

COURSE GLOSSARY

Introduction to Python for Finance

Alias: A shorthand name assigned to an imported package or module using the `as` keyword (e.g., `import numpy as np`) to simplify subsequent calls to that package's functions

arange: A NumPy function that generates a 1-D array of evenly spaced values given a start, stop (exclusive), and optional step, similar to Python's `range` but returning an array

Boolean indexing: A technique that uses an array of True/False values to select elements from another array, enabling concise filtering based on conditional tests

Comment: A line or portion of code prefixed by the `#` symbol that is ignored by the Python interpreter and used to annotate code for human readers

Data type: The classification of a variable's value that determines how it can be used, such as strings (text), integers (whole numbers), floats (decimal numbers), and booleans (True/False), with Python inferring types at assignment

Earnings per share (EPS): A company's net profit divided by the number of outstanding shares, representing the portion of a company's profit attributable to each share of stock

Function: A reusable block of code that takes inputs (arguments), performs an operation, and optionally returns a value, called by name with parentheses (e.g., `type()`, `print()`)

Nested subquery: A subquery contained within another subquery, allowing multiple sequential transformations or layered calculations before the main query runs

Data privacy: Practices and controls that give individuals and organizations authority over how personal data is collected, stored, accessed, and shared

Matplotlib (pyplot): A widely used plotting library in Python whose `pyplot` module (commonly imported as `plt`) provides functions like `plot()`, `scatter()`, `hist()`, and `show()` plus customization options such as color, linestyle, bins, alpha (transparency), label, and legend for building visualizations

Method: A function that is associated with an object and invoked using dot notation (`object.method()`), where the method operates on the object itself (e.g., `list.append()`, `list.sort()`)

Nested list: A list that contains other lists as elements, creating multiple levels of structure that are accessed by chaining indices (e.g., `outer[1][0]`)

NumPy array (ndarray): The primary NumPy data structure, a fixed-type, N-dimensional array that stores elements more compactly than Python lists and supports fast elementwise arithmetic and vectorized operations

NumPy: A core Python package for numerical computing that provides efficient, homogeneous, multi-dimensional arrays and a large suite of mathematical functions useful for data analysis and finance

Package / pip / import: A package is a collection of Python modules providing additional functionality

pip is the package manager used to install packages, and **import** is the statement that loads a package or module into your workspace for use

Price-to-earnings (P/E) ratio: A financial valuation metric computed as a company's current share price divided by its earnings per share (EPS), commonly used to gauge investor growth expectations

Python: A high-level, general-purpose programming language that is open-source, easy to learn, and commonly used for data analysis, scripting, and as a "glue" language to connect other tools

S&P 100: A stock market index that tracks 100 large, established U.S. companies across multiple industries, often used as a benchmark for large-cap stock performance

Script & IPython Shell: A script is a saved sequence of Python commands executed in order, while the IPython Shell is an interactive console (REPL) used to run and inspect code snippets immediately

Sector: A classification that groups companies by their primary area of economic activity (for example, information technology, healthcare, or financials), used to analyze industry-specific trends and compare similar firms

Shape and size: Array attributes where `shape` returns a tuple describing the length of each dimension (e.g., rows, columns) and `size` returns the total number of elements in the array

Slicing (and step): A way to extract sub-sequences using the `start:stop:step` notation inside brackets, where the start index is included, the stop index is excluded, and the optional step controls the stride (default 1)

transpose: An operation that swaps the axes of an array (e.g., rows become columns), useful for reorienting 2-D tabular data

Variable: A named container that stores a value (assigned with `=`) which can be referenced and reused in code, with names composed of letters, digits, and underscores but not starting with a digit