Invalid Date

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Preface

This is a Quarto book.

To learn more about Quarto books visit https://quarto.org/docs/books.

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2.1

  —   ,   ,   2008 .

20   ,   .   R 2012   Python 2017 .   ,

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2.2

-       .
-       .
-     : Excel, R, Python.
-      .
-     ,   .

2.3

- • : + (Python R).
- • : Jupyter/Colab, RStudio, GitHub.
- • : , .
- • : (50%), (40%), (10%).

2.4

1. Python/R: , ,
2.
3.
4. (AR, MA, ARMA)
5. CAPM -
6. - : VaR, Expected Shortfall, GARCH
7. : ,
8. , - ,

2.5 ?
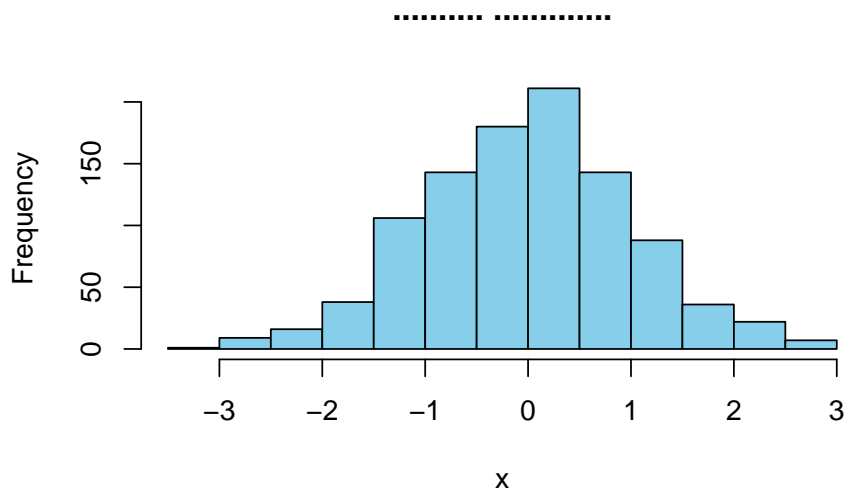
— , , ,
. — , ,
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2.6 R Python?

- • , — - Data Science.
- • .
- • : .

-        .
-     —   "   ".

```r
#       R-
x <- rnorm(1000)
hist(x, col = "skyblue", main = "                 ")
```



```python
#       Python-
import numpy as np
import matplotlib.pyplot as plt

x = np.random.normal(size=1000)
plt.hist(x, bins=30, color="skyblue")
plt.title("                ")
plt.show()
```

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Нормальное распределение

2.7 Excel, R   Python —

Excel   .   :

- Excel   .
-   .
-                       Excel   R/Python.

R   Python   :

-
-
-
-                               (reproducible research)

8

2.8 R   Python?

	Python	R
	+++ ( )	++ ( )
/	++	++
	++ (plotly, matplotlib, seaborn)	+++ (ggplot2, plotly)
	+++ (1 TIOBE Index)	++ (18)

Python   ,   . R —
                ,   .

2.9   ?

Matlab, Stata, SPSS, EViews —   ,   .
                        ,   ,   ,   .
    , R   Python   .

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