Pandas melt

SHARP SIGHT

What you'll learn

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

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

An overview of Pandas melt

Example: you have a dataframe

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

You need to reshape the data from "wide" format to "long" format

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

Melt "reshapes" data from wide to long

```
df_wide.melt(id_vars = ['ind_var'] , value_vars = ['A','B','C'])
```

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

Melt "reshapes" data from wide to long

```
df_wide.melt(id_vars = ['ind_var'] , value_vars = ['A','B','C'])
```

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

ind_var	variable	value
1	A	val 1
2	A	val 2
1	B	val 3
2	B	val 4
1	C	val 5
2	C	val 6

This operation is sometimes called a "transpose"

Pandas melt syntax

Syntax: pandas melt

The name of the DataFrame you want to operate on

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

```
myDataFrame.melt(id_vars= , value_vars=)
```

The column that contains the values that will identify the rows in the new column

The column names that will become values in the new output DataFrame

Parameters of Pandas melt

The parameters of Pandas melt

Parameter	What it does	Format
`id_vars=`	The column that contains the values that will identify the rows in the new column	List of column names
`value_vars=`	The column names that will become values in the new output DataFrame	List of column names
`var_name=`	The name for the new "categorical" variable that's being created from `value_vars`	string
`value_name=`	The name for the "values" column in the output DataFrame	string

The output of Pandas melt

- The `melt()` method will produce a new DataFrame as output
  - a reshaped DataFrame
  - reshaped from wide to long

Recap

Recap of what we learned

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

- Note: `melt()` 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 `melt()` method