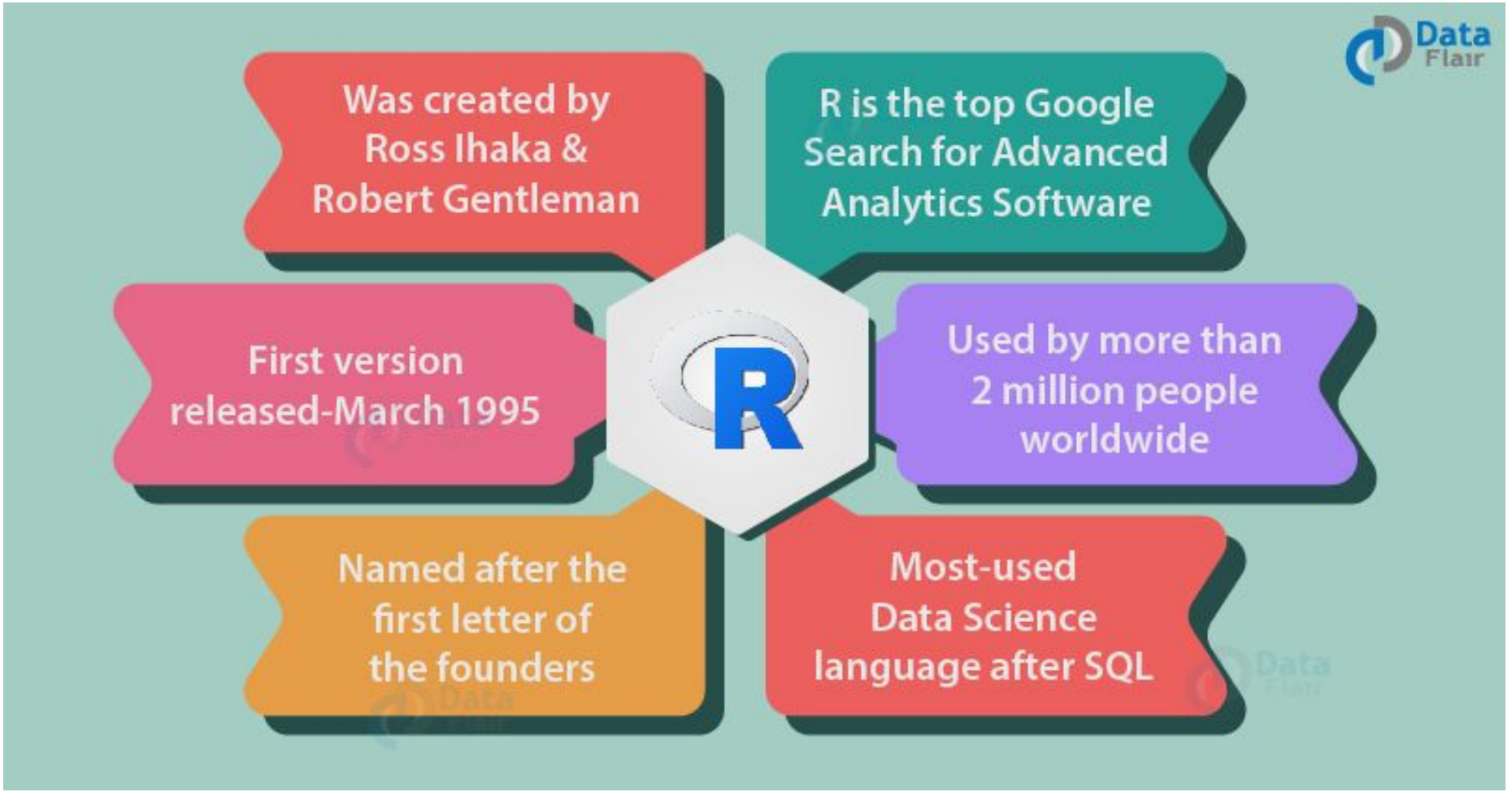
Online Lecture Series: Introduction to R Programming

February 6-7-8, 2021


Data Flair
Was created by Ross Ihaka & Robert Gentleman
R is the top Google Search for Advanced Analytics Software
First version released-March 1995
R
Used by more than 2 million people worldwide
Named after the first letter of the founders
Most-used Data Science language after SQL

Why Learn R

01 Free and Open-source Tool

02 Large Community of Users

03 Latest cutting edge technology

04 Independent Platform

05 Gateway to lucrative career

06 Has a Robust visualization library

07 Go to language for Stats. & Data Science

08 Used in almost every industry

What is R?

R is a programming language used for statistical computing and analysis.

The main goal behind the creation of R was to make a tool that was affordable, easy-to-learn and capable of handling complex mathematical and statistical calculations.

Today, R is one of the most popular programming languages used by data analysts and data scientists in the world.

It is a programming language with one of the largest user bases.

Even more exciting is the fact that it is completely free as R is an open-source programming language.

R's capabilities do not end at data analysis or statistics. It is useful for many disciples like data science, machine learning, data visualization, etc.

Features of R Programming

Why Learn R?

Popular for Academic Research
Gateway to Lucrative Career
Free & Open-source Tool
Analysis Tool for Big Data
R
Has Robust Visualization Library

Data Flair

Applications of R

Banking

Finance

E-Commerce

Social Media

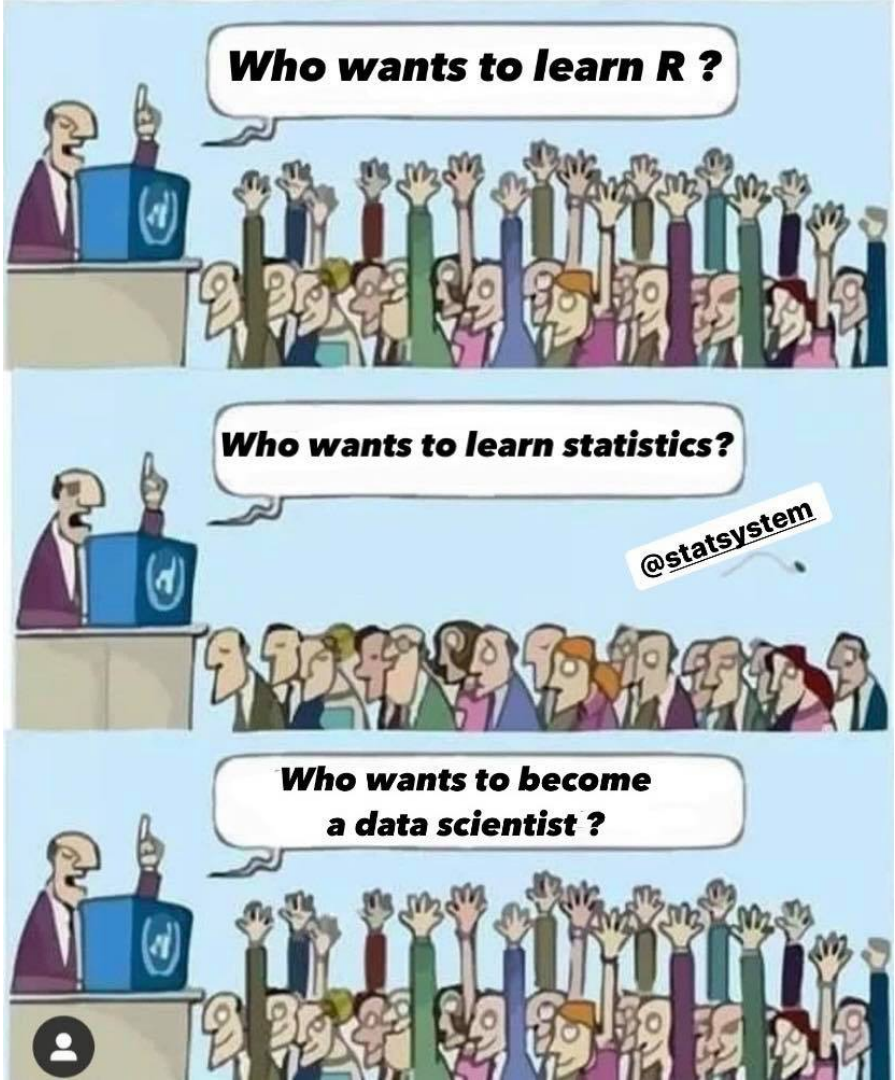
Healthcare

Companies that use R for Analytics

Audience

Anyone

- who wants to learn basics of R programming
- who has long term plans about Data Science
- who comes from the various departments like Statistics, Mathematics, Industrial Engineering, Economics, etc .



- First, you can install R by going to https://cran.r-project.org. You should see the options to download for Windows, Mac and Linux. Follow the command prompts on your screen just like you would install any other software.

- Next, you should install RStudio. Why should I install RStudio too?

- When you installed R, you only installed the software. It is hard to code directly to the software, so RStudio is an interface (other software) that makes it easier to write R code and execute it. Go to https://www.rstudio.com/products/rstudio/download/#download and pick the installer for your operating system. Again, follow the prompts like you would install any other software on your computer.

- You can check; https://courses.edx.org/courses/UTAustinX/UT.7.01x/3T2014/56c5437b88fa43cf828bff5371c6a924/

rstudio-blog - post/rstudio-v1.4-python - RStudio

Go to file/function | Addins | rstudio-blog

script.py

Run | Source Script

```
1  import seaborn as sns
2  import matplotlib.pyplot as plt
3  sns.set_theme(style="whitegrid")
4
5  # Load the example diamonds dataset
6  diamonds = sns.load_dataset("diamonds")
7
8  f, ax = plt.subplots(figsize=(6.5, 6.5))
9  sns.despine(f, left=True, bottom=True)
10 clarity_ranking = [
11   "I1", "SI2", "SI1", "VS2", "VS1", "VVS2", "VVS1", "IF"]
12
13 sns.scatterplot(x="carat", y="price",
14                 hue="clarity", size="depth",
15                 palette="ch:r=-.2,d=.3_r",
16                 hue_order=clarity_ranking,
17                 sizes=(1, 8), linewidth=0,
18                 data=diamonds, ax=ax)
19
20 plt.show()
21
```

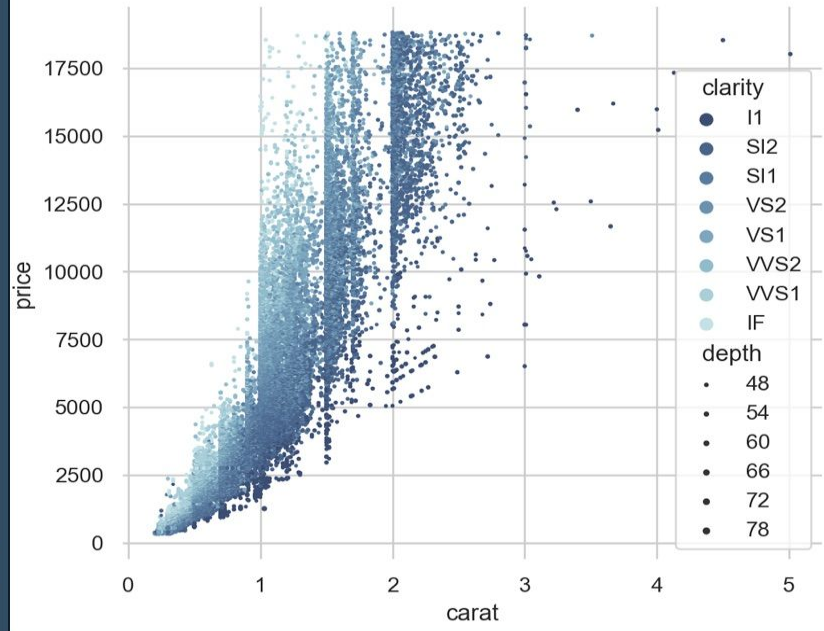
20:11 | Python

Console

Environment | History | Connections | Build | Git | Tutorial

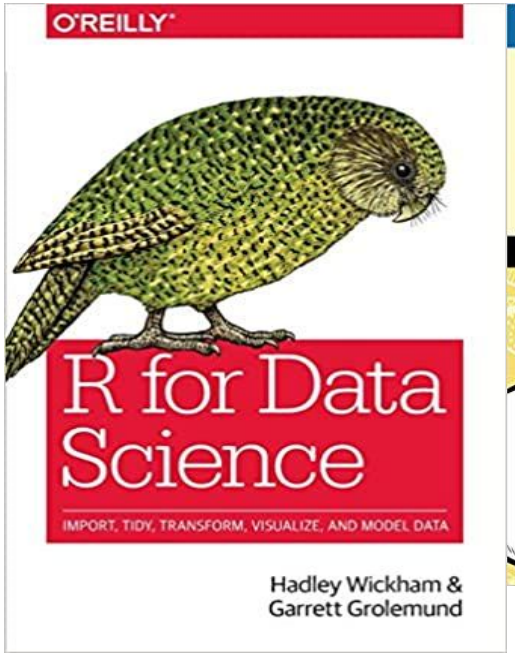
Files | Plots | Packages | Help | Viewer

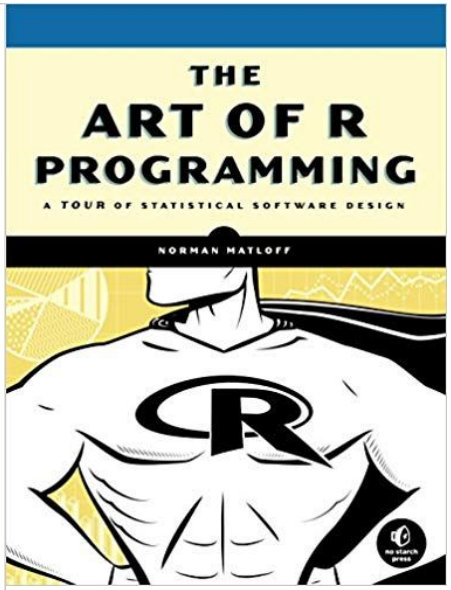
Zoom | Export

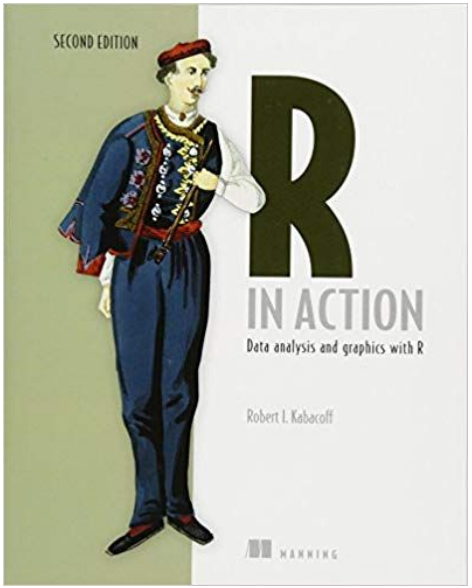


About new Version RStudio 1.4: https://blog.rstudio.com/2021/01/19/announcing-rstudio-1-4/

BASE R
R Studio
R Studio
+ ggplot2
R Studio
+ sjPlot ggplot2
R Studio +
The tidyverse
Components







Further Books:

https://rstudio.com/resources/books/

https://www.programmingcube.com/best-r-programming-books/

https://hackr.io/blog/best-r-books

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