



Deloitte. Tech Treks



ROITRAINING

MAXIMIZE YOUR TRAINING INVESTMENT™

Basic Python with Jupyter Notebook

Welcome!

- ROI leads the industry in designing and delivering customized technology and management training solutions
- Meet your instructor
 - Name
 - Background
 - Contact info
- Let's get started!

Session Objectives

In this session, you will:

- Learn basic Python syntax and use cases
- Use Jupyter Notebook to interactively write and run code
- Use variables, functions, statements, and modules

What Is Python?

- Python is one of the most popular programming languages
 - Easy to learn
 - Can be used for a variety of different use cases
 - Web development
 - Automation scripts
 - Data processing
 - Machine Learning (ML) and Artificial Intelligence (AI)
 - Runs on most platforms
 - Pre-installed on most Linux and Mac systems
 - Easy to install on Windows
 - Doesn't run on most mobile devices

Python Syntax

- Python programs are made up of:
 - Statements: `if, while, try, except`
 - Functions: `print(), input(), quit(), len()`
 - Variables: `int, float, str, bool, date, datetime`
 - Modules: `os, sys, pandas, Flask`
 - Classes: custom code you write to store and process data
- Code is broken up into blocks which are indented to the same level using spaces to align them

Python Syntax (continued)

- Variables have:
 - Name: case-sensitive, usually all lowercase with an underscore for complex names
 - Value: a number (2 or 1.99), True/False, alphanumeric character string
 - Quotes can be single ('), double ("), or triple (''' or """)
 - Type: automatically determined by Python
- Comments start with a # or multiple lines between triple quotes (""")
- Code blocks are indented and usually follow a statement that ends in a colon (:)

Getting Started

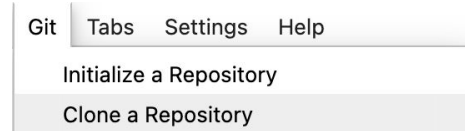
- Python is meant to be easy to read and write
- Here's your first program:

```
print('Hello World')
```

- This can be run in a variety of ways
 - Interactively in a Python Shell in a terminal
 - Using Interactive Development Environments (IDEs)
 - VS Code, PyCharm, and many more
 - Saved in a file and run as a script
 - Interactively run inside Jupyter Notebook

Jupyter Notebook

- Jupyter Notebook is perhaps the easiest way to get started with Python
- Let's start a Jupyter session by navigating to:
<https://notebooks.roitraining.com/>
- Select the link nearest to your location
- From the top menu, choose **Git | Clone a Repository** and enter: <https://github.com/roitraining/techtrek-python>
- Click the [Module01-Python_Basics.ipynb](#)
- Find the cell below and click the **Play** button



Session Summary

In this session, you have:

- Learned basic Python syntax and use cases
- Used Jupyter Notebook to interactively write and run code
- Used variables, functions, statements, and modules

Discussion: Recap

