

# Stat 201: Statistics I

## StatCrunch: Chapter 3



# **Chapter 3**

## **Statistics for Describing, Exploring, and Combining Data**

## Section 3.1

### Measures of Center

# Measures of center in StatCrunch

- Stat → Summary Stats → Columns
- Select the column (or columns) which contains the data
- Under “Statistics” select statistics to calculate (ctrl-click to select multiple statistics)
- For measures of center select “Mean:”, “Median”, “Min”, “Max” and “Mode”
- Click “Compute!”
- Mean, median and mode will be displayed
- Midrange must be calculated by hand using min and max

## Note

Mode will display “No mode”, “Multiple modes” or the mode if exactly one exists. If there are multiple modes, you must identify them yourself.

## Section 3.2

### Measures of Variation

# Measures of variation in StatCrunch

- Stat → Summary Stats → Columns
- Select the column (or columns) which contains the data
- Under “Statistics” select statistics to calculate (ctrl-click to select multiple statistics)
- For measures of variation select “Variance”, “Std. Dev.” and “Range”
- Click “Compute!”
- The statistics will be displayed

## Section 3.3

# Measures of Relative Standing and Boxplots

# Percentiles in StatCrunch

To find percentile of value  $x$ :

- If data is not ordered, order it using Data → Sort
- The row number of the value **before**  $x$  is number of values  $< x$
- The row number of the last value is  $n$
- Use the formula to calculate percentile (round up)

To find value for percentile  $p$ :

- Stat → Summary Stats → Columns
- Select the column (or columns) which contains the data
- Under “Percentiles...” enter  $p$  (can enter multiple  $p$ 's separated by commas)
- Click “Compute!”
- The value(s) will be displayed as “ $p$ th Per.”



# Five number summaries in StatCrunch

- Stat → Summary Stats → Columns
- Select the column (or columns) which contains the data
- Under “Statistics” select “Min”, “Q1”, “Median”, “Q3” and “Max”
- Or, under “Percentile” enter “1, 25, 50, 75, 99” (might not give correct values for the min and max in large data sets)
- Click “Compute!”
- The values will be displayed, but maybe not in the right order

# Boxplots in StatCrunch

- Graph → Boxplot
- Select the column (or columns) which contains the data
- (Optional) Under “Other options”, click “Draw boxes horizontally”
- Click “Compute!”
- Hold pointer over plot to get IQR (inter-quartile range) and five number summary