Python 101: Automate your life

Overview

This course is orientated for people who have never been exposed to Python before. Even if you have never programmed before and need an intensive course to learn, then you are in the right place. Likewise, if you have programming experience or learnt Python years ago and are a bit rusty then you are also in the right place as we will go through everything in Python 3 in a systematic and practical way.

What makes this course different is that all the coding examples which delegates will be required to develop, relate to the business in general. Some of the core topics include:

- Python coding from scratch.
- Understanding the basics of the jargon of programming.
- IDE's, Notebooks such as IPython and Jupyter
- Whitespace and why it is so important in Python.
- Variables, data types.
- Getting to grips with functions, arguments and parameters
- Scoping.
- Controlling code with the if elif and else statements
- Loop the loop with for and while
- Lists and list CRUD
- Slicing and dicing lists
- Tuples,Sets , filters and maps
- Dictionaries and dictionary CRUD
- Lambda functions.
- Functional Programming & Closure.
- Modules, The Pip package manager and the command line.
- The Python Virtual Environment.
- @Decorators
- Classes, attributes, methods, inheritance and children.
- Developing a GUI & Publishing.
- Reading and writing to documents and different file types.
- Controlling Excel from Python and working with csv.
- True automation; taking control of the keyboard and mouse while you sleep!
- An introduction to Pandas & Matplotlib.

Please refer to the detailed agenda for more information.

Delegates will receive electronic notes, a copy of the program, cheat sheets and access to some online video.

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Level: Introduction to Intermediate

Duration: ***3*** days.

Requirements

Please note that you are required to bring a computer with access to the internet. Please contact us about the files to download to speed up the implementation.

Suitable for:

- Anybody who wants to learn to program.
- Anyone who wants to automate the boring tasks.
- Anyone who wants to learn Python.

Who is this course not for?

- Anyone who does not understand the basics of how to use a computer.
- Anyone who doesn't know about programming and wants to be labelled a dinosaur :)

Tutor: Mark Raffaelli CFA,FRM

Mark is a practising CFA Charterholder and fellow member of the Global Association of Risk Professionals (FRM). Mark's extensive experience includes:

- Trading in Spot & Derivative Products professionally.
- Fund & Bank consulting regarding valuations, curves, Var, surveillance automation for Mifid II and local legislation etc.
- Development of quantitative financial models for surveillance, performance attribution, price validation, price models, risk (in particular Var) and automation.
- Developments of Apps for the investment and insurance industry.
- Mark programs in: Python, Javascript (including Angular and Ionic), Php, Excel VBA and ".net".

Those who have attended Mark's courses will know about his passion and ability to cut through jargon, simplify technical issues and provide real life examples.

What makes Geometric Progression different from other providers:

- We don't regurgitate traditional textbooks; instead we share real life experiences.
- We explain all the products as they relate to your own lives in plain English.
- We practice what we preach i.e. We are an authorised Financial Services Provider (License no:43244).
- We love multimedia and include video and film in all our courses.
- We are one of the few providers that offer advanced courses relating to the financial markets, modelling and implementation.

Agenda

1. Taking your first steps.

- A brief look at why Python is so cool.
- Understanding the basics of the jargon of programming.
- The golden rules of programming and application development.
- Setting up the "dev" environment and the Repl.
- Using an "IDE".
- Notebooks such as Jupyter
- My first program: "Look ma, I just deleted your hard drive ;)"
- The command line - really?
- Command line "commands" to remember.

We will develop in either Pycharm, VSCode or Spyder.

2. Getting stuck in with the basics

- Comments.
- Whitespace and why it is so important in Python.
- A quick look at bugs.
- Variables, data types.
- Strings and Numbers.
- Getting to grips with functions.
- Scope
- Arguments and parameters
- Controlling code with the if elif and else statements
- Loop the loop with for and while.

Practical small business styled programs will be used to build up knowledge.

3. Errors and debugging

- Trapping and managing Errors.
- The debugging interface.
- Breakpoints and Watches.

4. *Time to get serious.*

- Lists and list CRUD
- Range()
- Slicing and dicing lists
- List Comprehension
- Tuples
- Sets
- Filters and maps
- Dictionaries and dictionary CRUD
- Looping through dictionaries and Lists
- Lambda functions.
- Functional Programming And Closure
- @Decorators
- Object orientated Programming
- Classes, attributes, methods, inheritance and children.

5. Finalising the nitty gritty

- Modules
- The Pip package manager
- Creating a Python virtual environment
- Developing a GUI.
- Publishing.
- Some standard algorithm patterns.

6. Automation and Libraries

- Reading and writing to documents and different file types.
- Controlling Excel from Python and working with csv.
- True automation; taking control of the keyboard and mouse with pyautogui!
- An introduction to Data analysis with Panda's.
- An introduction to Graphing with Matplotlib
- Putting it all together with some practical Applications.

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Some clients who have attended our Public Training

Email: mark@gpifm.com
Web: www.gpifm.com
Tel: 021 794 8332

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Terms and Conditions

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Substitutions:
Registered delegates may be substituted at any time prior to the seminar **without** incurring any additional fee. Please inform Geometric Progression of the change.

Payments:
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