



PYTHON IN EXCEL CHEATSHEET



Python Tools

Formulas

Reset

Insert Python

Diagnostics

Initialization

Python (Preview)

Python Formulas

=py

Creates Python formulas

tab

Or **CTRL+ALT+SHIFT+P** to activate the Python formula bar. Complete with: **CTRL+ENTER**

Referencing Data

New xl function :

xl("reference range, Table, Query etc.")

Python formulas are case sensitive

Data Sources

Excel Tables

`df1=xl("Table1[#All]", headers=True)`

Dynamic Arrays

`df2=xl("Sheet1!F4#", headers=True)`

Defined Names

`df3=xl("RngData", headers=True)`

Power Query

`df4=xl("QryData", headers=True)`

Cell Ranges

`df5=xl("Sheet1!A3:D8", headers=True)`

Python formulas can reference cells in external workbooks. However, it's recommended to use Power Query to get the data from the external file.

Output Types

Python Object Dataframes, lists etc. stored in a single cell.

Excel Value Text, numbers, charts etc. spill results to cells.

Change the output from the drop down

Python Output

Python Object

Excel Value

Or use shortcut: **CTRL+ALT+SHIFT+M**

Click on the Python Object icon to get a preview:

	Regions(Coun...	Regions(Reg...
0	Austria	Europe
1	Belgium	Europe
2	Brazil	Latin America
3	Canada	Canada
4	China	Africa & Asia

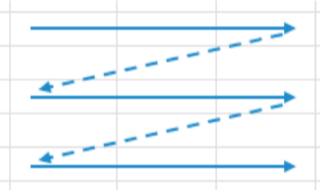
Click on the widget to add fields to the worksheet from the Python object:

Field

- arrayPreview
- Python_str
- Python_type
- Python_typeName

Calculation Order

Python formulas in Excel calculate left to right, top to bottom for both cells and sheets in the workbook. i.e. a Python formula in cell A10 cannot reference another Python formula in cell A11.



Recalc

Python formulas recalculate sequentially when a dependent value in a Python cell changes.

Use Manual or Partial calc mode to improve Performance.

Partial suspends calc for Python and Data Tables.

Tip: Format Stale Values will put a strikethrough any cells that haven't been recalculated.

F9 to force a recalculation or switch back to automatic.

Formulas

Calculate Now

Calculate Sheet

Automatic

Partial

Manual

Format Stale Values

Libraries Supported



Python in Excel leverages Anaconda Distribution for Python running securely in Azure, including but not limited to:



#Errors

The Diagnostics pane displays the error.

Tip: Click cell reference to jump to error cell.

Diagnostics

This workbook

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SyntaxError: invalid syntax (line 1)

#PYTHON! Likely a syntax error.

#CONNECT! Issues with the Python cloud service.

#CALC! Too much data. Max 100MB datasets supported.

#BUSY! Means what it says. Be patient.

#SPILL! There is data occupying cells the Python values want to spill to.

#VALUE! or **#UNKNOWN!** Likely that Python isn't available in your version of Excel.

#TIMEOUT! Can indicate a network issue. Possibly caused by too much data or API throttling.

Excel Versions

Currently Excel Desktop for Windows for Microsoft 365 Insiders Beta Channel users. Version 2309 Build 16.0.16818.20000 or later.

Limitations

- Python animated charts are not supported.
- Can't connect to Power Pivot Data Model.
- Currently only available for Windows Desktop Excel beta version.
- Excel Tables in current file are not supported via Power Query. Connect to the Table direct.
- Only libraries supported by Anaconda are available.



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