

# Intro to R

Introduction

# Welcome!

1. Introductions
2. Topics overview
3. Getting R up and running



[Photo by [Belinda Fewings](#) on [Unsplash](#)]

# About Us

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# About Us

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# The Learning Curve

Learning a programming language can be very intense and sometimes overwhelming.

We recommend fully diving in and making lots of mistakes through trial and error.

We want you to succeed – We will get through this together!



## What is R?

- R is a language and environment for statistical computing and graphics developed in 1991
- R is both open source and open development (aka, free!)



- Powerful and flexible - especially for data wrangling and visualization
- Extensive add-on software (packages)
- Strong community – <https://rladies.org/>

[source: <http://www.r-project.org/>, [https://en.wikipedia.org/wiki/R\\_\(programming\\_language\)](https://en.wikipedia.org/wiki/R_(programming_language))]

## Workshop Website

[https://hutchdatascience.org/SeattleStatSummer\\_R/](https://hutchdatascience.org/SeattleStatSummer_R/)



## Learning Objectives

- Understanding basic programming syntax
- Reading data into R
- Summarizing and grouping data
- Filtering data
- Recoding data
- Making plots with your data

# Installing R

- Install the [latest R version](#)
- [Install RStudio](#)

More detailed instructions [on the website](#).

RStudio is an **integrated development environment** (IDE) that makes it easier to work with R.

More on that soon!

## Getting files from downloads

This course will involve moving files around on your computer and downloading files.

If you are new to this - check out these videos.

If you have a PC: <https://youtu.be/we6vwB7DsNU>

If you have a Mac: <https://www.youtube.com/watch?v=Ao9e0cDzMrE>

You can find these on the resource page of the website.

## Useful (+ mostly Free) Resources

Found on our website under the Resources tab:

[https://hutchdatascience.org/SeattleStatSummer\\_R/resources.html](https://hutchdatascience.org/SeattleStatSummer_R/resources.html)

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- videos from our Intro to R Course
- cheatsheets from that course

# Useful (+ mostly Free) Resources

## Want more?

- Tidyverse Skills for Data Science Book: <https://jhubdatascience.org/tidyversecourse/> (more about the tidyverse, some modeling, and machine learning)
- Tidyverse Skills for Data Science Course: <https://www.coursera.org/specializations/tidyverse-data-science-r>  
(same content with quizzes, can get certificate with \$)
- R for Data Science: <http://r4ds.had.co.nz/>  
(great general information)
- R basics by Rafael A. Irizarry: <https://rafalab.github.io/dsbook/r-basics.html> (great general information)
- Open Case Studies: <https://www.opencasestudies.org/>  
(resource for specific public health cases with statistical implementation and interpretation)
- Dataquest: <https://www.dataquest.io/>  
(general interactive resource)

# Useful (+ mostly Free) Resources

## Need help?

- Various “Cheat Sheets”: <https://www.rstudio.com/resources/cheatsheets/>
- R reference card: <http://cran.r-project.org/doc/contrib/Short-refcard.pdf>
- R jargon: <https://link.springer.com/content/pdf/bbm%3A978-1-4419-1318-0%2F1.pdf>
- R vs Stata: <https://link.springer.com/content/pdf/bbm%3A978-1-4419-1318-0%2F1.pdf>
- R terminology: <https://cran.r-project.org/doc/manuals/r-release/R-lang.pdf>

## Summary

- R is a powerful data visualization and analysis software language.
- Lots of **resources** can be found on the website.

[Workshop Website](#)