

Statistics in R Workshop #1

March 8, 2022

Welcome! The goal of this workshop series is to introduce you to statistical hypothesis testing and to teach you the technical knowledge needed to run these tests in R. This is a 4-week workshop covering statistical tests with categorical and continuous variables. You will have the opportunity to use your own data (or simulated data) and generate your own code for testing your questions of interest.

For any questions or troubleshooting, email Kim at kimvnguyen@temple.edu, attend Coding Outreach Group office hours, or most of your questions probably have already been asked on forums such as StackOverflow.

Before each workshop, please download all workshop materials for that week. We will work through the same R script during the workshops and students will have the opportunity to show off what they have learned.

Workshop 1: Intro to R

Goal: Downloading and using R and RStudio console and command line, basic tutorial on what you can do with data in RStudio

R is an open source application that is free. Most Temple computers already have R and R Studio downloaded. Download the latest version of R and R Studio (you must download both for this workshop):

R: <https://mirror.las.iastate.edu/CRAN/>

R Studio: <https://www.rstudio.com/products/rstudio/download/#download>

R is the application itself, R Studio is a graphical user interface (GUI). We will only use R Studio to access R in this workshop.

Agenda

- Creating scripts and R Markdown, installing and loading packages
- Arithmetic and functions
- Creating and manipulating objects and vector objects

Basic data manipulation

- Reading in data as a data frame
- Data wrangling (subsetting and indexing)
- Descriptives/summary statistics and displaying data (histogram, boxplots, bar plots)