

Class #2 - Wednesday, September 4
Frequency Tables and Histograms

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

Vocabulary/Key Concepts

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

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 frequency tables for this data in two different ways, and sketch the corresponding frequency histograms:

1. first by manually counting frequencies (for this we’ll see it’s useful to first sort the data, using the spreadsheet function =sort (data))
2. secondly, by using the spreadsheet function =frequency (data, classes).

Example 3 (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 frequency histogram and relative frequency polygon.