

Blog 4: Run Python Code in R

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Introduction

R and Python are both valuable coding languages for a data scientist to know. Each language provide a different set of strengths such as R's tidyverse and Python's sklearn, pytorch, as keras packages. Through R Markdown, it is possible to run both R and Python in the same rmd file.

Run Python Code via R Markdown

The reticulate packages embeds a Python session within the R session. The use__condaenv starts a anacondas environment.

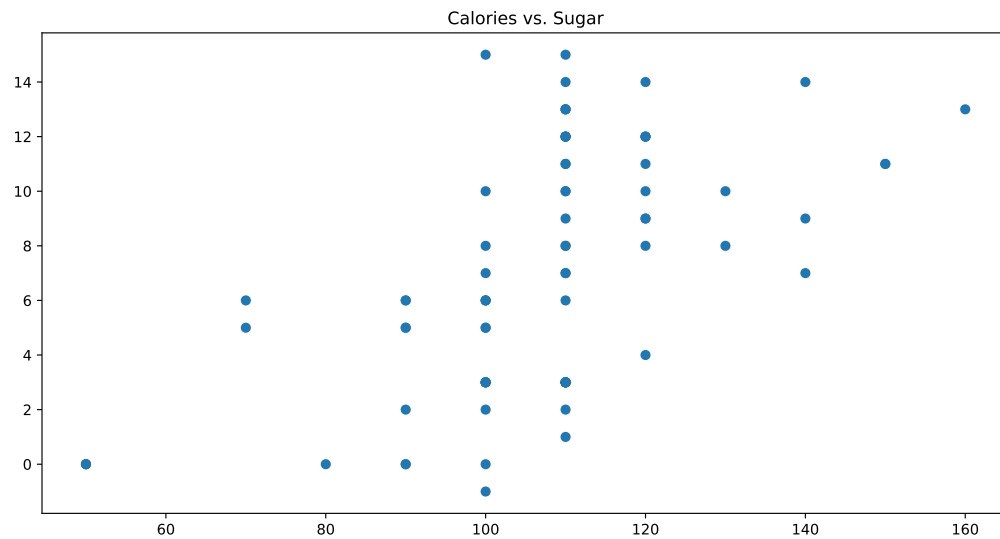
```
library(reticulate)
use_condaenv("base")
```

To create python code chunks use “{python}” instead of “{r}”. Text output can be shown in the R markdown file as well as data visualizations.

```
import pandas as pd
df = pd.read_csv('https://raw.githubusercontent.com/SaneSky109/DATA621/main/Blogs/cereal.csv')
df.head()
```

```
##              name mfr type  calories  ...  shelf  weight  cups    rating
## 0          100% Bran   N    C         70  ...    3     1.0  0.33  68.402973
## 1    100% Natural Bran   Q    C        120  ...    3     1.0  1.00  33.983679
## 2           All-Bran   K    C         70  ...    3     1.0  0.33  59.425505
## 3 All-Bran with Extra Fiber K    C         50  ...    3     1.0  0.50  93.704912
## 4       Almond Delight   R    C        110  ...    3     1.0  0.75  34.384843
##
## [5 rows x 16 columns]
```

```
import matplotlib.pyplot as plt
plt.figure(figsize=(12, 6))
plt.scatter(df['calories'], df['sugars'])
plt.title('Calories vs. Sugar')
plt.show()
```



Extract Python variables to be used in R

The syntax `py$'variable'` needs to be used to pull the variable from Python to R.

```
df1 <- as.data.frame(py$df)
```

```
head(df1)
```

```
##           name mfr type calories protein fat sodium fiber carbo
## 1      100% Bran   N    C      70       4   1   130   10.0   5.0
## 2 100% Natural Bran   Q    C     120       3   5    15    2.0   8.0
## 3      All-Bran    K    C      70       4   1   260    9.0   7.0
## 4 All-Bran with Extra Fiber K    C      50       4   0   140   14.0   8.0
## 5      Almond Delight R    C     110       2   2   200    1.0  14.0
## 6 Apple Cinnamon Cheerios G    C     110       2   2   180    1.5  10.5
##  sugars potass vitamins shelf weight cups  rating
## 1      6     280      25     3      1 0.33 68.40297
## 2      8     135       0     3      1 1.00 33.98368
## 3      5     320      25     3      1 0.33 59.42551
## 4      0     330      25     3      1 0.50 93.70491
## 5      8      -1      25     3      1 0.75 34.38484
## 6     10      70      25     1      1 0.75 29.50954
```

```
library(ggplot2)
```

```
ggplot(df1, aes(x=calories, y=sugars)) +
  geom_point() +
  ggtitle("Calories vs. Sugar")
```

