


Data Analysis Cycle

Stat 133 by Gaston Sanchez


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Data Analysis?




“Data Analysis is the process
by which data becomes
understanding, knowledge
and insight”

Hadley Wickham



“Computing with data refers to activities in which data is acquired, managed, and processed for a great variety of purposes: organization, visualization, summaries, analysis, etc.”

John Chambers



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John Chambers

Last time ...

DATA: BY THE NUMBERS

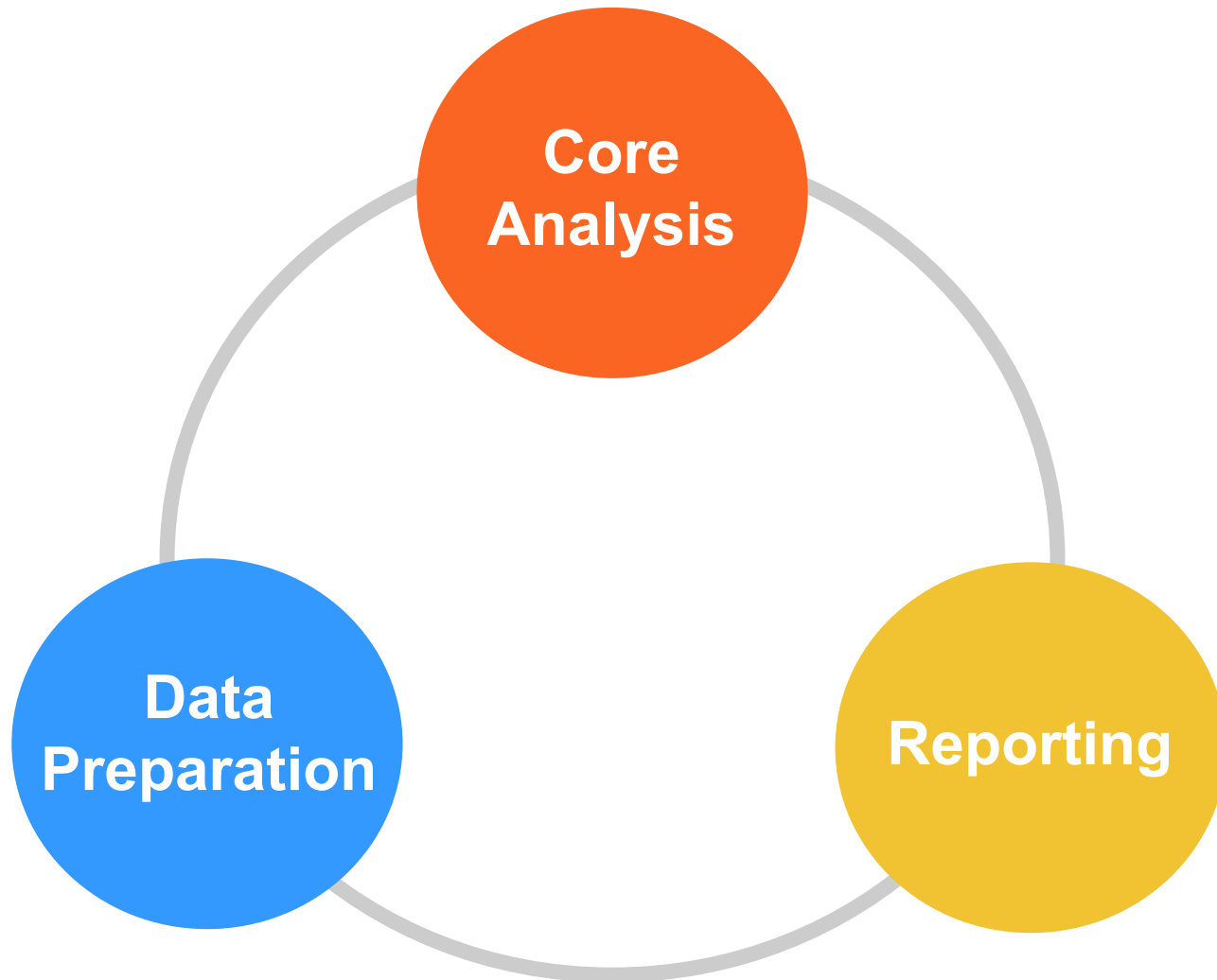


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My vision of the Data Analysis Cycle



Cooking Metaphor

Data Analysis
is a lot like
Cooking

Cooking stages

- Get the food/ingredients (i.e. data)
- Washing, rinsing, soaking
- Peeling, cutting, chopping, slicing, dicing, blending
- Boiling, simmering, sauteing, frying, roasting, toasting grilling
- Mise-en-place, serving
- Eating & enjoying















Demo

Data Prep



Data Preparation

- Acquisition
- Storage
- Cleaning
- Processing
- Tidying
- Reshaping
- Wrangling



perfect ingredients









Core Analysis



Analysis

- Exploration
- Description
- Visualization
- Hypothesis Tests
- Inference
- Simulation
- Model Fitting





Reporting & Communication



Reports

- Document(s)
- Article(s)
- Book(s)
- Poster(s)
- Blog post(s)
- Dissertation
- News



Communication

- Oral
- Print
- Web
- Audio
- Video
- Multimedia
- Other



Other details





The glamorous, high
prize, idealistic side of
things ...



gorgeous kitchen



miraculous devices