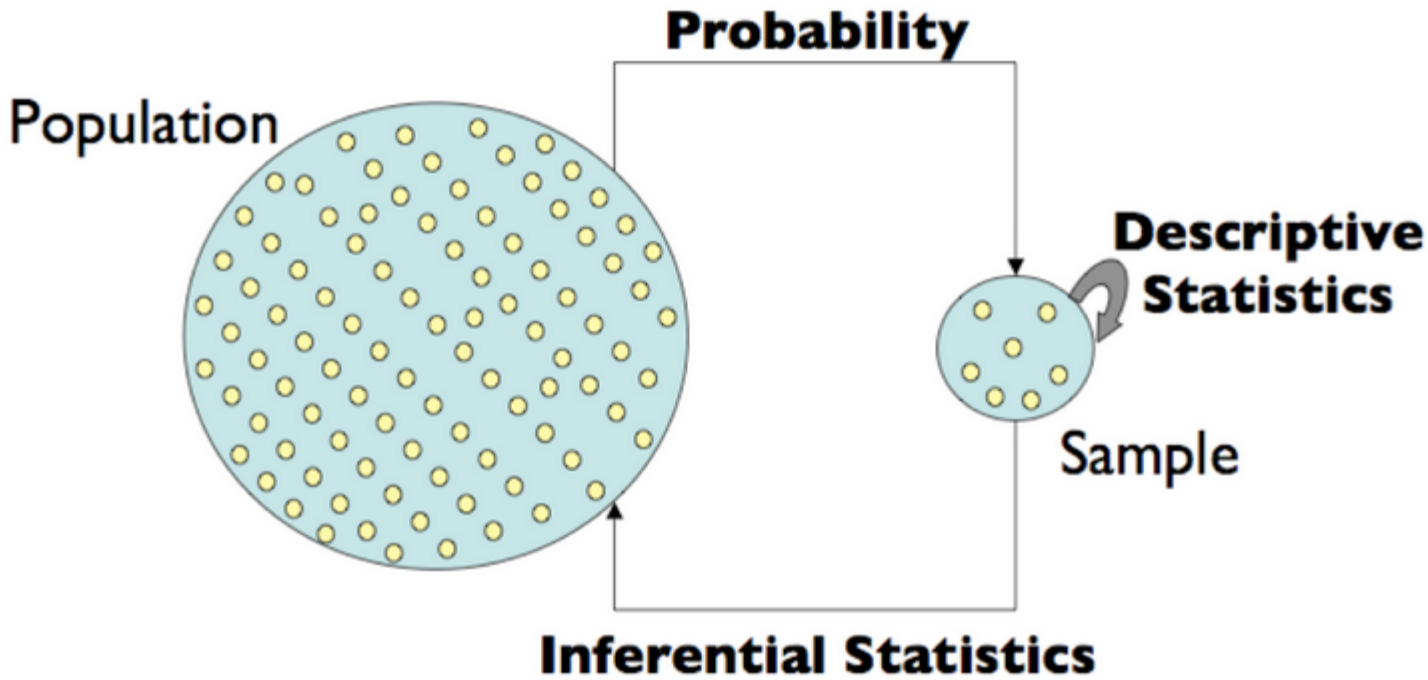
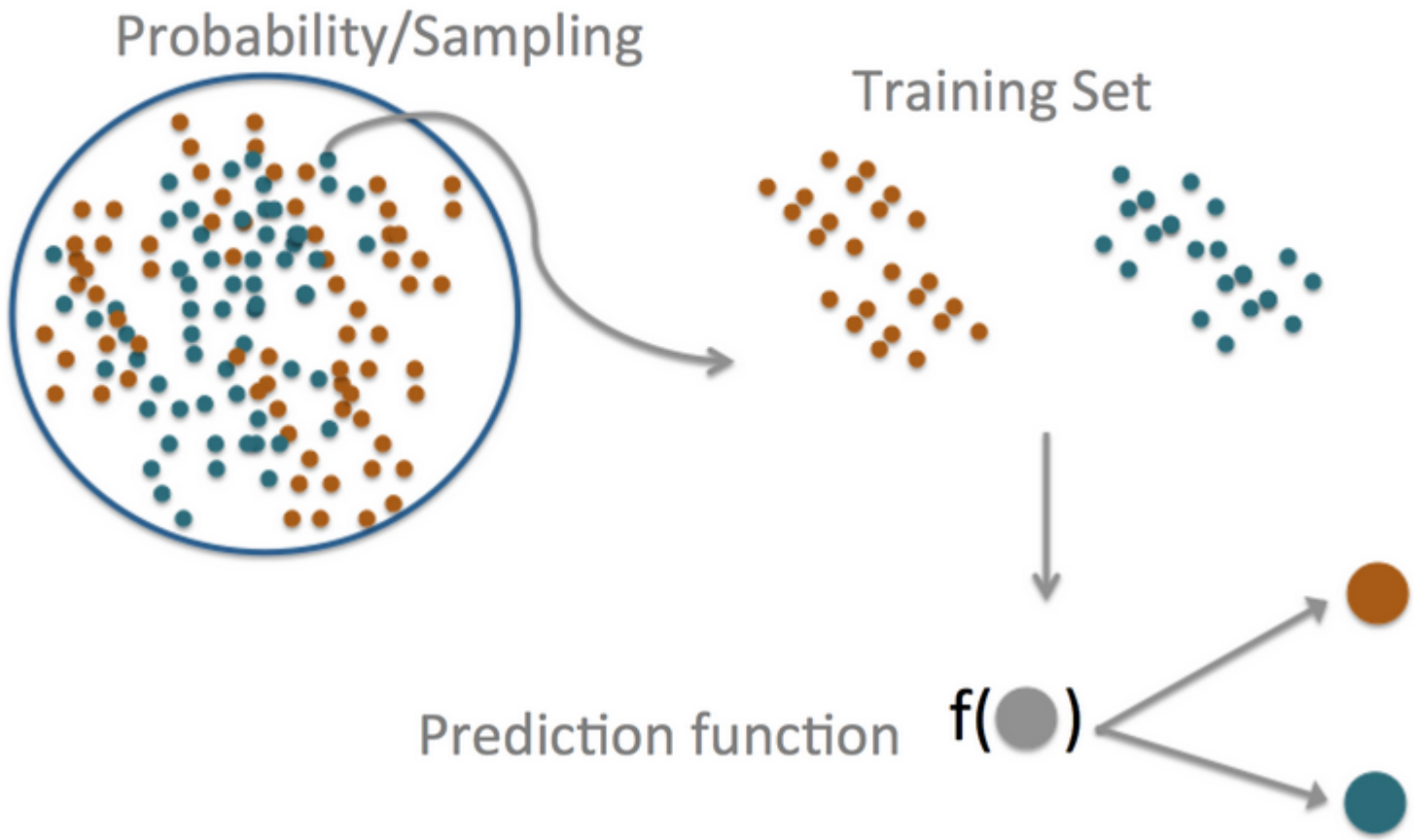
Organize thyself

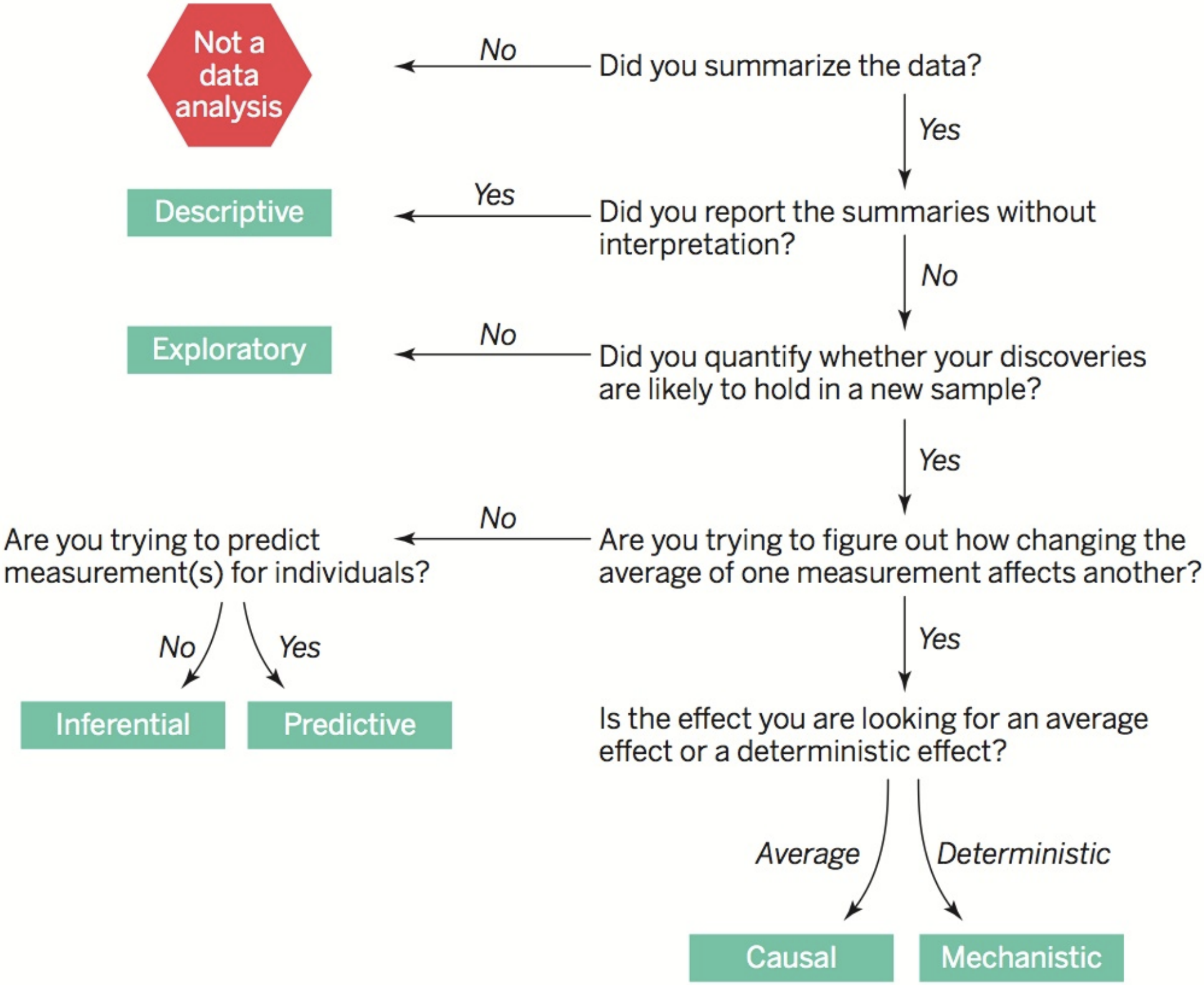
Inference



http://www.gs.washington.edu/academics/courses/akey/56008/lecture/lecture2.pdf

Prediction




Not a data analysis
No
Did you summarize the data?
Yes
Descriptive
Yes
Did you report the summaries without interpretation?
No
Exploratory
No
Did you quantify whether your discoveries are likely to hold in a new sample?
Yes
Are you trying to predict measurement(s) for individuals?
No
Are you trying to figure out how changing the average of one measurement affects another?
Yes
No
Yes
Inferential
Predictive
Is the effect you are looking for an average effect or a deterministic effect?
Yes
Average
Deterministic
Causal
Mechanistic

Steps in a data analysis

- Define the question
- Define the ideal data set
- Determine what data you can access
- Obtain the data
- Clean the data
- Exploratory data analysis
- Statistical prediction/modeling
- Interpret results
- Challenge results
- Synthesize/write up results
- Create reproducible code

An example

http://jtleek.com/jhsph753and4/lectures/01_01_courseBackground/#35

Version control

http://slides.com/jeffleek/sisbid-m1-d1#/7

Hint: click down

Why reproducible research is important

http://slides.com/jeffleek/sisbid-m1-d1#/4

Hint: click down

Reproducible research

http://slides.com/jeffleek/sisbid-m1-d1#/8

Hint: click down

Homework for next time

1. Install R, Rstudio, Git, and Github
   a. Do the practice examples if you need to
2. What is a data set you have in hand and can share?
3. What data do you wish you had?