Pandas pivot

WHAT YOU'LL LEARN

- How to use the `pivot()` method in Pandas

- How to reshape or "transpose" your data
  - reshape from long to wide

Pandas pivot overview

Example: you have a dataframe

ind_var	col_var	val_var
1	A	val 1
2	A	val 2
1	B	val 3
2	B	val 4
1	C	val 5
2	C	val 6

You need to reshape the data from "tidy" format to a different format

ind_var	col_var	val_var
1	A	val 1
2	A	val 2
1	B	val 3
2	B	val 4
1	C	val 5
2	C	val 6

Pivot "reshapes" data from long to wide

```
my_dataframe.pivot(index = 'ind_var', columns = 'col_var', values = 'val_var')
```

ind_var	col_var	val_var
1	A	val 1
2	A	val 2
1	B	val 3
2	B	val 4
1	C	val 5
2	C	val 6

PIVOT "RESHAPES" DATA FROM LONG TO WIDE

```
my_dataframe.pivot(index = 'ind_var', columns = 'col_var', values = 'val_var')
```

ind_var	col_var	val_var
1	A	val 1
2	A	val 2
1	B	val 3
2	B	val 4
1	C	val 5
2	C	val 6

→

index	A	B	C
1	val 1	val 3	val 5
2	val 2	val 4	val 6

This operation is sometimes called a "transpose"

Pandas pivot syntax

Syntax: Pandas Pivot

The name of the DataFrame you want to operate on

The name of the method (called with "dot" syntax)

The column that contains the cell values for the reshaped DataFrame

```
myDataFrame.pivot(index= , columns=, values=)
```

Column to use as the new index

The column that contains the column names for the reshaped DataFrame

Parameters of Pandas pivot

THE PARAMETERS OF PANDAS PIVOT

Parameter	What it does	Format
`index=`	The values in the `index=` column will become the index values of the output DataFrame	Column name
`columns=`	The values in the `columns` column will become the column names of the output DataFrame	Column name
`values=`	The values in the `values` column will become the cell values of the output DataFrame	Column name

THE OUTPUT OF PANDAS PIVOT

- The `pivot()` method will produce a new DataFrame as output
  - A reshaped DataFrame

Pandas pivot example

EXAMPLE: RESHAPE TO WIDE

```
my_dataframe.pivot(index = 'ind_var', columns = 'col_var', values = 'val_var')
```

ind_var	col_var	val_var
1	A	val 1
2	A	val 2
1	B	val 3
2	B	val 4
1	C	val 5
2	C	val 6

EXAMPLE: RESHAPE TO WIDE

```
my_dataframe.pivot(index = 'ind_var', columns = 'col_var', values = 'val_var')
```

Recap

RECAP OF WHAT WE LEARNED

- You can reshape your Pandas data with `pivot()`
  - reshape from long to wide

- Note: `pivot()` is a little hard to understand!
  - the best way to understand it is to work with some simple examples

- **Next Steps**: Watch the code walkthrough video for simple, step-by-step examples of the Pandas `pivot()` method