Data merge

In [2]:
```
import pandas as pd

# Example datasets for data merging
# Dataset 1: Pakistani Individuals
data1 = {
    'id': [1, 2, 3],
    'name': ['Anwaar', 'Noor', 'Gull'],
    'age': [28, 32, 24]
}
df1 = pd.DataFrame(data1)
df1.head()
```

Out[2]:

	id	name	age
0	1	Anwaar	28
1	2	Noor	32
2	3	Gull	24

In [3]:
```
# Dataset 2: Additional Information
data2 = {
    'id': [1, 2, 3],
    'city': ['Bannu', 'Lahore', 'Islamabad'],
    'occupation': ['Engineer', 'Doctor', 'Teacher']
}
df2 = pd.DataFrame(data2)
df2.head()
```

Out[3]:

	id	city	occupation
0	1	Bannu	Engineer
1	2	Lahore	Doctor
2	3	Islamabad	Teacher

In [4]:
```
# Merging DataFrames on 'id'
merged_df = pd.merge(df1, df2, on='id', how='inner')
merged_df.head()
```

Out[4]:

	id	name	age	city	occupation
0	1	Anwaar	28	Bannu	Engineer
1	2	Noor	32	Lahore	Doctor
2	3	Gull	24	Islamabad	Teacher

Concatenation

In [5]:
```
import pandas as pd

# Example datasets for Pakistani context
# Dataset 1 - Pakistani Names and Ages
data1 = {'Name': ['Ahmed', 'Fatima', 'Ali'], 'Age': [28, 32, 24]}
# Dataset 2 - More Pakistani Names and Ages
data2 = {'Name': ['Sara', 'Usman', 'Aisha'], 'Age': [29, 35, 27]}
# Dataset 3 - Cities and Provinces in Pakistan
data3 = {'City': ['Karachi', 'Lahore', 'Islamabad'], 'Province': ['Sindh', 'Punjab', 'Islamabad']}

df1 = pd.DataFrame(data1)
df2 = pd.DataFrame(data2)
df3 = pd.DataFrame(data3)

# Concatenating Rows
concatenated_rows = pd.concat([df1, df2])
```

```
# Concatenating Columns
# Note: For a meaningful column-wise concatenation, dataframes should have the same number of rows.
concatenated_columns = pd.concat([df1, df3], axis=1)
print(concatenated_rows)
print("-:------------------------------:-")
concatenated_columns
```

```
    Name  Age
0   Ahmed   28
1  Fatima   32
2     Ali   24
0    Sara   29
1   Usman   35
2   Aisha   27
-:------------------------------:-
```

Out[5]:

	Name	Age	City	Province
0	Ahmed	28	Karachi	Sindh
1	Fatima	32	Lahore	Punjab
2	Ali	24	Islamabad	Islamabad

In [ ]: