

# Last Topic Rpy2 Packages (Running R functions on Python Enviroment)

Fundamental Demonstration in Python Language

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Install and load the required packages

```
In [12]: #conda install -c r rpy2 [Installation of Rpy2 Package]
```

```
In [13]: #pip install Ipython
```

```
In [14]: import rpy2
```

```
In [15]: import rpy2.robjects as robjects
```

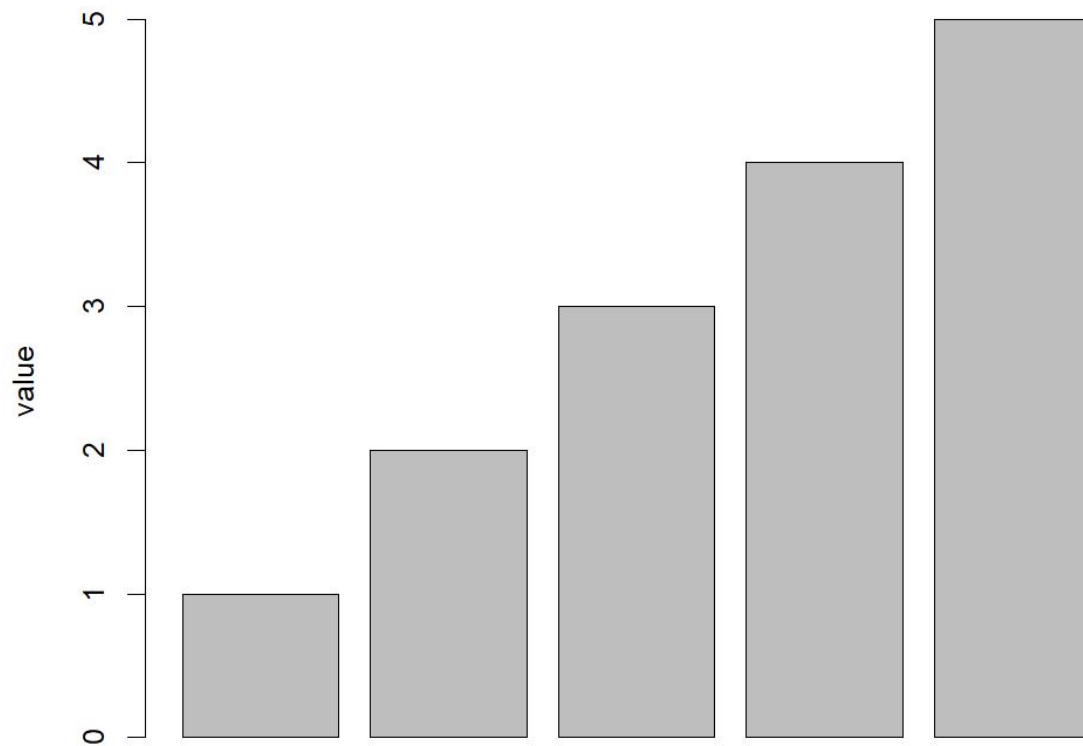
```
In [16]: #!pip install ipython
import IPython
```

```
In [17]: from IPython.display import Image
from IPython.display import display
```

```
In [18]: from rpy2.robjects.lib import grdevices
from rpy2.robjects.vectors import IntVector
graphics = robjects.packages.importr('graphics')
```

```
In [19]: with grdevices.render_to_bytesio(grdevices.jpeg, width=1024, height=896, res =
150) as img:
    graphics.barplot(IntVector((1,2,3,4,5)), ylab='value')
```

```
In [20]: display(Image(data=img.getvalue(), format='jpeg', embed=True))
```



## Demonstration of GGLOT2 PACKAGE IN PYTHON PACKAGE

```
In [21]: import rpy2.robjjects.lib.ggplot2 as ggplot2

datasets = robjjects.packages.importr('datasets')

mtcars = robjjects.packages.data(datasets).fetch('mtcars')['mtcars']

mtcars
```

Out[21]: R/rpy2 DataFrame (32 x 11)

mpg	cyl	disp	...	am	gear	carb
21.000000	6.000000	160.000000	...	1.000000	4.000000	4.000000
21.000000	6.000000	160.000000	...	1.000000	4.000000	4.000000
22.800000	4.000000	108.000000	...	1.000000	4.000000	1.000000
21.400000	6.000000	258.000000	...	0.000000	3.000000	1.000000
...	...	...	...	...	...	...
15.800000	8.000000	351.000000	...	1.000000	5.000000	4.000000
19.700000	6.000000	145.000000	...	1.000000	5.000000	6.000000
15.000000	8.000000	301.000000	...	1.000000	5.000000	8.000000
21.400000	4.000000	121.000000	...	1.000000	4.000000	2.000000

```
gp = ggplot2.ggplot(mtcars)

pp = (
    gp
    + ggplot2.aes_string(x = 'wt', y = 'mpg')
    + ggplot2.geom_point(ggplot2.aes_string(colour = 'qsec'))
    + ggplot2.scale_colour_gradient(low='yellow', high = 'red')
    + ggplot2.labs(title = 'Rpy2 ggplot2 MTCARS')
    + ggplot2.theme_bw()

)

pp.plot()

play(Image(data=img.getvalue(), format='png', embed=True))
```

