StatCrunch Labs Statistics 301

Elementary Statistical Methods

by

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Attendance	Chapter	Topics	Description
1	1	Sign in and out	www.statcrunch.com
1	1	saving, retrieving data	Data, Save data; StatCrunch, My Data
1	1	Simple Random Sample	type numbers in column, Data, Sample Columns
2	2	Clearing Columns, Rows	Data, Columns, Delete; Rows, Delete
2	2	Histogram From Raw Data	Graphics, Histogram
2	2	Bar Graph	Graphics, Bar Plot
2	2	Stem and Leaf Display	Graphics, Stem and Leaf plot
3	3	Summary Statistics	Stat, Summary Stats
3	3	Grouped average, SD	type data two columns, Data, Compute expression
3	3	Box and Whiskers Plot	Graphics, Boxplot
4	4	Correlation and Linear Regression	Stat, Regression
4	4	Scatter plot, residual plots	Stat, Scatter Plot
5	5	Factorials, Permutation, Combination	Data, Compute expression, fact(), perm(), comb()
6	6	Discrete Distribution	Stat, Calculators, Custom, Values, Weights
6	6	Binomial Probability Distribution	Stat, Calculators, Binomial
6	6	Poisson Distribution Function	Stat, Calculators, Poisson
7	7	Probabilities, Percentiles, Normal	Stat, Calculators, Normal
7	7	Normal Probability Plot	Graphics, QQ plot
8	8	Sampling Distributions	Stat, Calculators, Normal
9	9	CI For Proportion	Stat, Proportions, one sample
9	9	CI For Mean	Stat, T statistics, One sample
9	9	CI For Variance	Stat, Variance, One sample
9	9	t–distribution	Stat, Calculators, T
9	9	Chi–Square distribution	Stat, Calculators, Chi-square
10	10	Test For Proportion	Stat, Proportions, One sample
10	10	Test For Mean	Stat, T statistics, One sample
10	10	Test For Variance	Stat, Variance, One sample
11	11	CI/Test Difference In Proportions	Stat, Proportions, Two samples
11	11	CI/Test For Difference In Means	Stat, T statistics, either Paired or Two samples
11	11	Test of Ratio of Variances	Stat, Variance, Two samples
11	11	F Distribution	Stat, Calculators, F
12	12	Goodness of Fit	Stat, Goodness-of-fit, Chi-square test
12	12	Test of Independence/Homogeneity	Stat, Tables, Contingency, with summary
13	13	One Way Analysis of Variance	Stat, ANOVA, One Way
14	14	CI/Test β_1; CI/PI $\hat{y}$	Stat, Regression, Simple Linear Regression

StatCrunch Lab 1 For Statistics 301

Topics: signing into StatCrunch, saving work, simple random sample
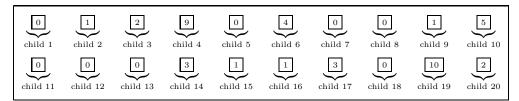
Signing into StatCrunch. It is possible to sign into StatCrunch either from inside or outside CourseCompass.

- *Outside CourseCompass.* Go to link www.statcrunch.com, sign in using CourseCompass ID and password, then click on "Open StatCrunch" to view data spreadsheet with StatCrunch commands.

- *Inside CourseCompass, but not inside a homework/quiz assignment.* Click on StatCrunch on left side of screen. Click on "data sets from your textbook" to view StatCrunch data spreadsheet with access to text data sets on left side of screen. Click on "StatCrunch website" to view StatCrunch home page, then click on "Open StatCrunch" to view data spreadsheet excluding access to text data sets, but including access to outside data sources (my computer, website, or by "cut and paste"), listed on left side of screen.

- *Inside a homework/quiz assignment in CourseCompass.* Inside homework/quiz CourseCompass online question, click on "StatCrunch" option on right side of screen to view StatCrunch spreadsheet filled with assignment data (if there is data associated with question).

- *Signing out.* Sign out by clicking on sign out top left corner of screen and, on the way out, either click to save or not save ("cancel") data. Closing out by x-ing out does not save data.

Saving and retrieving work (data) in StatCrunch.

- To save data, in StatCrunch first click on Data, then Save Data, give data set a name, then Save.

- Retrieve any stored data by clicking on StatCrunch, clicking on My Data, then clicking on previously stored data set.

Simple Random Sample (SRS). Determine approximate average number of decayed teeth by choosing a SRS of size 5 from population of 20 children given below. Use seed 7.

0	1	2	9	0	4	0	0	1	5
child 1	child 2	child 3	child 4	child 5	child 6	child 7	child 8	child 9	child 10
0	0	0	3	1	1	3	0	10	2
child 11	child 12	child 13	child 14	child 15	child 16	child 17	child 18	child 19	child 20

In StatCrunch, type numbers 1, 2 ... 20 in first column "var1", then click on Data, Sample Columns; in dialog box, choose var1, type 5 beside Sample size, choose "Use single fixed seed" (to make sure everyone generates same sample) and replace 123456789 with 7 beside Seed, then click on Sample Column(s); x-out pop-up; scroll up "Sample(var1)" column to obtain top row of table (15, 16, 7, 19, 13), children chosen for sample, given below.

child in SRS	15	16	7	19	13
number of decayed teeth	1	1	0	10	0

So sample average of decayed teeth per child for five children is

$$\frac{1+1+0+10+0}{5} = \frac{12}{5} = 2.2$$