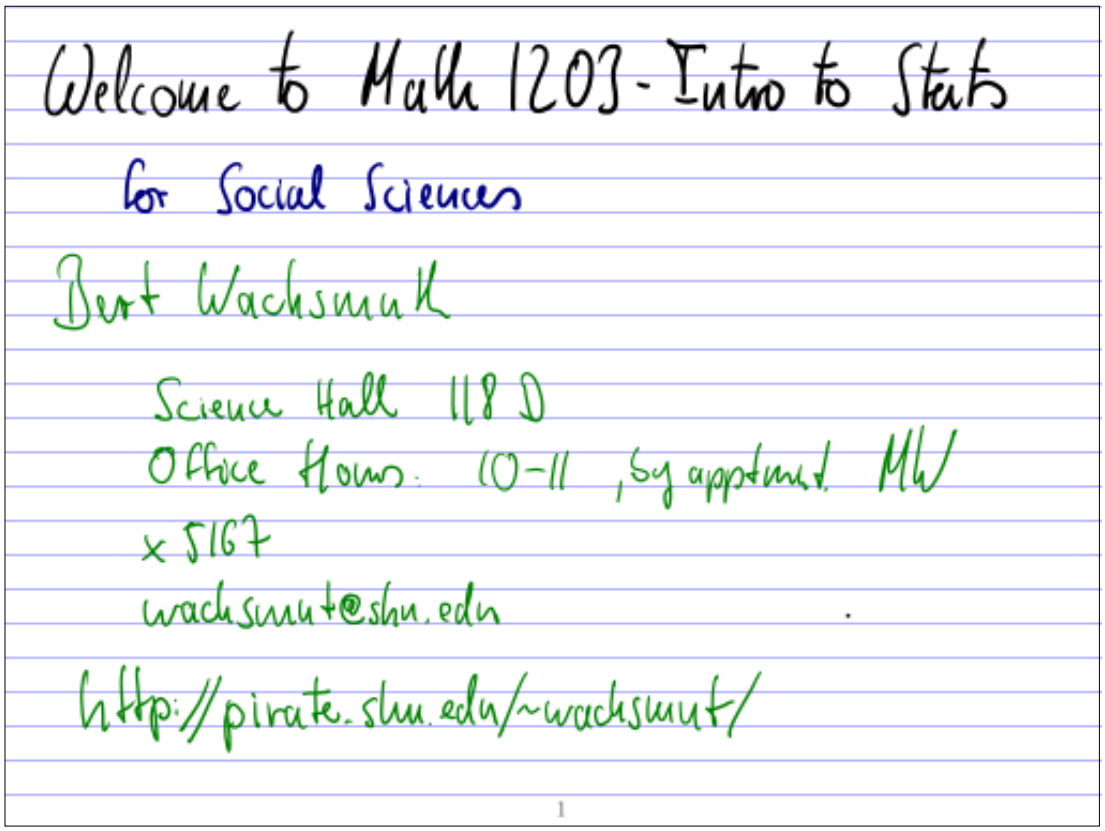
Panel 1



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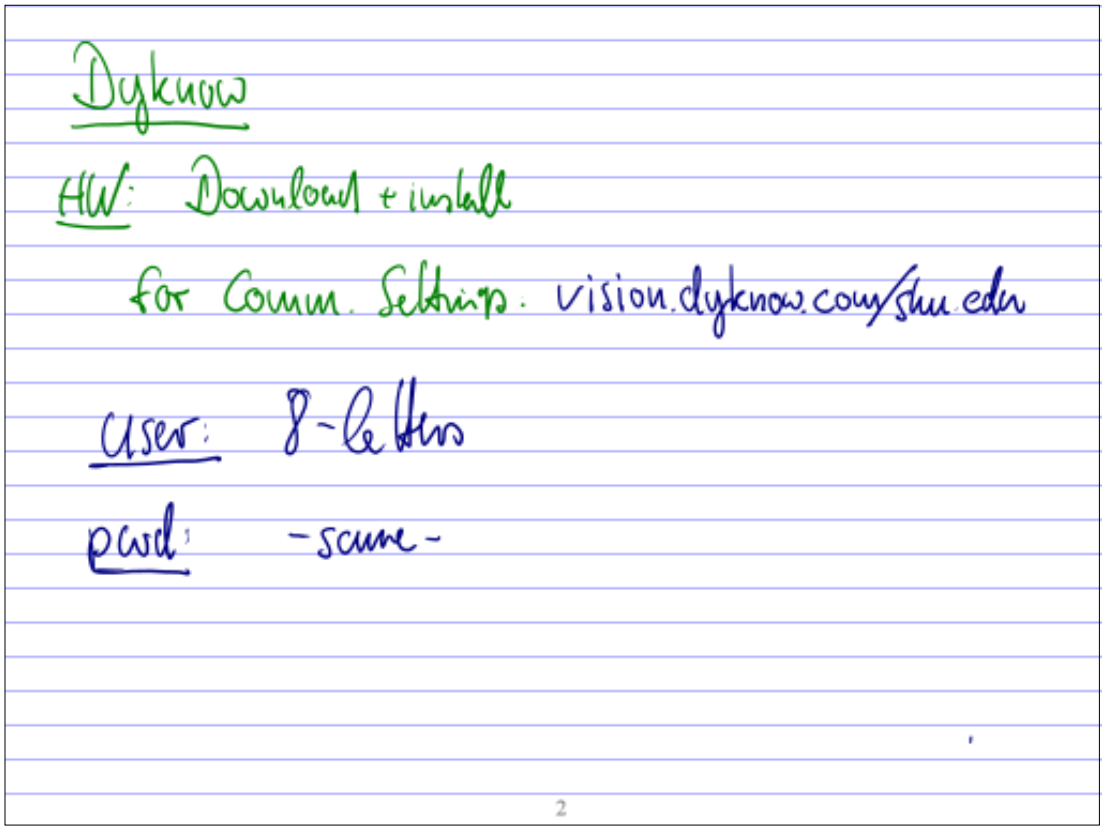


Panel 3

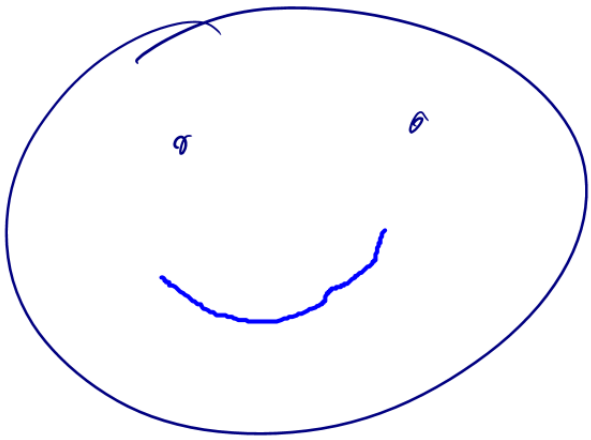
Syllabus:

Need: Text book ✓
StatCrunch access ✓
Dyknow ✓

Grading: 3 exams: 300 p
1 final: 100 p
Quizzes: 100 p
Computer: 100 p

3

Panel 4



4

Panel 5

Course Overview:

1. Overview: Population, Sample, types of variables
2. Sample and Measurement.
   randomization, sampling methods
3. Descriptive Stats: distributions, descriptive stats, central tendency, variability
4. Probability Distributions: normal distribution, Central Limit Theorem

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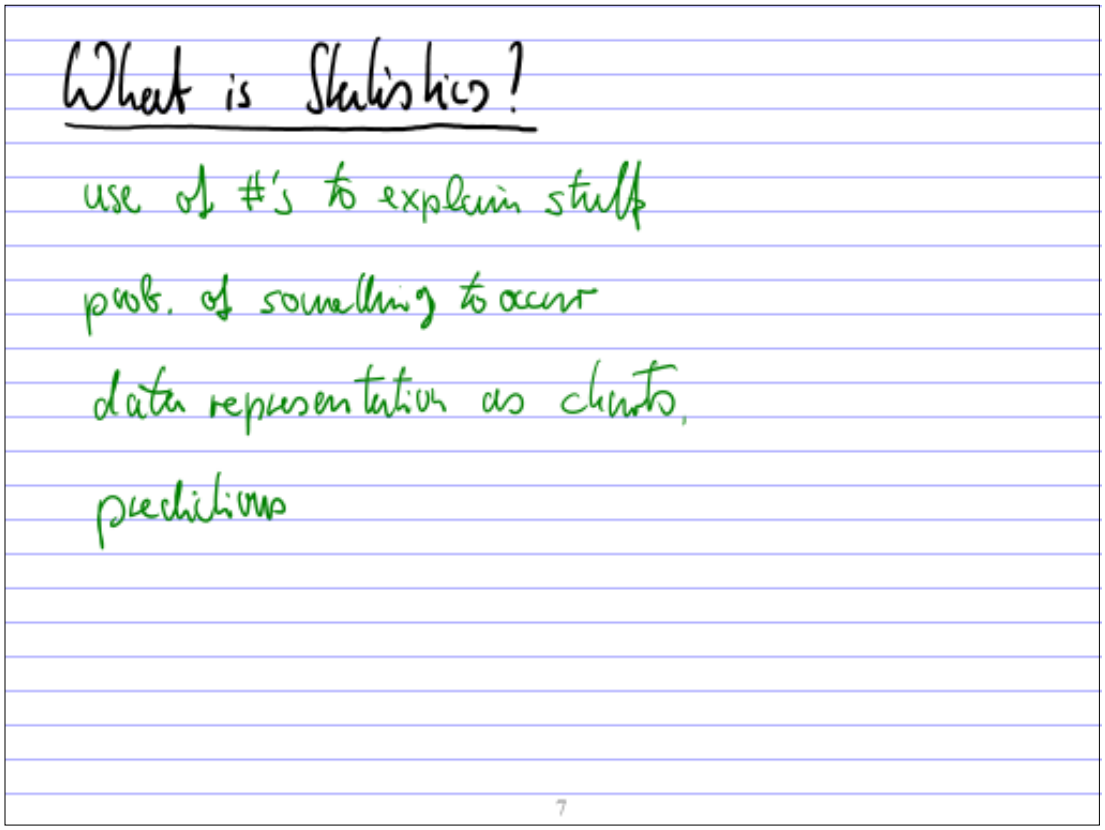
Panel 6

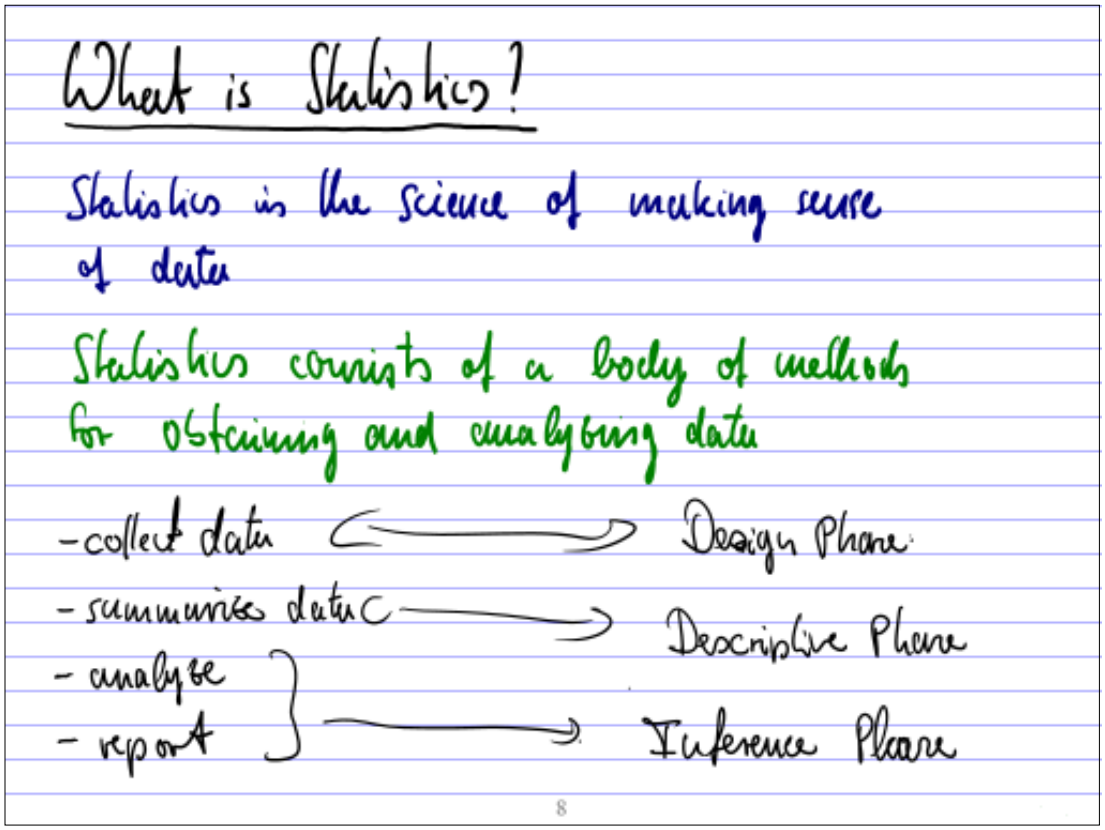
5. Statistical Inference: Estimation
   Confidence intervals
6. Statistical Inference: Significance Tests
   Tests for means, proportion, independence
8. Associations between Categorical Vars
   Contingency Tables, Chi-Square
9. Linear Regression + Correlation
   Scatter Plot
7. Comparing two Groups: Test for means

6

Panel 7



Panel 8



Panel 9

Example: Use a small group of numbers to make inferences about large group.

GSS - General Social Survey - asks 2000 adults questions such as: "do you believe in life after death"?

Suppose 1250 say "yes"

Design - get data

Description: 1250 out of 2000 said "yes"

Inference: 62.5% of US adults believe in Life...

(± 5%) Good part!

Panel 10

Population: Set of all measurements under consideration

Sample: Subset of measurements from population

Descriptive Statistics: summarize info into data points

Inferential Statistics: predictions about population based on sample data.

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Panel 11

Parameter: # to summarize population

Statistics: # to summarize sample data

Ex: 1850 randomly selected US adults were asked "do you believe in heaven"? 1000 answered "yes", 800 "no", and 50 did not answer. We compute, somehow, that 55.5% ± 3% of US adults believe in heaven.

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Panel 12

Ex: 1850 randomly selected US adults were asked "do you believe in heaven"? 1000 answered "yes", 800 "no", and 50 did not answer. We compute, somehow, that 55.5% ± 3% of US adults believe in heaven. Identify:

population: US adults

sample: 1850

descr. stats: 1000 out of 1850

inf stats 55.5 ± 3%

statistics: 50 said nothing, 800 no's

parameter: % of all US adults (unknown) — yes / no / none

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Panel 13

Ex: Find avg. exam score in this class

No sample necessary, compute parameters directly w/o estimation

Ex: Tax auditor has 25 000 accounts. How many are in error?

Pick 200, check those, estimate parameters based on the stats

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Panel 14

Stat Crunch + GSS Data

login to www.statcrunch.com,

load GSS 2008 data

play around with it

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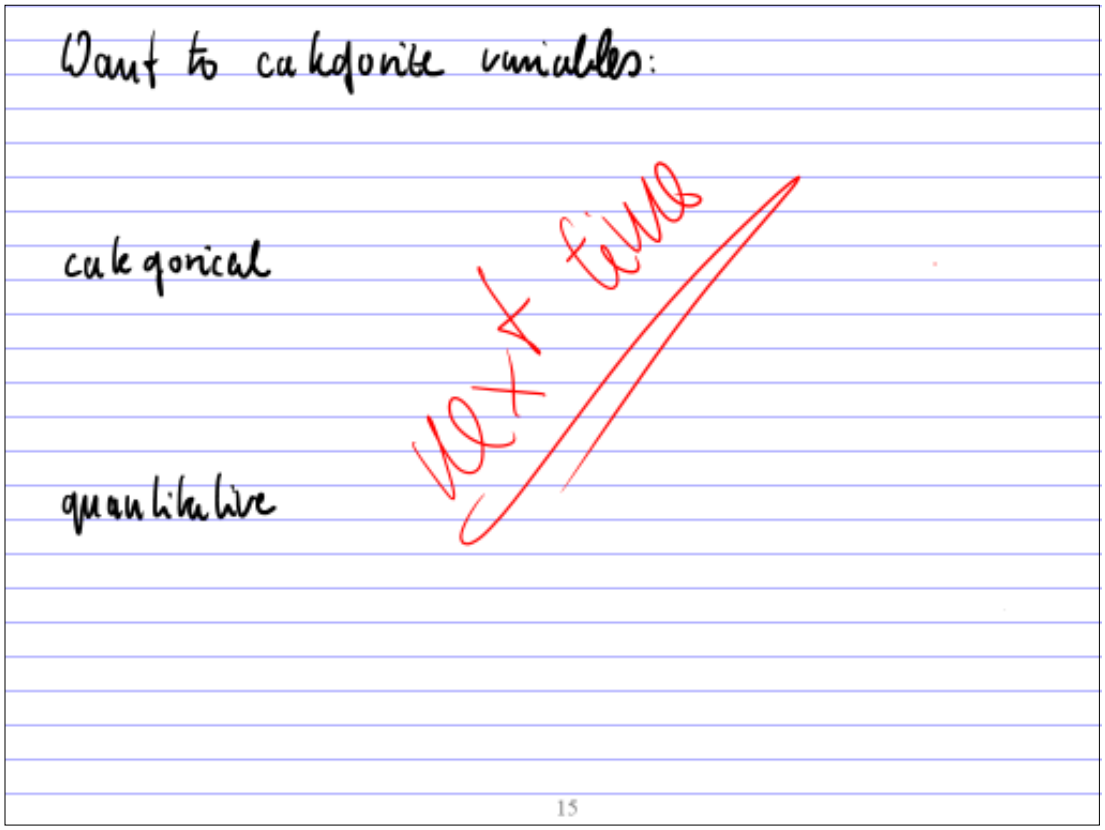
Panel 15


Want to categorize variables:
categorical
quantitative
next time
15