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

Get the character at position 1 of a string
Substring. Get the characters from position 2 to position 5 (not included)
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
Change tuple values
Loop through a tuple
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

Python If ... Else

The if statement
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
A lambda function that sums argument a, b, and c

Lambda Explained

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
Using the dir() function
Import from module

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

Python PIP

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
Prevent SQL injection
Delete 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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