Statistics on Spreadsheets and Calculators

1 Spreadsheets

- Spreadsheets provide a fast way to compute statistics.
- We typically will enter our cases as a column, maybe with some sort of column heading.
- The general "language" of spreadsheets is that each row is a case and each column is a variable within that case.

1.1 Calculating the Five Number Summary

- Label rows beneath the data with the five number summary variables: min, Q_1, $median$, Q_3, max
- Each of these can be calculated with a spreadsheet function:
  - min `=min(range)`
  - Q_1 `=quartile(range, 1)`
  - $median$ `=median(range)`
  - Q_3 `=quartile(range, 3)`
  - max `=max(range)`

1.2 Calculating Mean and Standard Deviation

- Label rows beneath the data with $mean$ and $stdev$.
- Both are calculated using a functions:
  - **Mean** `=average(range)`
  - **Standard Deviation** `=stdev(range)`

2 Calculator Statistics

Most scientific calculators can compute statistics as well.

2.1 TI-83/84 Plus

1. Press [STAT]
2. Select `Edit...`
3. Enter your data in one of the lists.
4. Press [STAT]

5. Select `CALC` from the top.
6. Select `1-Var Stats` and press enter
7. Press [2nd] and the corresponding `L` for your list. For instance, if you used `L1` press [2nd][1]

- Press enter and your calculator will display all the statistics.
- Note that you can use multiple lists, and that you can clear the lists from the the [STAT] mode.

2.2 TI-30X II

1. Press [2nd] [DATA]
2. Select `1-VAR` to enter Statistics Mode
3. Press [DATA]
4. Enter your values as follows:
   (a) Enter your value in $X_1 =$.
   (b) Press down arrow.
   (c) Enter the number of times this value occurs in $FRQ =$.
   (d) Only enter unique values.
5. Press [STATVAR] and scroll through the statistics it generates:

   n – Number of cases
   $\bar{x}$ – Mean
   Sx – Sample Standard Deviation
   σx – Population Standard Deviation
   Σx – Sum of all cases
   Σx^2 – Sum of the square of all cases
6. Press [2nd][DATA] right right enter to clear data.
7. Press [2nd][STATVAR] to exit statistics mode.

2.3 Casio Calculators

Mode [.] to enter statistics mode (may vary by model)

1. Enter each case, pressing [M+] (or [Σ+] after each entry.
2. Use [Shift] to see variables. Look for $\bar{x}, \sigma n, \sigma n - 1, \Sigma x^2, \Sigma x$, and n. These are the mean, population standard deviation, sample standard deviation, sum, sum of squares, and number of cases respectively.