Session9-Pandas (Combining DataFrames)

DAwithPython S9
Training Clarusway
Pear Deck - May 9, 2022 at 7:30PM

Part 1 - Summary

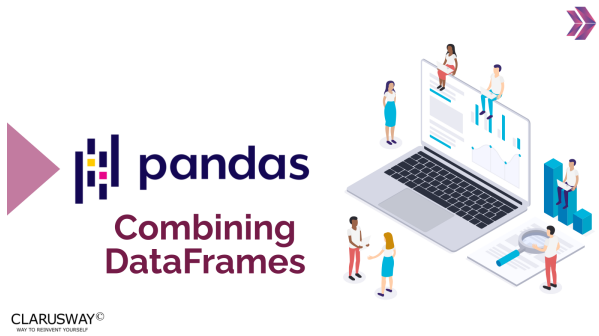
Use this space to summarize your thoughts on the lesson

Part 2 - Responses

Slide 1

Use this space to take notes:

Slide 2



Use this space to take notes:

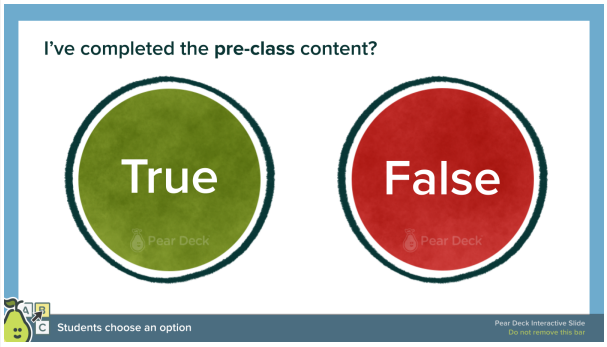
Slide 3

Table of Contents

- Types of Combining
- Appending of `DataFrames`
- Concatenating of `DataFrames`
- Joining of `DataFrames`
- Merging of `DataFrames`

Use this space to take notes:

Slide 4	Your Response



You Chose
- **True**

Other Choices
- False

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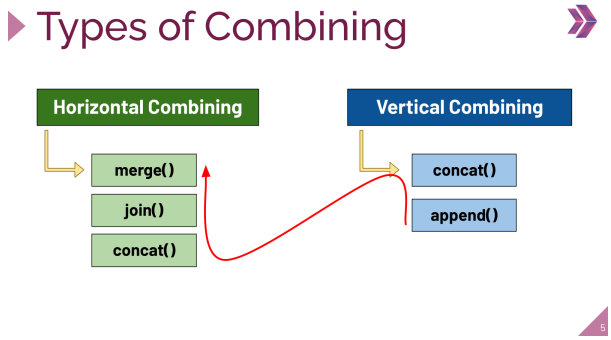

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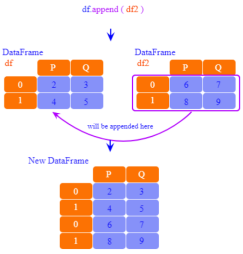
Slide 6

Appending of DataFrame

```
DataFrame.append(other, ignore_index=False, verify_integrity=False, sort=False)
```



- If there are non-matching columns in the DataFrames, the result will contain all the columns and missing values will be set to NaN.

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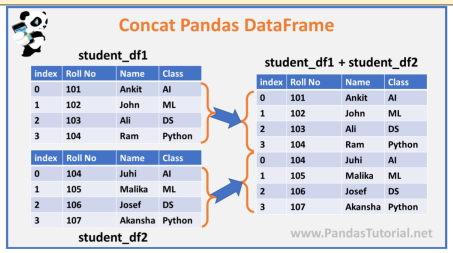
Concatenating of DataFrame

```
pandas.concat(objs, axis=0, join='outer', ignore_index=False, keys=None, levels=None, names=None,
verify_integrity=False, sort=False, copy=True)
```



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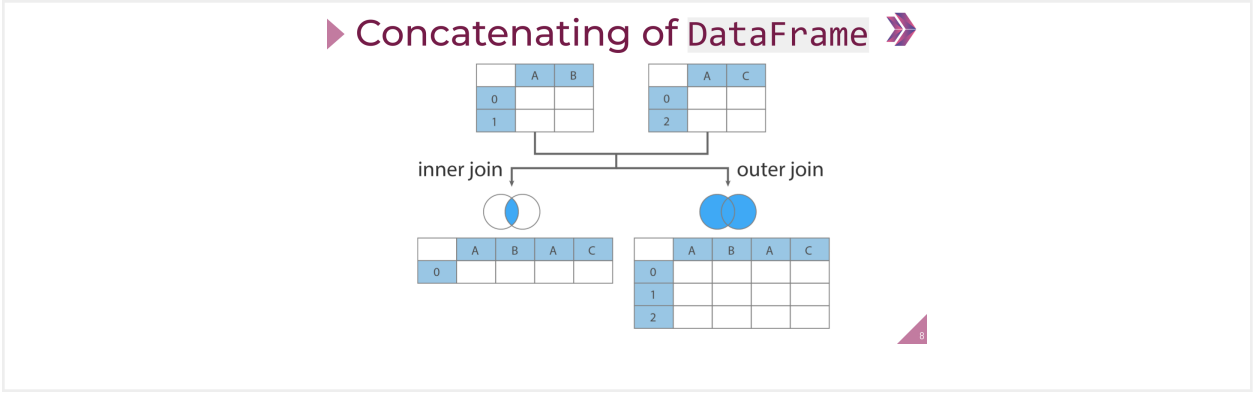
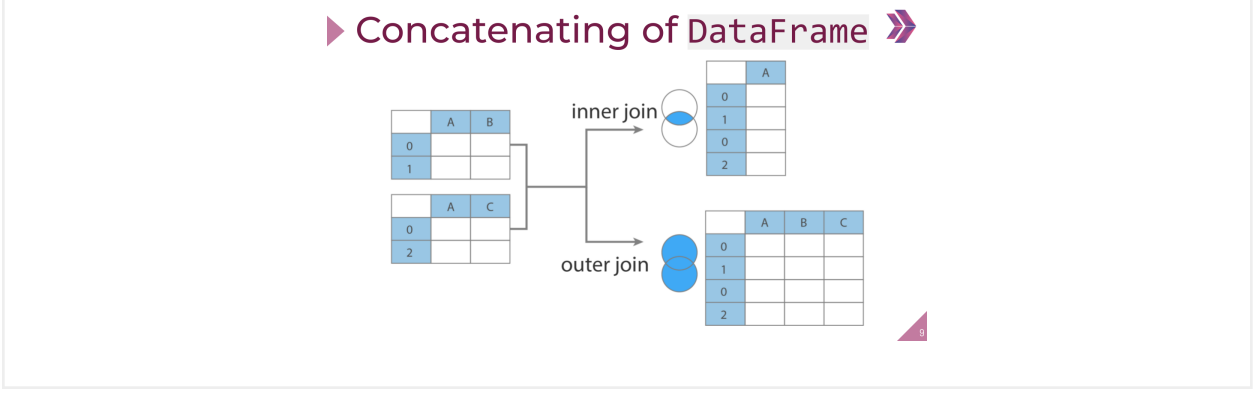


Use this space to take notes:

Slide 9



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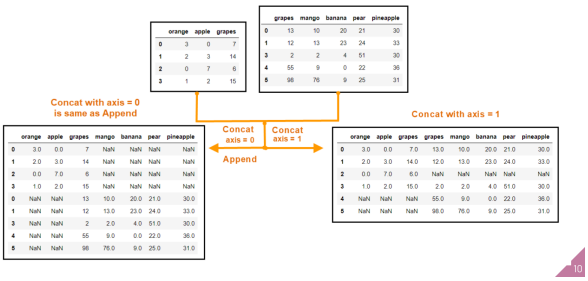
Concatenating of `DataFrame`



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Joining of `DataFrame`

```
DataFrame.join(other, on=None, how='left', lsuffix='', rsuffix='', sort=False)
```

- It will combine all the columns from the two tables, with the common columns renamed with the defined lsuffix and rsuffix.
- The way that rows from the two tables are combined is defined by how.

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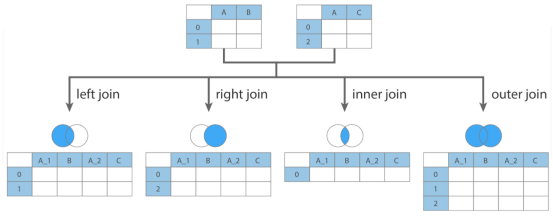
Joining of `DataFrame`



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Use this space to take notes:

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Merging of `DataFrame`

```
DataFrame.merge(right, how='inner', on=None, left_on=None, right_on=None, left_index=False,
right_index=False, sort=False, suffixes=('_x', '_y'), copy=True, indicator=False, validate=None)
```

- Similar to join, merge also combines all the columns from the two tables, with the common columns renamed with the defined suffixes.
- However, merge provides three ways of flexible control over row-wise alignment.

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Use this space to take notes:

Slide 14

Merging of DataFrame

```
DataFrame.merge(right, how='inner', on=None, left_on=None, right_on=None, left_index=False,
right_index=False, sort=False, suffixes=('_x', '_y'), copy=True, indicator=False, validate=None)
```

- **The first way** is to use **"on = COLUMN NAME"**, here the given column must be the common column in both tables.
- **The second way** is to use **"left_on = COLUMN NAME and right_on = COLUMN NAME"** , and it allows to align the two tables using two different columns.

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Merging of DataFrame

```
DataFrame.merge(right, how='inner', on=None, left_on=None, right_on=None, left_index=False,
right_index=False, sort=False, suffixes=('_x', '_y'), copy=True, indicator=False, validate=None)
```

- **The third way** is to use **"left_index = True and right_index = True"**, and the two tables are aligned based on their indexes.

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Merging of `DataFrame`

Pandas Merge

Join Two DataFrames Together

df.merge(right=other_DF, how='how_to_join', on='common_column')

df_merged = df1.merge(df2, how='left', on='Name')

df1 + **df2** = **df_merged**

Index	Name	Type
0	Liho Liho	Restaurant
1	Chambers	Restaurant
2	The Square	Bar
3	Tosca Cafe	Restaurant

Index	Name	AvgBill
0	Liho Liho	$45.32
1	Chambers	$65.33
2	The Square	$12.45
3	Tosca Cafe	$180.34

Index	Name	Type	AvgBill
0	Liho Liho	Restaurant	$45.32
1	Chambers	Restaurant	$65.33
2	The Square	Bar	$12.45
3	Tosca Cafe	Restaurant	$180.34

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Use this space to take notes:

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Data Analysis with Python

let's start the hands-on phase

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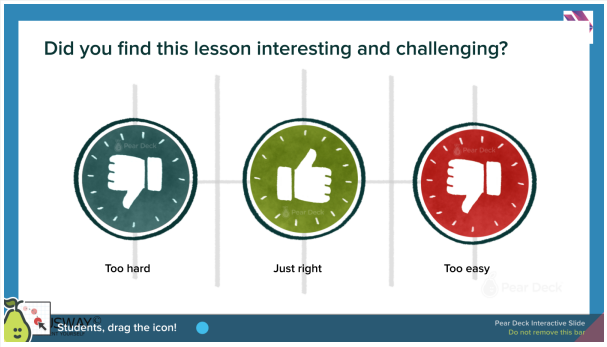
Slide 18	Your Response



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Slide 19

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