



# RPy2 Tutorial

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# R vs Python? The right answer is RPy2

RPy2 is an interface to run R inside Python code.

- <http://rpy2.bitbucket.org>

The documentation:

- [https://rpy2.readthedocs.io/en/version\\_2.8.x/](https://rpy2.readthedocs.io/en/version_2.8.x/)

# Import RPy2 and conversione with Numpy and Pandas

```
import rpy2
import rpy2.robjects as robjects
from rpy2.robjects.packages import importr
```

To convert from RPy2 to Numpy and Pandas and the other way around

```
from rpy2.robjects import numpy2ri
from rpy2.robjects import pandas2ri
import pandas.rpy.common as com
```

# Difference between a Python and an R function.

## Python

```
def matCal(mat):  
    s = mat.sum()  
    sigma = mat.std()  
    return s, sigma
```

## R

```
matcal <- function(mat) {  
    s = sum(mat)  
    sigma = sd(mat)  
    return(c(s,sigma))  
}
```

# R function inside python code

```
r('''  
    matcal <- function(mat) {  
      s = sum(mat)  
      sigma = sd(mat)  
      return(c(s,sigma))  
    }  
''')  
## This function can now be accessed with the __getitem__ mechanins  
r_matcal = robjects.globalenv['matcal']  
print(r_matcal.r_repr())
```