Section 001 CDS 101 *Introduction to Computational and Data Sciences*

Class 11: Data wrangling IV

February 27, 2018

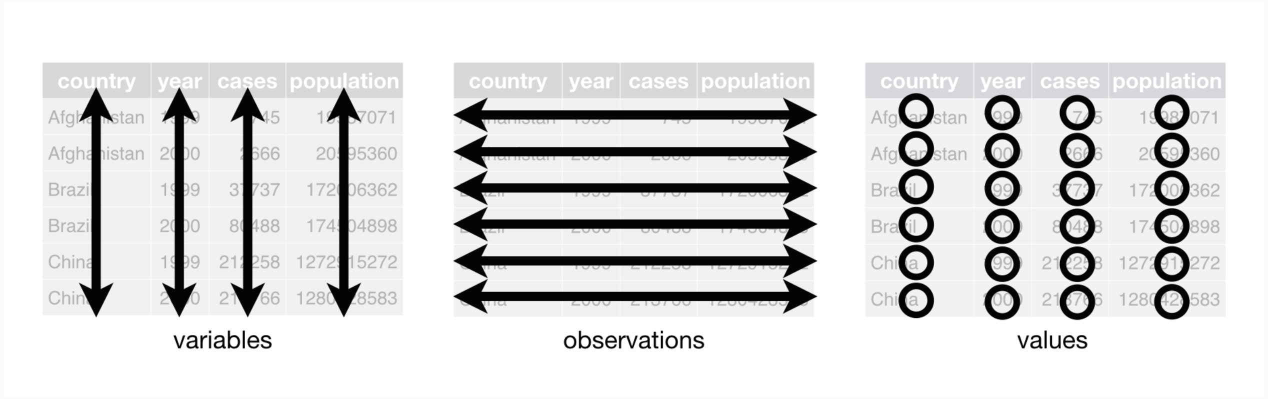
General

Annoucements

- Reading for next class: *R for Data Science*
  - From chapter 12: section 12.1 through to the end of section 12.3
- Homework 2 posted, due on Friday, March 9th by 11:59pm (Friday before Spring Break)

Tidy data

Principles



1. Each variable must have its own column.
2. Each observation (case) must have its own row.
3. Each value must have its own cell.

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1. There's a general advantage to picking one consistent way of storing data. If you have a consistent data structure, it's easier to learn the tools that work with it because they have an underlying uniformity.

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The "vectorized" tools of `tidyverse` are both faster and easier to understand!

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- Provides a standardized, "best practices" way to structure and store our datasets
    - Note that you may not collect or input your data straight into tidy format

Tidying ≠ Cleaning

- Data tidying does **not** encompass the entire data cleaning process
- Data tidying only refers to reshaping things, such as moving columns and rows around
- Cleaning operations, such as correcting spelling errors, renaming variables, etc., is a separate topic

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    - `unite()`: make a single column out of multiple columns

Simple examples from textbook

Follow along in RStudio

Tidy gradebook dataset exercise

Download the Github Classroom repo linked in channel `#4-starters` on Slack and complete the following exercises:

1. Make the dataset tidy using either `gather()` or `spread()`. The tidy gradebook should have one observation per row, which is one grade per student per assignment.

2. Use the tidy gradebook and create a histogram that answers the question, "What was the grade distribution for the Midterm Exam?"

Remember to commit and push your work before leaving class!