Test1

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目录

Default

R Markdown

This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see http://rmarkdown.rstudio.com.

When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

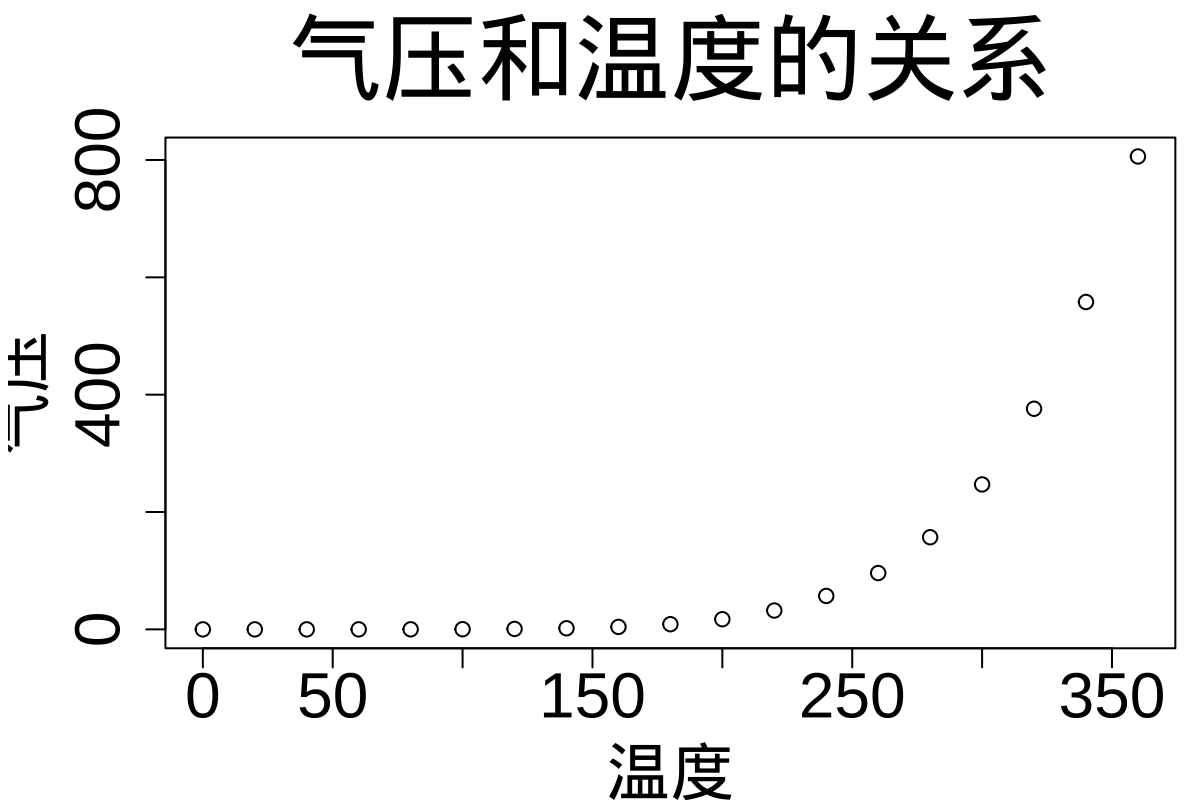
```
summary(cars)
```

```
     speed           dist
 Min.   : 4.0   Min.   :  2.00
```

```
 1st Qu.:12.0   1st Qu.: 26.00
 Median :15.0   Median : 36.00
 Mean   :15.4   Mean   : 42.98
 3rd Qu.:19.0   3rd Qu.: 56.00
 Max.   :25.0   Max.   :120.00
```

Including Plots

You can also embed plots, for example:



Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.

Learning materials

How to use Rmarkdown

Test: Implement python in Rmd

Use of Library "reticulate"
Yihui-rmarkdown

You can also change the engine interpreters globally for multiple engines, e.g.,

```
knitr::opts_chunk$set(engine.path = list(
  python = '~/anaconda/bin/python',
  ruby = '/usr/local/bin/ruby'
))
```

install package:

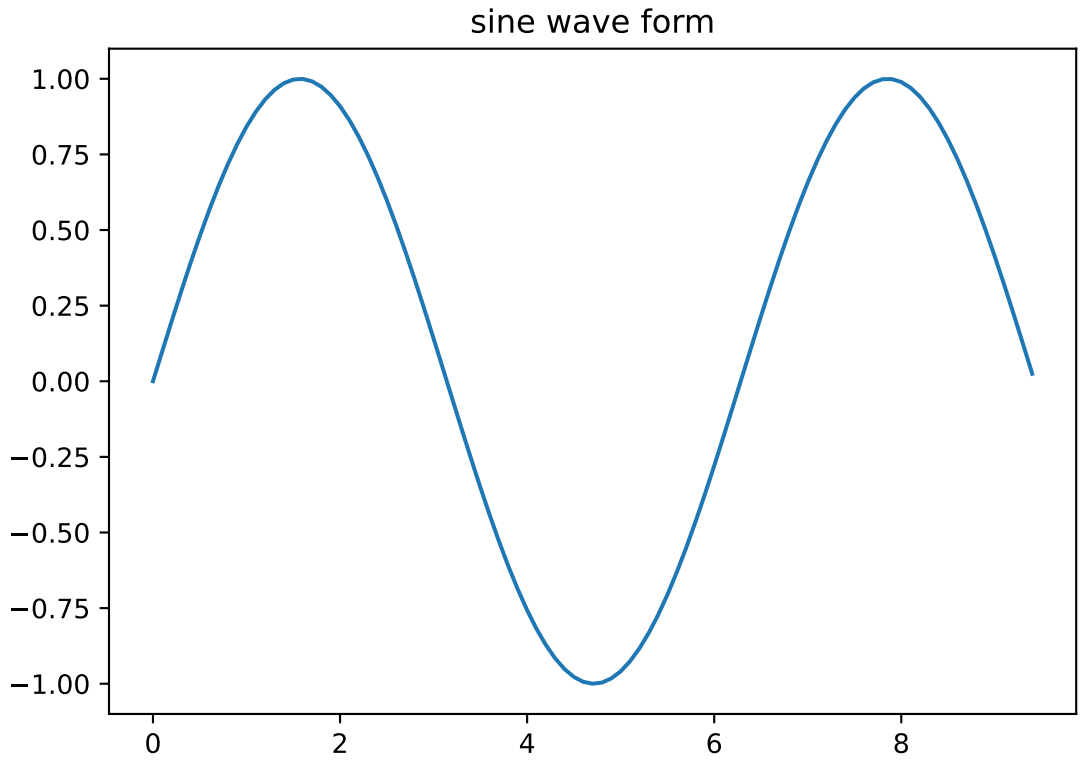
```
# install.packages("reticulate")
```

introduce library:

```
library(reticulate)
# use_python('C:\\Users\\sustech\\.conda\\envs\\gdalcartopy\\python.exe')
```

run python code:

```
import numpy as np
import matplotlib.pyplot as plt
# 计算正弦曲线上点的 x 和 y 坐标
x = np.arange(0,  3  * np.pi,  0.1)
y = np.sin(x)
plt.title("sine wave form")
# 使用 matplotlib 来绘制点
plt.plot(x, y)
plt.show()
```



call python variable in R code:

```
py$y
```

```
 [1]  0.00000000  0.09983342  0.19866933  0.29552021  0.38941834  0.47942554  0.56464247  0.644217
 [9]  0.71735609  0.78332691  0.84147098  0.89120736  0.93203909  0.96355819  0.98544973  0.997494
[17]  0.99957360  0.99166481  0.97384763  0.94630009  0.90929743  0.86320937  0.80849640  0.745705
[25]  0.67546318  0.59847214  0.51550137  0.42737988  0.33498815  0.23924933  0.14112001  0.041580
[33] -0.05837414 -0.15774569 -0.25554110 -0.35078323 -0.44252044 -0.52983614 -0.61185789 -0.687766
[41] -0.75680250 -0.81827711 -0.87157577 -0.91616594 -0.95160207 -0.97753012 -0.99369100 -0.999923
[49] -0.99616461 -0.98245261 -0.95892427 -0.92581468 -0.88345466 -0.83226744 -0.77276449 -0.705540
[57] -0.63126664 -0.55068554 -0.46460218 -0.37387666 -0.27941550 -0.18216250 -0.08308940  0.016813
[65]  0.11654920  0.21511999  0.31154136  0.40484992  0.49411335  0.57843976  0.65698660  0.728969
[73]  0.79366786  0.85043662  0.89870810  0.93799998  0.96791967  0.98816823  0.99854335  0.998941
[81]  0.98935825  0.96988981  0.94073056  0.90217183  0.85459891  0.79848711  0.73439710  0.662969
[89]  0.58491719  0.50102086  0.41211849  0.31909836  0.22288991  0.12445442  0.02477543
```

import python packages in R code:

```
library(reticulate)
# 导入库
os <- import("os")
#os 库的 listdir 函数
os$listdir()
```

```
 [1] ".git"          ".Rhistory"     "docs"          "helloworld.py" "index.Rmd"     "README.md"
 [7] "test1.docx"    "test1.pdf"     "test1.Rmd"     "test1_files"   "test2.Rmd"     "_site.yml"
```

PS: 在 R 代码块中执行 Python 代码时，默认会将 Python 对象转为 R 对象。

introduce python variable from .py file in R code:

```
library(reticulate)
source_python("helloworld.py")
print(A)
[1] "Hello"
print(B)
[1] "world"
paste0(A, B)
[1] "Helloworld"
```

run .py file in R code:

```
library(reticulate)
py_run_file("helloworld.py")
```

In-line code

we can run code between text like this: date: 2024-05-14 date: 最近更新日期为 14 五月, 2024

Journal article templates for R markdown

rticles-github

Chinese not showed in PDF

Solution here

in the words

Change output: latex_engine and documentclass like this:

```
title: "中文文档"
documentclass: ctexart
output:
  pdf_document:
    latex_engine: xelatex
```

in the output plot

在 Rmd 正文最开始写上

```
{r setup, include=FALSE}
library(showtext)
showtext_auto()
```

如果不喜欢 showtext 默认的字体，可以自行添加字体

```
{r setup, include=FALSE}
library(showtext)
font_add("simsun", regular = "simsun.ttc")
showtext_auto()
```