18. Pandas – DataFrame – Concat

Contents

18. Pandas – DataFrame – Concat

1. Introduction

- ✓ Based on requirement we can add/concatenate one DataFrame with another DataFrame.

2. concat(p)

- ✓ concat(p) is predefined function in pandas package.
- ✓ We should access this function by using pandas library name
- ✓ This function concatenate one DataFrame to another DataFrame

Program Name	Creating DataFrames demo1.py

```
import pandas as pd

d1 = [[11, 22], [33, 44]]
d2 = [[55, 66], [77, 88]]

c1 = ["A", "B"]

df1 = pd.DataFrame(d1, columns = c1)
df2 = pd.DataFrame(d2, columns = c1)

print(df1)
print()
print(df2)
```

Output

```
    A   B
0  11  22
1  33  44

    A   B
0  55  66
1  77  88
```

Program Name	Concatenating one DataFrame to another DataFrame demo2.py

```python
import pandas as pd

d1 = [[11, 22], [33, 44]]
d2 = [[55, 66], [77, 88]]

c1 = ["A", "B"]

df1 = pd.DataFrame(d1, columns = c1)
df2 = pd.DataFrame(d2, columns = c1)

result = [df1, df2]

df3 = pd.concat(result)

print(df1)
print()
print(df2)
print()
print(df3)
```

Output

```
       A    B
0     11   22
1     33   44

       A    B
0     55   66
1     77   88

       A    B
0     11   22
1     33   44
0     55   66
1     77   88
```

Program Name	Concatenating one DataFrame to another DataFrame demo3.py
| | ```python
import pandas as pd

d1 = [[11, 22], [33, 44]]
d2 = [[55, 66], [77, 88]]

c1 = ["A", "B"]

df1 = pd.DataFrame(d1, columns = c1)
df2 = pd.DataFrame(d2, columns = c1)

result = [df1, df2]

df3 = pd.concat(result, ignore_index = True)

print(df1)
print()
print(df2)
print()
print(df3)
``` |

Output

```
      A    B
0    11   22
1    33   44

      A    B
0    55   66
1    77   88

      A    B
0    11   22
1    33   44
2    55   66
3    77   88
```

Program Name	Concatenating one DataFrame to another DataFrame demo4.py

```python
import pandas as pd

d1 = [[11, 22], [33, 44]]
d2 = [[55, 66], [77, 88], [67, 99]]

c1 = ["A", "B"]

df1 = pd.DataFrame(d1, columns = c1)
df2 = pd.DataFrame(d2, columns = c1)

result = [df1, df2]

df3 = pd.concat(result)

print(df1)
print()
print(df2)
print()
print(df3)
```

Output

```
       A    B
0     11   22
1     33   44

       A    B
0     55   66
1     77   88
2     67   99

       A    B
0     11   22
1     33   44
0     55   66
1     77   88
2     67   99
```

Program Name	Concatenating one DataFrame to another DataFrame demo5.py

```python
import pandas as pd

d1 = [[11, 22], [33, 44]]
d2 = [[55, 66], [77, 88], [67, 99]]

c1 = ["A", "B"]

df1 = pd.DataFrame(d1, columns = c1)
df2 = pd.DataFrame(d2, columns = c1)

result = [df1, df2]

df3 = pd.concat(result, ignore_index = True)

print(df1)
print()
print(df2)
print()
print(df3)
```

Output

```
        A    B
0    11   22
1    33   44

        A    B
0    55   66
1    77   88
2    67   99

        A    B
0    11   22
1    33   44
2    55   66
3    77   88
4    67   99
```

Program Name	Concatenating one DataFrame to another DataFrame demo6.py

```python
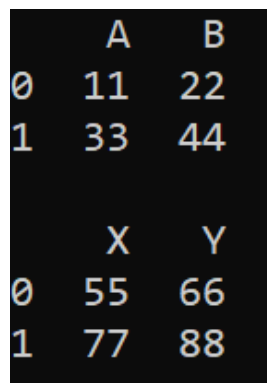import pandas as pd

d1 = [[11, 22], [33, 44]]
d2 = [[55, 66], [77, 88]]

c1 = ["A", "B"]
c2 = ["X", "Y"]

df1 = pd.DataFrame(d1, columns = c1)
df2 = pd.DataFrame(d2, columns = c2)

print(df1)
print()
print(df2)
```

Output

```
    A   B
0  11  22
1  33  44

    X   Y
0  55  66
1  77  88
```

Program Name	Concatenating one DataFrame to another DataFrame demo7.py

```python
import pandas as pd

d1 = [[11, 22], [33, 44]]
d2 = [[55, 66], [77, 88]]
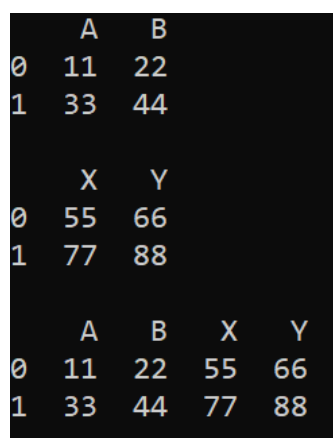
c1 = ["A", "B"]
c2 = ["X", "Y"]

df1 = pd.DataFrame(d1, columns = c1)
df2 = pd.DataFrame(d2, columns = c2)

result = [df1, df2]

df3 = pd.concat(result, axis = 1)

print(df1)
print()
print(df2)
print()
print(df3)
```

Output

```
    A   B
0   11  22
1   33  44

    X   Y
0   55  66
1   77  88

    A   B   X   Y
0   11  22  55  66
1   33  44  77  88
```

Program Name	Concatenating one DataFrame to another DataFrame demo8.py

```python
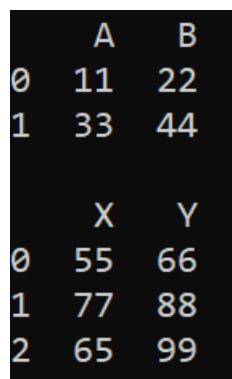import pandas as pd

d1 = [[11, 22], [33, 44]]
d2 = [[55, 66], [77, 88], [65, 99]]

c1 = ["A", "B"]
c2 = ["X", "Y"]

df1 = pd.DataFrame(d1, columns = c1)
df2 = pd.DataFrame(d2, columns = c2)

print(df1)
print()
print(df2)
```

Output

```
    A    B
0   11   22
1   33   44

    X    Y
0   55   66
1   77   88
2   65   99
```

Program Name	Concatenating one DataFrame to another DataFrame demo9.py

```python
import pandas as pd

d1 = [[11, 22], [33, 44]]
d2 = [[55, 66], [77, 88], [65, 99]]

c1 = ["A", "B"]
c2 = ["X", "Y"]

df1 = pd.DataFrame(d1, columns = c1)
df2 = pd.DataFrame(d2, columns = c2)

result = [df1, df2]

df3 = pd.concat(result, axis = 1)

print(df1)
print()
print(df2)
print()
print(df3)
```

Output

```
      A   B
0    11  22
1    33  44


      X   Y
0    55  66
1    77  88
2    65  99


       A      B    X   Y
0    11.0   22.0   55  66
1    33.0   44.0   77  88
2     NaN    NaN   65  99
```