

R y Python

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Reticulate

```
library(reticulate)
use_python("/Users/rogerruiziandres/opt/anaconda3/bin/python3", required = TRUE)
py_config()

## python:      /Users/rogerruiziandres/opt/anaconda3/bin/python3
## libpython:   /Users/rogerruiziandres/opt/anaconda3/lib/libpython3.7m.dylib
## pythonhome:  /Users/rogerruiziandres/opt/anaconda3:/Users/rogerruiziandres/opt/anaconda3
## version:     3.7.4 (default, Aug 13 2019, 15:17:50) [Clang 4.0.1 (tags/RELEASE_401/final)]
## numpy:       /Users/rogerruiziandres/opt/anaconda3/lib/python3.7/site-packages/numpy
## numpy_version: 1.17.2
##
## NOTE: Python version was forced by use_python function

os <- import("os")
os$listdir(".")

## [1] ".ipynb_checkpoints"      "Collections_seguiment.ipynb"
## [3] "graficos_R_plot.html"    "graficos_R_plot.pdf"
## [5] "graficos_R_plot.Rmd"     "matplotlib.ipynb"
## [7] "Numpy.ipynb"             "R_y_Python.html"
## [9] "R_y_Python.pdf"          "R_y_Python.Rmd"
## [11] "script_python.py"

source_python("script_python.py")
add(3,4)

## [1] 7

math <- import("math")
math$pi

## [1] 3.141593

np <- import("numpy", convert = FALSE)

x <- np$array(c(1:4))

sum <- x$cumsum()

print(sum)

## [ 1  3  6 10]
```

```

py_to_r(sum)

## [1] 1 3 6 10
class(sum)

## [1] "numpy.ndarray"          "python.builtin.object"
np <- import("numpy", convert = TRUE)

x <- np$array(c(1:4))

sum <- r_to_py(x)$cumsum()

print(sum)

## [ 1.  3.  6. 10.]
edad <- 33
edad_py <- r_to_py(edad)

a = 3
print(a)

## 3
def suma(x,y):
    return x - y

suma(r.edad_py, 6)

## 27.0
datos <- iris
head(datos)

##   Sepal.Length Sepal.Width Petal.Length Petal.Width Species
## 1           5.1           3.5           1.4           0.2  setosa
## 2           4.9           3.0           1.4           0.2  setosa
## 3           4.7           3.2           1.3           0.2  setosa
## 4           4.6           3.1           1.5           0.2  setosa
## 5           5.0           3.6           1.4           0.2  setosa
## 6           5.4           3.9           1.7           0.4  setosa

datos_py <- r_to_py(datos)

import pandas as np

r.datos_py.head()

##   Sepal.Length Sepal.Width Petal.Length Petal.Width Species
## 0           5.1           3.5           1.4           0.2  setosa
## 1           4.9           3.0           1.4           0.2  setosa
## 2           4.7           3.2           1.3           0.2  setosa
## 3           4.6           3.1           1.5           0.2  setosa
## 4           5.0           3.6           1.4           0.2  setosa

scan("../..../scan_text.txt", sep = ";")

## [1] 1 2 3 4 5 6 7 8 9 10

```

```

import matplotlib.pyplot as plt
import numpy as np

def f(x):
    return np.exp(-x)*np.cos(2*np.pi*x)

x1 = np.arange(0, 5.0, 0.1)
x2 = np.arange(0, 5.0, 0.2)

plt.figure(1)

plt.subplot(2,1,1)
plt.plot(x1, f(x1), 'ro', x2, f(x2), 'k')

[<matplotlib.lines.Line2D object at 0x11e0536d0>, <matplotlib.lines.Line2D object at 0x11e053910>]
plt.subplot(2,1,2)
plt.plot(x2, f(x2), 'g--')

plt.show()

```

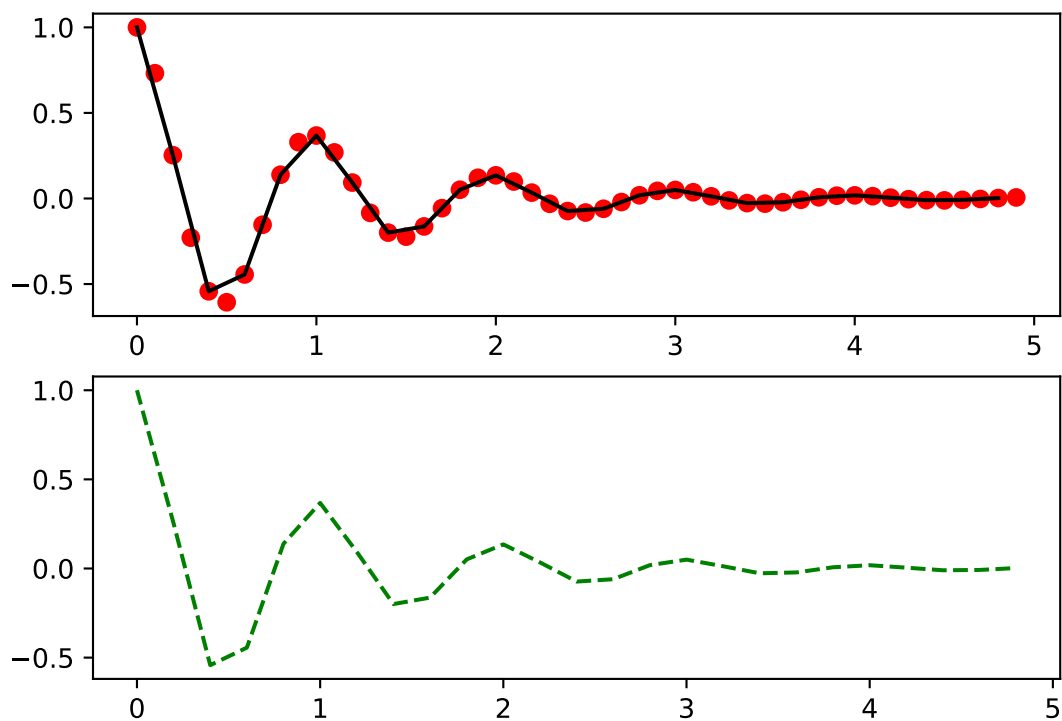


Figure 1: Hola