Class #2 - Wednesday, February 3
Frequency Tables and Histograms

Readings: Ross, Sections 2.1-2.3; Phillips, Chapter 2

Vocabulary/Key Concepts

- sample size n
- max and min values
- class intervals (or "bins" or "buckets")
- class boundaries
- left-end (vs right-end) inclusion convention
- frequency table
- frequency f
- frequency histogram
- frequency polygon
- relative frequency

Spreadsheet functions

- `=count(data)`
- `=max(data)` and `=min(data)`
- `=sort(data)`
- `=frequency(data, classes)`

Example 2: Let's revisit the age data for our class that we collected last time and the spreadsheet we created (my Google spreadsheet is available via this link).

Let's create a frequency table using the spreadsheet function `=frequency(data, classes)`, and then create the corresponding frequency histogram. Also calculate the relative frequencies, and create a relative frequency polygon (i.e., line graph).

Example 2 (Ross, pp32-34): Suppose the blood cholesterol levels of a sample of individuals are recorded as:

$\{213, 174, 193, 196, 220, 183, 194, 200, 192, 200, 200, 199, 178, 183, 188, 193, 187, 181, 193, 205, 196, 211, 202, 213, 216, 206, 195, 191, 171, 194, 184, 191, 221, 212, 221, 204, 204, 191, 183, 227\}$

(i) Enter the dataset into a spreadsheet, and use it to answer parts (ii)-(iv):

(ii) What is the sample size n?

(iii) What are the max and min values in the sample?

(iv) Construct a frequency table with the following class intervals (including relative frequencies):
170-180, 180-190, 190-200, 200-210, 210-220, 220-230

(v) Create the corresponding histogram and relative frequency polygon.