

Bridging R Programming with Excel

The Future of Data Modeling

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GitHub Repo for Everything!

<https://github.com/netdevmike/CDW-R-Programming-with-Excel.git>

About Me

> Education

- > Bachelor in Biology with a Minor in Psychology
- > Bachelor in Computer Science - Software Engineering
- > Masters in Business Administration
- > Masters in Information Management Systems

> Certifications

- > Master's Degree Certificates in Cybersecurity & Data Analytics
- > Multi-Cloud Certified Solutions Architect (GCP, AWS, AZURE), CCNA
- > HMS Certifications in Physiology, Immunology, Biochemistry, Genetics

> Work Experience

- > Retail Chain manager- KFC, Pizza Hut, Tim Hortons
- > Research Assistant Autosomal Dominant Polycystic Kidney Diseases
- > Network Administrator - Focused on Automation
- > Cloud Marketplace Program Manager

Agenda

- > Why R?
- > Learning Objectives
- > What is R?
- > What is R Studio?
- > Setup
- > Scripts



Why R?

- Full of functions and features that will get you very far
- Easy to learn for beginners
 - Built for people who do not code
 - Not used by experts
 - Often used by researchers
- Few simple functions = a lot of power
 - Most advanced statistics written into simple R functions
- Advanced libraries to make graphs
- A lot of tutorials online

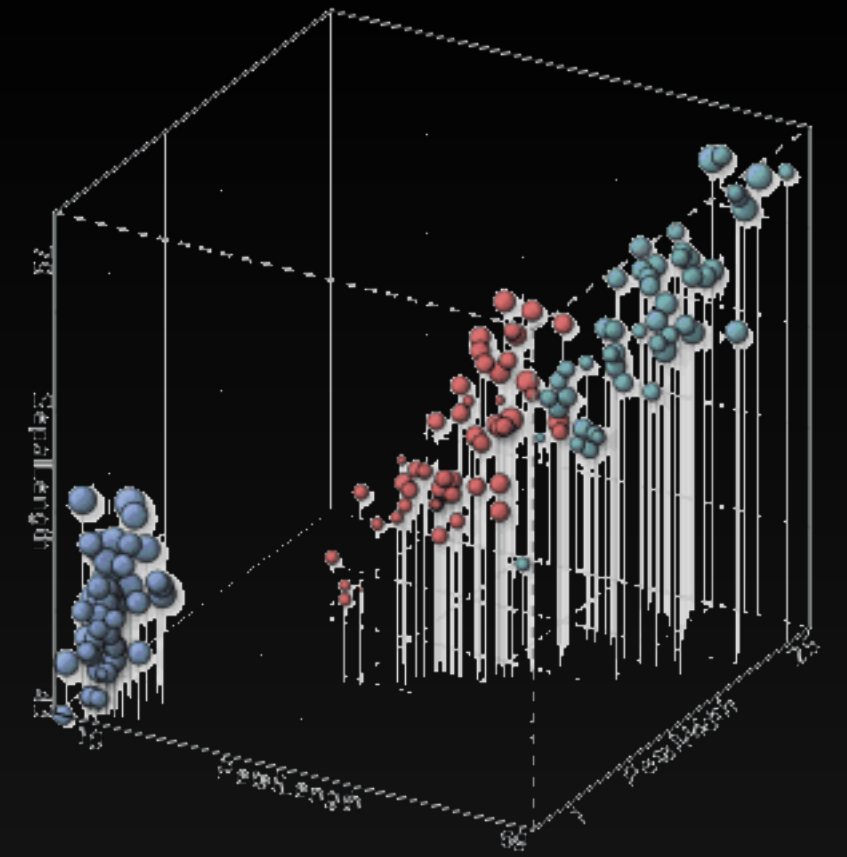




WHO USES R?

Meta uses advanced tools like R programming for behavior analysis and social media analytics.
R is used in data management, data analytics, economic forecasting, and business-decision making at Google
Amazon data scientists and analysts use R for statistics and machine learning to build analytics systems that
can measure the marketing ROI
Average Salaries for Amazon Employees

What is R?

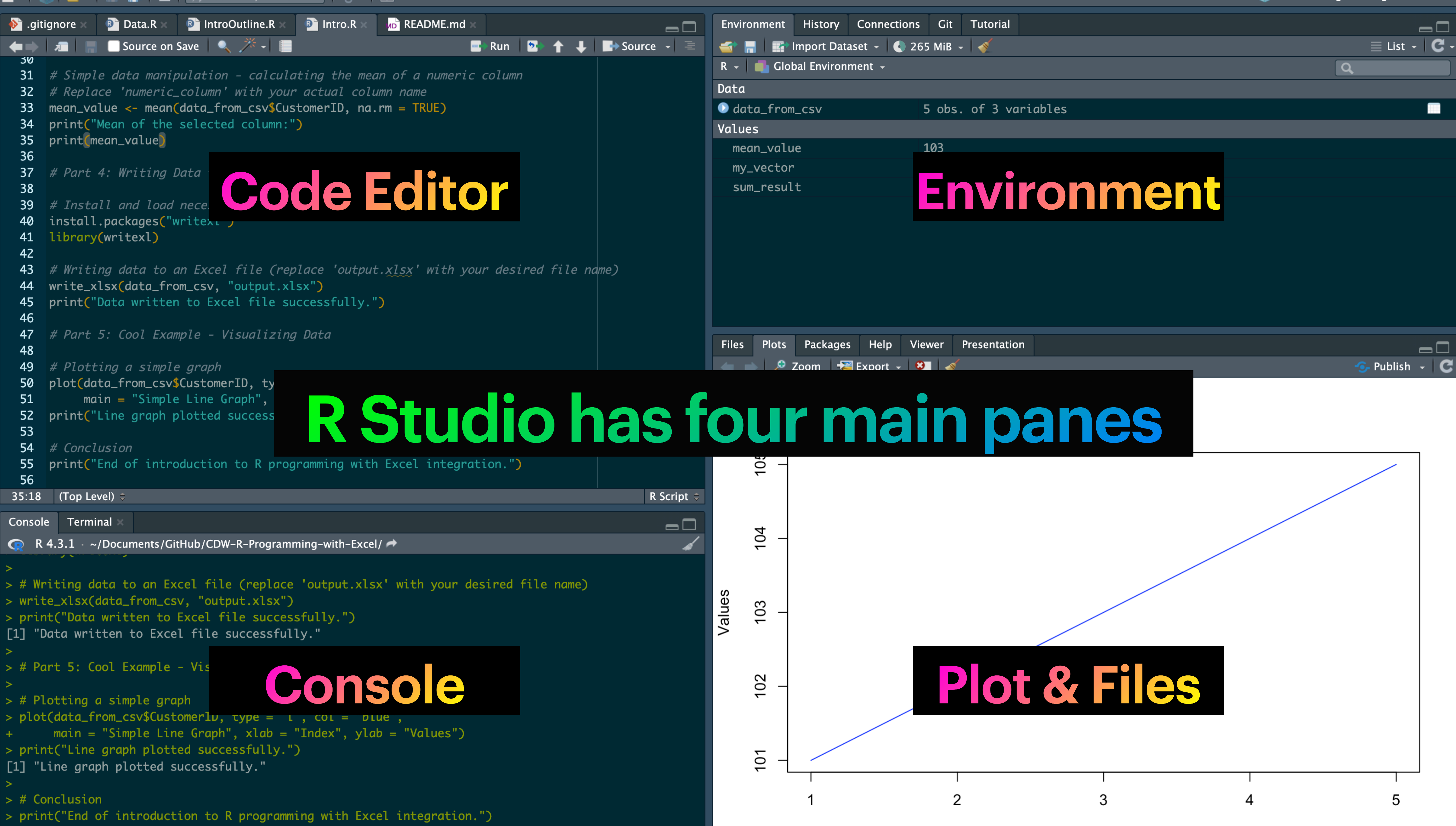


- > R is a programming language for statistical computing and graphics.
- > It is the most popular statistical software in circulation today and is used by more than 2 million data scientists & and statisticians worldwide.
 - > How Companies Use R to Compete in a Data-Driven World, datainformed.com
- > Download R! - <https://cran.r-project.org/>

What is R Studio?

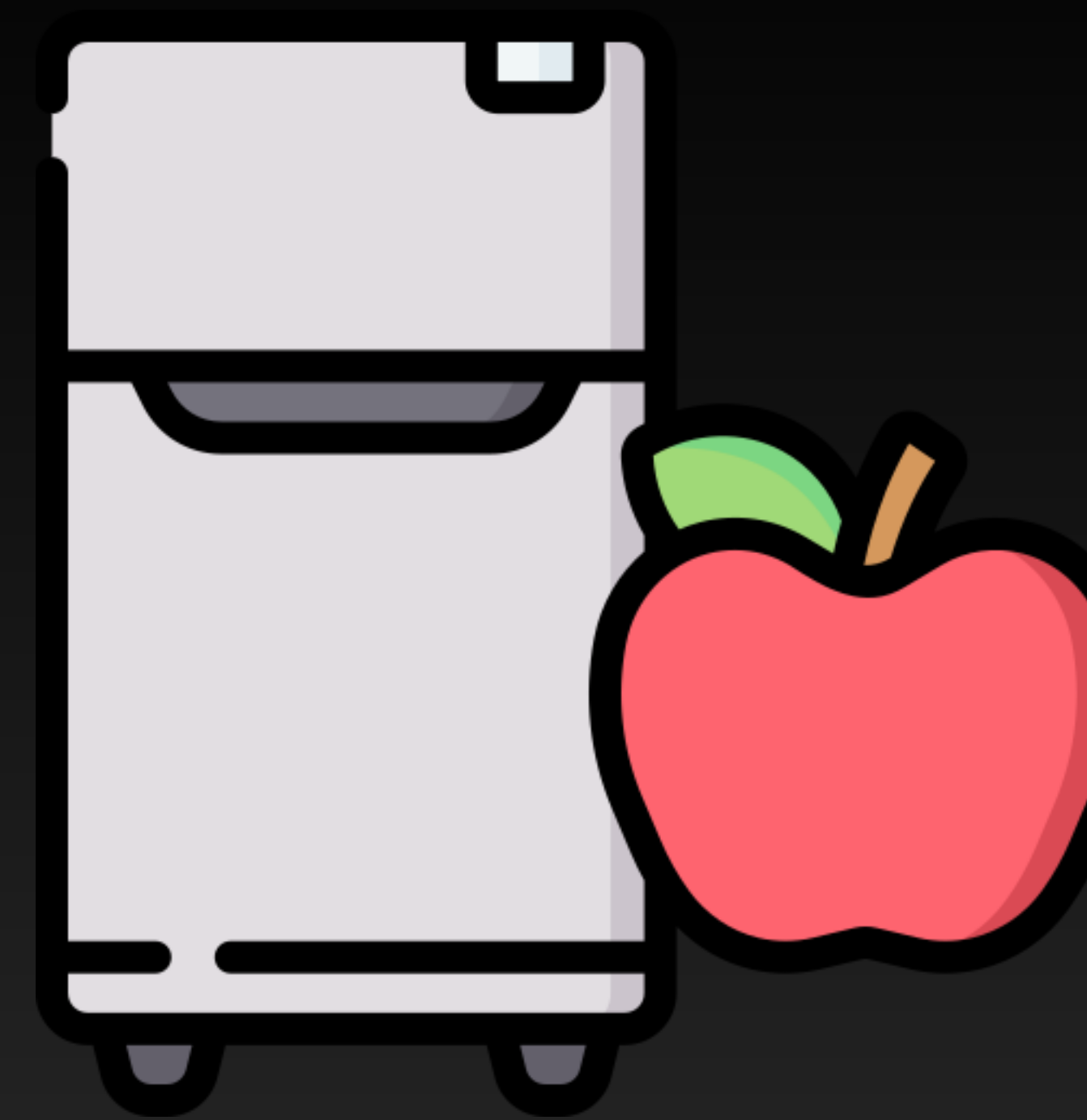


- > IDE – Integrated Development Environment
 - > Adds additional functionality e.g. git, shiny projects, markdown templates
- > R studio is the most popular IDE for R, although there are others, you don't actually need it to execute R code.
- > R Studio sits atop the installed R version. Without base R, R Studio cannot function. By programmatically accessing base R, R Studio improves the interface and functionality.
- > Download R Studio! - <https://posit.co/download/rstudio-desktop/>



R Workflow

- > Let's eat an apple for breakfast. Where is the fruit?
- > If a "local" file define the path to the file
 - > `setwd('fridge/shelf/fruits')`
 - > OR
 - > From a URL
 - > `csvFile <- 'https://raw.githubusercontent.com/netdevmike/CDW-R-Programming-with-Excel/main/data/Customer_Data.csv?token=GHSAT0AAAAAACD2NM5HJUAQUG7JJJ7FN7AKZL2SGNA'`
- > The item of interest needs to be in the "working directory"



R uses functions, libraries & objects

> Found the fruit shelf! What tools do I need?

> `#setwd("fridge/shelf/fruits")`

> `library(peel)`

> `library(knife)`

> `library(readr)`



> Change R into a breakfast-preparing machine with specialized libraries.

Lets build our tool box (libraries)

- > Before loading a library use
- > `install.packages("name of package")`.
- > You only need to do this once per environment
- > But, you will need to repeat it w/each new environment!



R uses functions, libraries & objects

> library(peel)

> library(knife)

> library(readr)

> Now R is a cutting & peeling machine, let's pick our fruit.

Fridge/shelf/fruits -> apple, banana, pear

> setwd('fridge/shelf/fruits')

> apple <- readr("Apple.")

> peelApple <- peel(apple)

> cutApple <- knife(peelApple)

LETS CODE!