Python Examples

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Python Syntax

- Print "Hello World"
- Comments in Python
- Docstrings

Syntax Explained

Python Variables

- Create a variable
- Output both text and a variable
- Add a variable to another variable

Variables Explained

Python Numbers

- Verify the type of an object
- Create integers
- Create floating point numbers
- Create scientific numbers with an "e" to indicate the power of 10
- Create complex numbers

Numbers Explained

Python Casting

- Casting - Integers
- Casting - Floats
- Casting - Strings

Casting Explained

Python Strings

Remove whitespace from the beginning or at the end of a string

Return the length of a string

Convert a string to lower case

Convert a string to upper case

Replace a string with another string

Split a string into substrings

Strings Explained

Python Operators

Addition operator

Subtraction operator

Multiplication operator

Division operator

Modulus operator

Assignment operator

Operators Explained

Python Lists

Create a list

Access list items

Change the value of a list item

Loop through a list

Check if a list item exists

Get the length of a list

Add an item to the end of a list

Add an item at a specified index

Remove an item

Remove the last item

Remove an item at a specified index

Empty a list

Using the list() constructor to make a list

Lists Explained

Python Tuples

Create a tuple

Access tuple items

Check if a tuple item exists

Get the length of a tuple

Delete a tuple

Using the tuple() constructor to create a tuple

Tuples Explained

Python Sets

Create a set

Loop through a set

Check if an item exists

Add an item to a set

Add multiple items to a set

Get the length of a set

Remove an item in a set

Remove an item in a set by using the discard() method

Remove the last item in a set by using the pop() method

Empty a set

Delete a set

Using the set() constructor to create a set

Sets Explained

Python Dictionaries

Create a dictionary

Access the items of a dictionary

Change the value of a specific item in a dictionary

Print all key names in a dictionary, one by one

Print all values in a dictionary, one by one

Using the values() function to return values of a dictionary

Loop through both keys an values, by using the items() function

Check if a key exists

Get the length of a dictionary

Add an item to a dictionary

Remove an item from a dictionary

Empty a dictionary

Using the dict() constructor to create a dictionary

Dictionaries Explained

The elif statement

The else statement

Short hand if

Short hand if ... else

The and keyword

The or keyword

If ... Else Explained

Python While Loop

The while loop

Using the break statement in a while loop

Using the continue statement in a while loop

While Loop Explained

Python For Loop

The for loop

Loop through a string

Using the break statement in a for loop

Using the continue statement in a for loop

Using the range() function in a for loop

Else in for loop

Nested for loop

For Loop Explained

Python Functions

Create and call a function

Function parameters

Default parameter value

Let a function return a value

Recursion

Functions Explained

Python Lambda

A lambda function that adds 10 to the number passed in as an argument

A lambda function that multiplies argument a with argument b

Python Arrays

- Create an array
- Access the elements of an array
- Change the value of an array element
- Get the length of an array
- Loop through all elements of an array
- Add an element to an array
- Remove an element from an array

Arrays Explained

Python Classes and Objects

- Create a class
- Create an object
- The __init__() Function
- Create object methods
- The self parameter
- Modify object properties
- Delete object properties
- Delete an object

Classes/Objects Explained

Python Iterators

- Return an iterator from a tuple
- Return an iterator from a string
- Loop through an iterator
- Create an iterator
- Stop iteration

Iterators Explained

Python Modules

- Use a module
- Variables in module
- Re-naming a module
- Built-in modules

Modules Explained

Python Dates

Import the datetime module and display the current date
Return the year and name of weekday
Create a date object
The strftime() Method

Dates Explained

Python Math

Find the lowest and highest value in an iterable
Return the absolute value of a number
Return the value of x to the power of y (x^y)
Return the square root of a number
Round a number upwards and downwards to its nearest integer
Return the value of PI

Math Explained

Python JSON

Convert from JSON to Python
Convert from Python to JSON
Convert Python objects into JSON strings
Convert a Python object containing all the legal data types
Use the indent parameter to define the numbers of indents
Use the separators parameter to change the default separator
Use the sort_keys parameter to specify if the result should be sorted or not

JSON Explained

Python RegEx

Search a string to see if it starts with "The" and ends with "Spain"
Using the findall() function
Using the search() function
Using the split() function
Using the sub() function

RegEx Explained

Using a package

PIP Explained

Python Try Except

When an error occurs, print a message

Many exceptions

Use the else keyword to define a block of code to be executed if no errors were raised

Use the finally block to execute code regardless if the try block raises an error or not

Try Except Explained

Python File Handling

Read a file

Read only parts of a file

Read one line of a file

Loop through the lines of a file to read the whole file, line by line

File Handling Explained

Python MySQL

Create a connection to a database

Create a database in MySQL

Check if a database exist

Create a table

Check if a table exist

Create primary key when creating a table

Insert a record in a table

Insert multiple rows

Get inserted ID

Select all records from a table

Select only some of the columns in a table

Use the fetchone() method to fetch only one row in a table

Select with a filter

Wildcards characters

Prevent SQL injection

Sort the result of a table alphabetically

Sort the result in a descending order (reverse alphabetically)

Delete records from an existing table

Delete a table if it exist
Update existing records in a table
Prevent SQL injection
Limit the number of records returned from a query
Combine rows from two or more tables, based on a related column between them
LEFT JOIN
RIGHT JOIN

MySQL Explained

Python MongoDB

Create a database
Check if a database exist
Create a collection
Check if a collection exist
Insert into collection
Return the id field
Insert multiple documents
Insert multiple documents with specified IDs
Find the first document in the selection
Find all documents in the selection
Find only some fields
Filter the result
Advanced query
Filter with regular expressions
Sort the result alphabetically
Sort the result descending (reverse alphabetically)
Delete document
Delete many documents
Delete all documents in a collection
Delete a collection
Update a document
Update many/all documents
Limit the result

MongoDB Explained

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