

MY JOURNAL TO PYTHON

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Teacher: My dear great teacher

AGENDA

- Python
- Input and output: input() and print()
- Data types: numeric, strings, list , dict.
- Operators ON data type:
- CONTROLS:IF | IF –ELSIF|-F-ELSE
- LOOP :FOR| WHILE | RANGE | () | BREAK | CONTINUE
- FUNCTION
 - 1) PARAMETERS (ARGUMENTS)
 - 2) RECURSIVE FUNCTION
 - 3) LAMBA FUNCTION

WHAT IS PYTHON?

- Python is a popular programming language.
- It is used for:
- web development (server-side),
- software development,
- mathematics,
- system scripting.

WHAT CAN PYTHON DO?

- Python can be used on a server to create web applications.
- Python can be used alongside software to create workflows.
- Python can connect to database systems. It can also read and modify files.
- Python can be used to handle big data and perform complex mathematics.
- Python can be used for rapid prototyping, or for production-ready software development.

PYTHON SYNTAX COMPARED TO OTHER PROGRAMMING LANGUAGES

- Python was designed for readability, and has some similarities to the English language with influence from mathematics.
- Python uses new lines to complete a command, as opposed to other programming languages which often use semicolons or parentheses.
- Python relies on indentation, using whitespace, to define scope; such as the scope of loops, functions and classes. Other programming languages often use curly-brackets for this purpose.

DATA TYPES: DICTIONARY

- Dictionaries are used to store data values in **key:value pairs**.
- A dictionary is a collection which is **ordered***, changeable and do not allow duplicates.
 - As of Python version 3.7, dictionaries are *ordered*.
 - In Python 3.6 and earlier, dictionaries are *unordered*.
- Dictionaries are written with curly brackets, and have keys and values:


Example

Create and print a dictionary:

```
thisdict = {  
    "brand": "Ford",  
    "model": "Mustang",  
    "year": 1964  
}  
print(thisdict)
```

PYTHON INDENTATION

- Indentation refers to the spaces at the beginning of a code line.
- Where in other programming languages the indentation in code is for readability only, the indentation in Python is very important.
- Python uses indentation to indicate a block of code.



```
if 5 > 2:  
    print("Five is greater than two!")
```

```
Five is greater than two!
```

DUPLICATES NOT ALLOWED

- Dictionaries cannot have two items with the same key:
- Example
- Duplicate values will overwrite existing values:

```
▶ thisdict = {  
    "brand": "Ford",  
    "model": "Mustang",  
    "year": 1964,  
    "year": 2020  
}  
print(thisdict)
```

```
➤ {'brand': 'Ford', 'model': 'Mustang', 'year': 2020}
```

