Stat 201: Statistics I
Week 5 StatCrunch

Metropolitan State University

Week 5
Relative Standing, Random Variables and Distributions

Section 5.1
Measures of Relative Standing and Boxplots

Percentiles in StatCrunch

To find percentile of value x:

- If data is not ordered, order it using Data $\rightarrow$ 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 $\rightarrow$ Summary Stats $\rightarrow$ 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 "pth Per."

Five number summaries in StatCrunch

- Stat $\rightarrow$ Summary Stats $\rightarrow$ 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

Section 5.2
Probability Distributions

Mean and var. of random variables in StatCrunch

- Stat $\rightarrow$ Calculators $\rightarrow$ Custom
- Under "Values in:" select the column which contains the random variable values
- Under "Weights in:" select the column which contains the random variable probabilities
- Click "Compute!"
- Mean and standard deviation will be displayed
- Variance can be calculated by squaring the standard deviation