

DR. ALVIN'S PUBLICATIONS

# HOW TO JOIN / APPEND / CONCAT TWO TABLES

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WITH PYTHON  
BY DR. ALVIN ANG



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**I. EXAMPLE 1: MERGING DAY - MONTH - YEAR (3 COLUMNS) INTO DD/M/YYYY (1 COLUMN)**

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[https://www.alvinang.sg/s/How\\_to\\_Join\\_Append\\_Concat\\_Two\\_Tables\\_with\\_Python\\_by\\_Dr\\_Alvin\\_Ang.ipynb](https://www.alvinang.sg/s/How_to_Join_Append_Concat_Two_Tables_with_Python_by_Dr_Alvin_Ang.ipynb)

How to Join Append Concat Two Tables with Python by Dr Alvin Ang

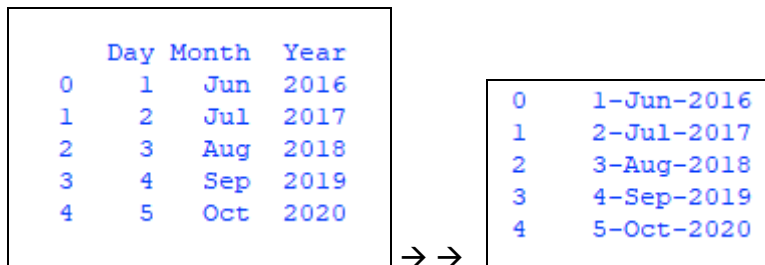
Example 1: Merging Day-Month-Year (3 columns) into DD/M/YYYY (1 column)

```
Day Month Year
0 1 Jun 2016
1 2 Jul 2017
2 3 Aug 2018
3 4 Sep 2019
4 5 Oct 2020
```

(refer the top table..)we are trying to convert to this table below....

```
0 1-Jun-2016
1 2-Jul-2017
2 3-Aug-2018
3 4-Sep-2019
4 5-Oct-2020
```

If we had 3 columns but wish to merge them altogether into 1 column:



```
[ ] from pandas import DataFrame

Dates = {'Day': [1,2,3,4,5],
         'Month': ['Jun', 'Jul', 'Aug', 'Sep', 'Oct'],
         'Year': [2016,2017,2018,2019,2020]}

df = DataFrame(Dates, columns= ['Day', 'Month', 'Year'])

df
#we create the First Table first....
```

	Day	Month	Year
0	1	Jun	2016
1	2	Jul	2017
2	3	Aug	2018
3	4	Sep	2019
4	5	Oct	2020

```
[ ] df1 = df['Day'].map(str) + '-' + \  
      df['Month'].map(str) + '-' + \  
      df['Year'].map(str)
```

```
print (df1)
```

```
#3 columns have been merged into 1!
```

```
0    1-Jun-2016  
1    2-Jul-2017  
2    3-Aug-2018  
3    4-Sep-2019  
4    5-Oct-2020  
dtype: object
```

## Example 2: Joining 3 Tables

df1					Result				
	A	B	C	D		A	B	C	D
0	A0	B0	C0	D0	0	A0	B0	C0	D0
1	A1	B1	C1	D1	1	A1	B1	C1	D1
2	A2	B2	C2	D2	2	A2	B2	C2	D2
3	A3	B3	C3	D3	3	A3	B3	C3	D3
df2					4	A4	B4	C4	D4
	A	B	C	D	5	A5	B5	C5	D5
4	A4	B4	C4	D4	6	A6	B6	C6	D6
5	A5	B5	C5	D5	7	A7	B7	C7	D7
6	A6	B6	C6	D6	8	A8	B8	C8	D8
7	A7	B7	C7	D7	9	A9	B9	C9	D9
df3					10	A10	B10	C10	D10
	A	B	C	D	11	A11	B11	C11	D11
8	A8	B8	C8	D8					
9	A9	B9	C9	D9					
10	A10	B10	C10	D10					
11	A11	B11	C11	D11					

```
[ ] import pandas as pd

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])
```

▶ df1

↳

	A	B	C	D
0	A0	B0	C0	D0
1	A1	B1	C1	D1
2	A2	B2	C2	D2
3	A3	B3	C3	D3

```
[ ] 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])
```

```
[ ] df2
```

	A	B	C	D
4	A4	B4	C4	D4
5	A5	B5	C5	D5
6	A6	B6	C6	D6
7	A7	B7	C7	D7

```
[ ] 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])
```

```
[ ] df3
```

	A	B	C	D
8	A8	B8	C8	D8
9	A9	B9	C9	D9
10	A10	B10	C10	D10
11	A11	B11	C11	D11



```
frames = [df1, df2, df3]
```

```
result = pd.concat(frames)
```

```
result
```

	A	B	C	D
0	A0	B0	C0	D0
1	A1	B1	C1	D1
2	A2	B2	C2	D2
3	A3	B3	C3	D3
4	A4	B4	C4	D4
5	A5	B5	C5	D5
6	A6	B6	C6	D6
7	A7	B7	C7	D7
8	A8	B8	C8	D8
9	A9	B9	C9	D9
10	A10	B10	C10	D10
11	A11	B11	C11	D11

# Example 3: Appending 2 Tables

df1					Result					
	A	B	C	D		A	B	C	D	F
0	A0	B0	C0	D0	0	A0	B0	C0	D0	NaN
1	A1	B1	C1	D1	1	A1	B1	C1	D1	NaN
2	A2	B2	C2	D2	2	A2	B2	C2	D2	NaN
3	A3	B3	C3	D3	3	A3	B3	C3	D3	NaN
df4					2	NaN	B2	NaN	D2	F2
	B	D	F		3	NaN	B3	NaN	D3	F3
2	B2	D2	F2	6	NaN	B6	NaN	D6	F6	
3	B3	D3	F3	7	NaN	B7	NaN	D7	F7	
6	B6	D6	F6							
7	B7	D7	F7							

```
import pandas as pd

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])
```

df1

	A	B	C	D
0	A0	B0	C0	D0
1	A1	B1	C1	D1
2	A2	B2	C2	D2
3	A3	B3	C3	D3

```
[ ] df4 = pd.DataFrame({'B': ['B2', 'B3', 'B6', 'B7'],  
                        'D': ['D2', 'D3', 'D6', 'D7'],  
                        'F': ['F2', 'F3', 'F6', 'F7']},  
                        index=[2, 3, 6, 7])
```

▶ df4

```
┌───┐  
  B  D  F  
2 B2 D2 F2  
3 B3 D3 F3  
6 B6 D6 F6  
7 B7 D7 F7
```

```
[ ] result = df1.append(df4, sort = False)
```

▶ result

```
┌───┬───┬───┬───┬───┬───┐
│   │ A  │ B  │ C  │ D  │ F  │
├───┴───┴───┴───┴───┴───┘
0  │ A0 │ B0 │ C0 │ D0 │ NaN │
1  │ A1 │ B1 │ C1 │ D1 │ NaN │
2  │ A2 │ B2 │ C2 │ D2 │ NaN │
3  │ A3 │ B3 │ C3 │ D3 │ NaN │
2  │ NaN │ B2 │ NaN │ D2 │ F2 │
3  │ NaN │ B3 │ NaN │ D3 │ F3 │
6  │ NaN │ B6 │ NaN │ D6 │ F6 │
7  │ NaN │ B7 │ NaN │ D7 │ F7 │
```

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THE END

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## ABOUT DR. ALVIN ANG

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Dr. Alvin Ang earned his Ph.D., Masters and Bachelor degrees from NTU, Singapore. He is a scientist, entrepreneur, as well as a personal/business advisor. More about him at [www.AlvinAng.sg](http://www.AlvinAng.sg).