

PYTHON QUICK START WITH GRC'S DEVELOPER'S CLUB

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TODAY'S AGENDA

- Introduction to Python Language.
- Installation.
- Data types.
- Arithmetic operations(+,-,*,./,/,/,%)
- Python variables
- Strings

INTRODUCTION TO PYTHON LANGUAGE

- Python is a high-level interpreted language which has easy syntax and is easier to learn for beginner.
- It was created by Guido van Rossum, and released in 1989.
- So, Why are we learning python now ? Used in vast number of fields like Machine Learning , A.I, Data sciences and can also be used for High level automation of tasks like Data collection , End to End testing among many others.
- Advantages of Learning Python in 2021:
 - Huge amount of additional open-source libraries and great community support.
 - Web application Development using Django or Flask
 - Development of GUI applications using Tkinter and PyQt5.
 - Creation of Daily utility scripts.

PYTHON AND JUPYTER INSTALLATION

STEP 1. Install python into your system and set environment variables.

STEP 2. Open cmd or any other terminal (eg: bash) and write the following command into it
`pip --version`

After sucessfully installing and updating pip go to third step.

STEP 3. Now just write `pip install jupyter` and the jupyter notebook will start getting installed.

STEP 4. After completion, let's run the Jupyter notebook, using the following command: `jupyter notebook.`

BASIC DATA TYPES

Name	Type	Description
integers	int	Whole numbers such as: 2 , -2, 300 ..
Floating point	float	Numbers with decimal points: 2.3 , 4.6, 100.0
Strings	str	Ordered sequence of characters: "developershunt2021" , "2000"
Lists	list	Ordered Sequence of object: [10, "hello world", 100.7]
Dictionaries	dict	Unordered Key: Value pairs: {"Key": "value", "name": "python"}
Tuple	tup	Ordered immutable sequence of objects : (10, "rohit", 200.3)
Sets	set	Unordered collection of unique objects: {"grc", "developes"}
Booleans	bool	Logical values indicating "True" or "False"

VARIABLES IN PYTHON

- Rules for creating a variable in python:
 - **Names can not start with a number.**
 - **There can be no spaces in the name, use `_` instead. (snake_case)**
 - **Can't use any of these symbols :`"',<>/? | \()!@#$%^&*~-.+`**
 - **It's considered best practice (PEP8) that names are lowercase.**
 - **Avoid using the characters 'l' (lowercase letter el), 'O' (uppercase letter oh), or 'I' (uppercase letter eye) as single character variable names.**
 - **Avoid using words that have special meaning in Python (I.e don't use python builtin keywords)**

STRINGS

Strings are Ordered sequence of characters , Python keeps track of every element in the string as a sequence, This means we will be able to use indexing to grab particular letters.

- Topics to cover:
 - **Creating and Printing Strings**
 - **String Properties and Methods**
 - **Print Formatting**

LISTS

Lists can be thought of the most general version of a sequence in Python. Unlike strings, they are mutable, meaning the elements inside a list can be changed!.

- Topics to cover:
 - **Creating , Indexing and Slicing lists**
 - **Lists methods and Nesting of Lists**

DICTIONARIES

A Python dictionary consists of a key and then an associated value. That value can be almost any Python object but the key associated with the value can only be an immutable type (i.e key can only be int, float, bool, string, tuple and can't be a list or dictionary itself)

- Topics to cover:
 - **Creating dictionaries and accessing objects from it.**
 - **Dictionaries methods and Nesting of Dictionary**

TUPLES

Python tuples are very similar to lists, however, unlike lists they are immutable meaning they can not be changed. Tuples are not used as often as lists in programming, but are used when immutability is necessary

- Topics to cover:
 - **Creating , Indexing and Slicing tuples**
 - **Tuple methods and unpacking**

SETS AND BOOLEANS

A Set is an unordered collection data type that is iterable, mutable and has no duplicate elements.

- Topics to cover:
 - **Creation of sets**
 - **Methods of sets**
 - **Booleans**