

PANDAS QUERY

SHARP SIGHT

# WHAT YOU'LL LEARN

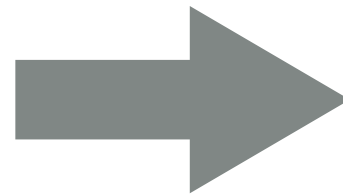
- How to use the Pandas `query()` method
- How to subset the rows of a DataFrame
  - subset rows based on logical conditions

# PANDAS QUERY OVERVIEW

# THE .query() METHOD SUBSETS PYTHON DATA

```
supercars.query('horsepower >= 400')
```

model	make	year	horsepower
911 Turbo	Porsche	2013	513*
Z4 3.0i	BMW	2007	215
Cayman	Porsche	2007	241
Veyron	Bugatti	2012	1184*
550i	BMW	2013	444*



Output:

model	make	year	horsepower
911 Turbo	Porsche	2013	513
Veyron	Bugatti	2012	1184
550i	BMW	2013	444

Note: Here, supercars is an "abbreviated" version of the actual data

# PANDAS QUERY SYNTAX

# SYNTAX: PANDAS QUERY

A logical expression that specifies which rows to return in the output

(this expression must be formatted as a string)

The name of your DataFrame

```
yourDataFrame.query(expression, inplace = False)
```

The name of the method

A True / False flag that indicates whether you want to operate directly on the DataFrame or create a new output DataFrame

# THE "EXPRESSION" SHOULD BE A LOGICAL EXPRESSION TO SUBSET THE ROWS

This "expression" should be a *logical* expression that evaluates as `True` or `False`



```
yourDataFrame.query(expression, inplace = False)
```

Example: `supercars.query("make == 'Porsche'")`

Note that this expression can be a complicated, "compound" logical expression built with logical operators `and`, `or`, and `not`

# THE INPLACE PARAMETER ENABLES YOU TO DIRECTLY MODIFY THE DATAFRAME

By default, `inplace` is set to `inplace = False`



```
yourDataFrame.query(expression, inplace = False)
```

This will cause `query()` to produce a *new* DataFrame as output

But if you explicitly set `inplace = True`, `query()` will directly modify the DataFrame you're working with



# PARAMETERS OF PANDAS QUERY

# THE PARAMETERS OF PANDAS QUERY

Input	What it does	Default	Examples
expression	Specifies the logical conditions that the DataFrame rows must meet in order to be included in the output		<code>"variable &gt; 100"</code> <code>"variable == 'A'"</code>
inplace=	Specifies whether query() will directly modify the dataframe, or produce a new output	<code>inplace = True</code>	

# THE OUTPUT OF PANDAS QUERY

- By default, `query()` will produce a *new* DataFrame
  - DataFrame that includes the rows that meet the specified condition
  - Remember: by default `inplace = False`
- If you set `inplace = True`, `query()` will directly modify the DataFrame you're operating on

RECAP

# RECAP OF WHAT WE LEARNED

- The `query()` method subsets rows of a DataFrame
  - returns rows based on a logical condition or conditions
- `query()` returns a new DataFrame by default
  - you can directly modify your input DataFrame with `inplace = True`
- **Next Steps:** Watch the code walkthrough video for step-by-step examples of Pandas `query()`