>=1.5 in c:\users\engin\anaconda3\lib\s
ite-packages (from python-dateutil>=2.8.2->pandas) (1.16.0)
Note: you may need to restart the kernel to use updated packages.
```

In [ ]:
```
Q1. Create a Pandas Series that contains the following data: 4, 8, 15, 16,
Q2. Create a variable of list type containing 10 elements in it, and apply
variable print it.
Q3. Create a Pandas DataFrame that contains the following data:
Q4. What is 'DataFrame' in pandas and how is it different from pandas.serie
Q5. What are some common functions you can use to manipulate data in a Panc
you give an example of when you might use one of these functions?
Q6. Which of the following is mutable in nature Series, DataFrame, Panel?
Q7. Create a DataFrame using multiple Series. Explain with an example.
```

In [ ]:
```
Q1
```

In [ ]:
```
import pandas as pd

# Q1
series_q1 = pd.Series([4, 8, 15, 16, 23, 42])
print("Q1:")
print(series_q1)
```

```
#Q2
```

In [ ]:
```
import pandas as pd

# Q2
list_variable = [1, 2, 3, 4, 5, 6, 7, 8, 9, 10]
series_from_list = pd.Series(list_variable)
print("\nQ2:")
print(series_from_list)
```

In [ ]:
```
Q3
```

In [ ]:
```
import pandas as pd

# Q3
data_q3 = {
    'Name': ['Alice', 'Bob', 'Claire'],
    'Age': [25, 30, 27],
    'Gender': ['Female', 'Male', 'Female']
}
df_q3 = pd.DataFrame(data_q3)
print("\nQ3:")
print(df_q3)
```

In [ ]:
```
Q4
```

In [ ]:
```
import pandas as pd

# Q4
print("\nQ4:")
print("DataFrame is a 2-dimensional labeled data structure with columns tha
      "It is like a table or a spreadsheet. Series is a 1-dimensional label
# Example:
series_example = pd.Series([10, 20, 30], name='Numbers')
df_example = pd.DataFrame(series_example)
print("Series:")
print(series_example)
print("DataFrame:")
print(df_example)
```

In [ ]:
```
Q5
```

In [ ]:
```
import pandas as pd

# Q5
print("\nQ5:")
print("Common functions for data manipulation in a Pandas DataFrame include
      "info(), drop(), and groupby(). For example, using 'head()' to displa
print(df_q3.head())
```

In [ ]:
```
Q6
```

In [ ]:
```
import pandas as pd

# Q6
print("\nQ6:")
print("DataFrame is mutable in nature. Series is also mutable, but it's rec
      "dealing with 2-dimensional data.")
```

In [ ]:
```
Q7
```

In [ ]:
```
import pandas as pd

# Q7
print("\nQ7:")
# Creating multiple Series
name_series = pd.Series(['Alice', 'Bob', 'Claire'])
age_series = pd.Series([25, 30, 27])
gender_series = pd.Series(['Female', 'Male', 'Female'])

# Creating DataFrame using multiple Series
df_q7 = pd.DataFrame({'Name': name_series, 'Age': age_series, 'Gender': ger
print(df_q7)
```