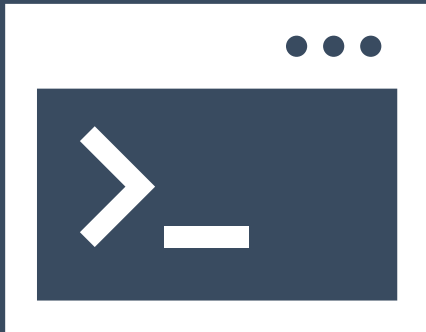


Introduction to R

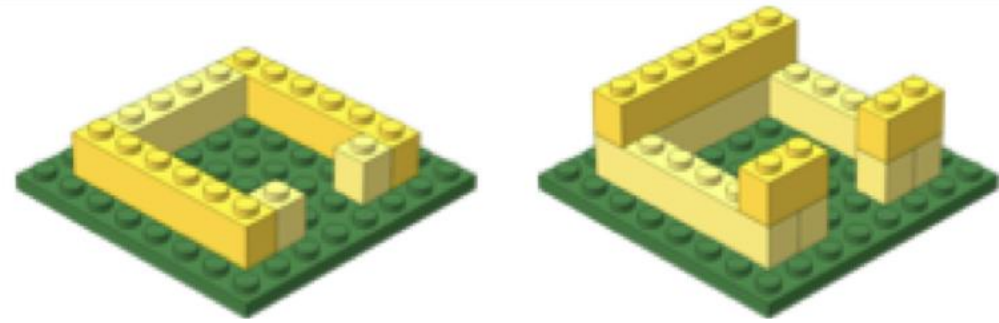
<https://tinyurl.com/hbc-r-qmd>



Harvard Chan Bioinformatics Core



Learning Objectives

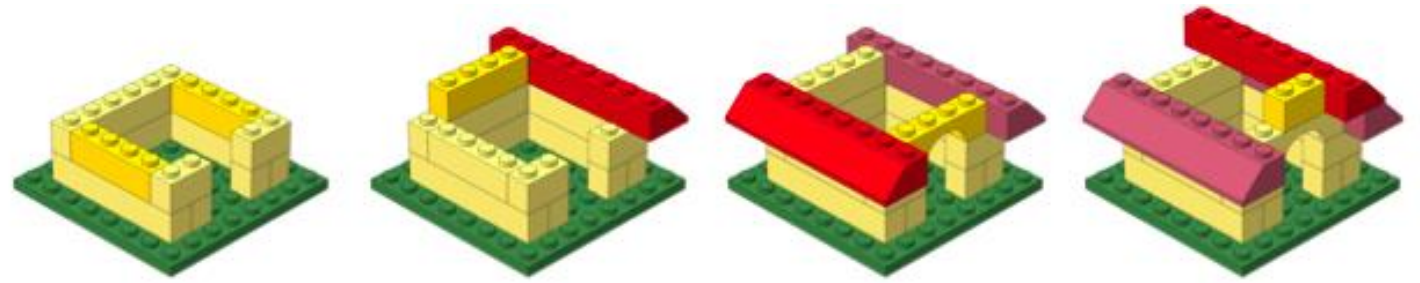


- ❖ Comfortably use RStudio (a graphical interface for R)
- ❖ Fluently interact with R using RStudio
- ❖ Become familiar with R syntax
- ❖ Understand data structures in R
- ❖ Inspect and manipulate data structures
- ❖ Install packages and use functions in R
- ❖ Visualize data using ggplot2
- ❖ Utilize pipes, tibbles and functions from the Tidyverse package suite

Exit survey


<https://tinyurl.com/r-workshop-hbc>

Keep building!




Topic	Pre-requisites	Date	Time	Registration
Statistics for Computational Biology Projects	None	6/18/25	1 - 4 pm	Register now!
Deeper differential expression analysis with shrinkage correction	Foundations in R	7/16/25	1 - 4 pm	Register now!

Harvard Catalyst Online Resource

 HARVARD UNIVERSITY

HARVARD.EDU

Harvard Catalyst Introduction to R:
An online, hands-on training resource for learning the basics of R
[Contact](#)

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HOME Lessons Faculty Supplemental Resources


Welcome to Introduction to R

This **online, hands-on learning resource** will introduce you to using R and RStudio. R is a simple programming environment that enables the effective handling of data, while providing excellent graphical support. RStudio is a tool that provides a user-friendly environment for working with R. This resource is intended to provide both basic R programming knowledge and information on utilizing R to increase efficiency in data analysis.

This comprehensive online learning resource was created in collaboration between [Harvard Catalyst](#) and the [Harvard Chan Bioinformatics Core](#). It includes a series of videos explaining fundamental concepts in R and demonstrates the application through live coding. It is geared toward those interested in learning the basics of R for reproducible data wrangling and visualizations (ggplot2), and/or performing data analyses that require a basic knowledge of R.

Resource lessons address the following:

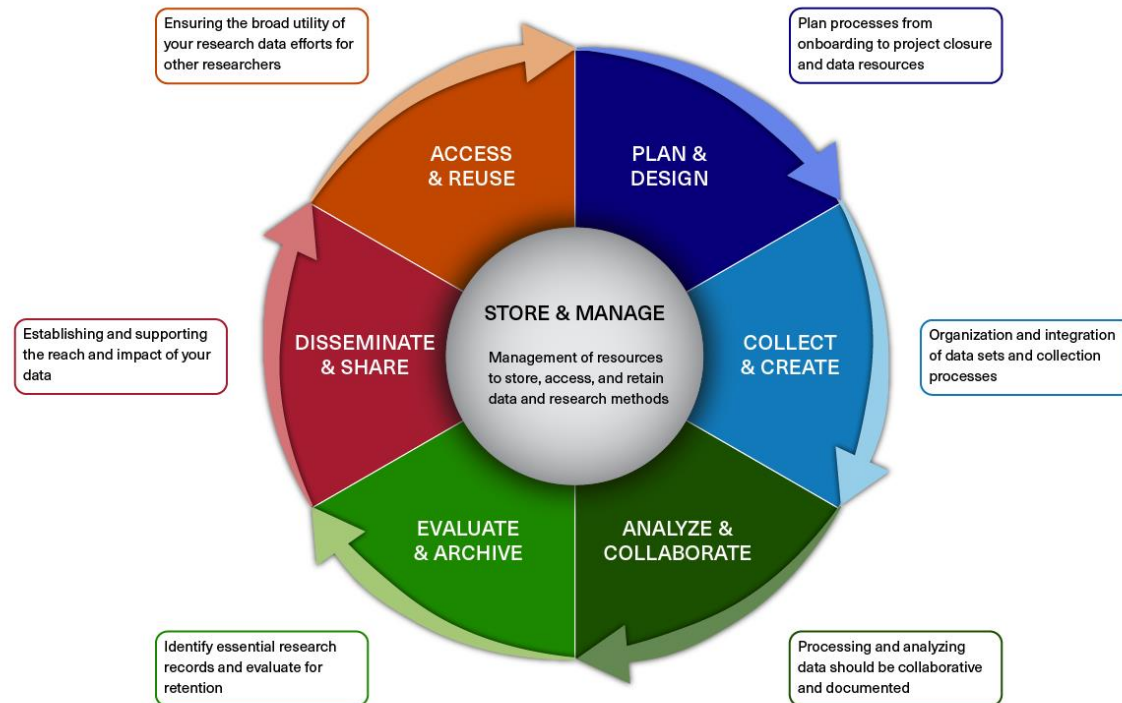
- **R syntax:** Understanding the different 'parts of speech' in R, and introducing variables and functions, demonstrating how functions work, and modifying arguments for specific use cases.
- **Data structures in R:** Explaining the classes of data structures and the types of data used by R.
- **Data inspection and wrangling:** Reading in data from files, and using indices and various functions to subset and create datasets (including the tidyverse suite of packages).
- **Visualizing data:** Visualizing data using plotting functions from the external package ggplot2.
- **Exporting data and graphics:** Generating new data tables and plots for use outside of the R



<https://projects.iq.harvard.edu/hcatrresource>

Research Data Management (RDM)

BIOMEDICAL RESEARCH DATA LIFECYCLE



Better RDM practice benefits you

❖ HMS Data Management LMA

❖ **Webpage:** <https://datamanagement.hms.harvard.edu>

❖ Sign up for quarterly email updates

❖ Harvard-wide Research data Management

❖ <https://researchdatamanagement.harvard.edu/>

Jun 1pm **Get Ready: NIH Public Access Policy Update** Zoom
18

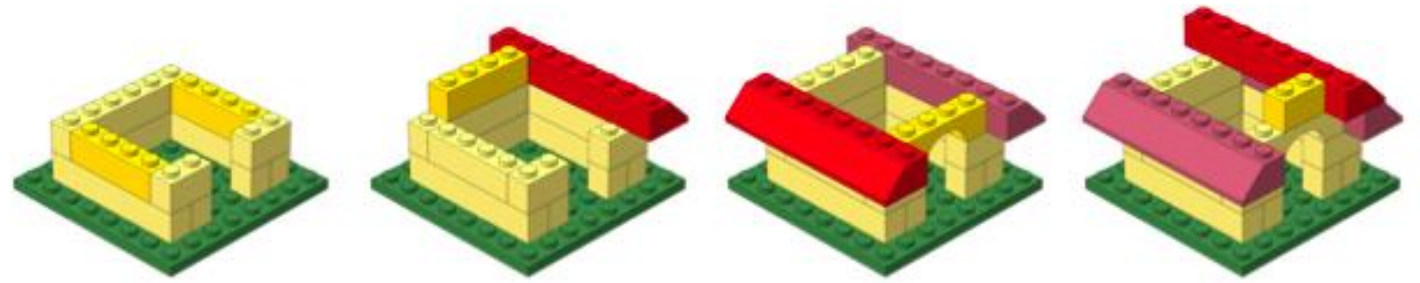
Jun 11am **Get Ready: NIH Public Access Policy Update** Zoom
23

Jul 9 12pm **Data Discussions: Let's Talk PIDs** Zoom

Jul 2pm **protocols.io Webinar: Getting Credit** Zoom
14

Aug 12pm **Data Discussions: Let's Define Data** Zoom
6 **Management Roles**

Keep building!



Topic	Category	Date	Duration	Prerequisites
Introduction to Peak Analysis	Advanced	July 8, 11, 15	Three 2.5h sessions	R
Introduction to single-cell RNA-seq	Advanced	September 9, 12, 16	Three 2.5h sessions	R
Pseudobulk and related approaches for scRNA-seq analysis	Advanced	October 21, 24, 28, 31	Four 2.5h sessions	R
Tools for Reproducible Research	Advanced	November 14, 18, 21	Three 2.5h sessions	R

<https://bioinformatics.sph.harvard.edu/upcoming-workshops>

Join us for HBC Community Breakfast!

- ❖ An opportunity to get to know others in the community
- ❖ Free food and beverages
- ❖ Great conversations



TBD
9:00 to 10:30am

More Info:

<http://bioinformatics.sph.harvard.edu/breakfast/>

Talk to us early!

Involvement in study design to optimize experiments



More Information

- ❖ *HBC training materials: <https://hbctraining.github.io/main>*
- ❖ *HBC website: <http://bioinformatics.sph.harvard.edu>*

Contact Us

Sign up for our mailing list:

<https://tinyurl.com/hbc-training-mailing-list>

- ❖ *HBC training team:* hbctraining@hsph.harvard.edu
- ❖ *HBC consulting:* bioinformatics@hsph.harvard.edu