In [5]:

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import pandas as pd
def demonstrate_concat():
    df1 = pd.DataFrame(
        {
            "A": ["A0", "A1", "A2", "A3"],
            "B": ["B0", "B1", "B2", "B3"],
            "C": ["C0", "C1", "C2", "C3"],
            "D": ["D0", "D1", "D2", "D3"],
        },
        index=[0, 1, 2, 3],
    )

    df2 = pd.DataFrame(
        {
            "A": ["A4", "A5", "A6", "A7"],
            "B": ["B4", "B5", "B6", "B7"],
            "C": ["C4", "C5", "C6", "C7"],
            "D": ["D4", "D5", "D6", "D7"],
        },
        index=[4, 5, 6, 7],
    )

    df3 = pd.DataFrame(
        {
            "A": ["A8", "A9", "A10", "A11"],
            "B": ["B8", "B9", "B10", "B11"],
            "C": ["C8", "C9", "C10", "C11"],
            "D": ["D8", "D9", "D10", "D11"],
        },
        index=[8, 9, 10, 11],
    )
    print("dataframe 1")
    display(df1)
    print("dataframe 2")
    display(df2)
    print("dataframe 3")
    display(df3)
    frames = [df1, df2, df3]
    result = pd.concat(frames)
    print("After Concatination")
    display(result)

def demonstrate_merge():
    left1 = pd.DataFrame(
        {
            "key": ["K0", "K1", "K2", "K3"],
            "A": ["A0", "A1", "A2", "A3"],
            "B": ["B0", "B1", "B2", "B3"],
        }
    )


    right1 = pd.DataFrame(
        {
            "key": ["K0", "K1", "K2", "K3"],
```

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            "C": ["C0", "C1", "C2", "C3"],
            "D": ["D0", "D1", "D2", "D3"],
        }
    )
    print("Before Merging")
    print("left")
    display(left1)
    print("right")
    display(right1)
    print("After Merging")
    result = pd.merge(left1, right1, on="key")
    display(result)

def demonstrate_join():
    left2 = pd.DataFrame({"A": ["A0", "A1", "A2"], "B": ["B0", "B1", "B2"]}, index=["K0", "

    right2 = pd.DataFrame({"C": ["C0", "C2", "C3"], "D": ["D0", "D2", "D3"]}, index=["K0",

    print("Before Joining")
    print("left")
    display(left2)
    print("right")
    display(right2)
    choice2 = int(input("Enter the Choice:\n 1 for inner join\n 2 for left join\n 3 for rig
    if choice2==1:
        joint_type="inner"
    elif choice2==2:
        joint_type="left"
    elif choice2==3:
        joint_type="right"
    elif choice2==4:
        joint_type="outer"
    print("After Joining")
    result = left2.join(right2,how=joint_type)
    display(result)
while True:
    choice = int(input("Enter the Choice:\n 1 for concat\n 2 for merge\n 3 for join\n 4 to
    if choice==1:
        demonstrate_concat()
    elif choice==2:
        demonstrate_merge()
    elif choice==3:
        demonstrate_join()
    elif choice==4:
        break
    else:
        print("Invalid Input")
```

```
Enter the Choice:
 1 for concat
 2 for merge
 3 for join
 4 to end
 1
dataframe 1
```

	A	B	C	D
0	A0	B0	C0	D0
1	A1	B1	C1	D1
2	A2	B2	C2	D2