Python Crash Course

Getting Started

Scope

The session is designed to aim at imparting a basic level understanding of python programming for anyone and set the foundations for everything else you will learn in the future about technologies and other programming language.

Content

The content is divided into … sessions:

- Session 1
- ....

Objectives

At the end of the session, the trainees will be able to understand:

- What python is (General overview of python)
- How to install python
- Arithmetic operators and data types
- Print any to the console.

Session 1

Python overview

Python ?

Which one huh ?

Session 1

Why Python ?

- One of the most widely used programming in the industry
- It's easy to use, powerful and versatile
- It is a general purpose language with applications ranging from web development, data science & artificial intelligence.
- It is syntactically friendly similar to English language

Click to learn about Python history

JAVA

```java
public class Main {
  public static void main(String[] args) {
    System.out.println("hello world");
  }
}
```

PYTHON

```python
print('hello world')
```

Session 1

Things to keep in mind

- Python is case sensitive
- It relies on indentation
- Spacing matters
- Use error messages to your advantage. (it helps you learn)
- Write python code as a (**.py**) file on text editor

NOTE: **.py** is the file extension. Like hello**.txt** means it is a text file.

Session 1

Starter Kit

- Your computer
- Text editor
- Python
- Pylint
- Pep8 format guide
- Anaconda Navigator

ANACONDA®

python™

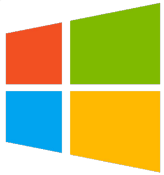
VS Code

Pylint
Star your Python code!

Session 1

Python installation

Many PCs and MAcs will have python already installed. If not install go to : https://www.python.org/



search in the start bar for Python or run the following on the Command Line (cmd.exe)

```
C:\Users\Your Name>python --version
```

To check if you have python installed on a Linux or Mac, then on linux open the command line or on Mac open the Terminal and type:

```
python --version
```

Built with Python

Are you ready ?

Let's write our first Python file, called **helloworld.py**,

which can be done in any of editor.

```
print("Hello World!")

## Expected out : Hello World!
```

Exercise:

- Print **Hello World <**Your-name**>**
- Expected output : **Hello World David**

1m

Session 1

Getting Started with

Data types and Operators

Session 1

Arithmetic operators

- `+` Addition
- `-` Subtraction
- `*` Multiplication
- `/` Division
- `%` Mod (the remainder after dividing)
- `**` Exponentiation (note that `^` does not do this operation, as you might have seen in other languages)
- `//` Divides and rounds down to the nearest integer

The usual mathematical operation holds in python. For more information please visit [this link]

Quiz : Arithmetic operators

- My electricity bills for the last three months have been $23, $32 and $64. What is the average monthly electricity bill over the three month period? Write an expression to calculate the mean, and use `print()` to view the result.

- Write a python script that calculate the area of a square and use `print()` to view the result.

You're going to do some calculations for a tiler. Two parts of a floor need tiling. One part is 9 tiles wide by 7 tiles long, the other is 5 tiles wide by 7 tiles long. Tiles come in packages of 6.

- How many tiles are needed?
- You buy 17 packages of tiles containing 6 tiles each. How many tiles will be left over?

Solution

Solution: Average Electricity Bill

```
# Write an expression that calculates the average of 23, 32 and 64.
# Place the expression in this print statement.
print((23 + 32 + 64)/3)
```

Solution: Calculate

```
# Fill this in with an expression that calculates how many tiles are needed.
print(9*7 + 5*7)
# Fill this in with an expression that calculates how many tiles will be left
print(17*6 - (9*7 + 5*7))
```