Computer Lab Project No. 1

Getting Started with StatCrunch

StatCrunch is a statistical software package that can be accessed via the internet from any computer. We will use this package to analyze data during computer lab sessions. The purpose of this first lab assignment is to provide a brief introduction to StatCrunch and familiarize you with several useful features. [1]

Every lab will adhere to the following format:

- First, there is an **Info** section in which some new features of StatCrunch will be explained, or some background info is given.
- Second is a **Do now** section, in which you get step by step instructions on what to do during the lab. You may need to refer back to the information section in order to carry out some of these steps.
- Third is the **Finish** section, in which you get exact requirements for your assignment, which will usually be a pdf file you will be asked to submit via Blackboard.

Info

1. You can access StatCrunch by clicking the link found on the left toolbar in MyStatLab. [2]
2. Note, you can either click "data sets from your textbook" to open a version of StatCrunch that enables you to work with data sets from the Triola textbook or "StatCrunch website" to access the more general version. We'll mainly work with the first option in this course.
3. Once you are within the StatCrunch page, you can begin to analyze data as you wish.
4. All commands in StatCrunch can be accessed from the menu bar at the top of the page. The StatCrunch menu bar consists of six tabs : *StatCrunch, Edit, Data, Stat, Graph,* and *Help.* When a data set is uploaded, you will also see the name of the file to the right side of the menu bar.
5. We will learn more about each command tab during later labs but in summary: "StatCrunch" allows you to organize the way your data and results are displayed. "Edit" enables you to manipulate the data in various ways. "Data" allows you to bring data into StatCrunch. "Stat" gives you access to all statistical procedures available in StatCrunch that will enable you to invoke the techniques and concepts learned in class. "Graph" provides several graphical techniques to visualize your data. Lastly, "Help" connects you to the StatCrunch help page to get an overview of all StatCrunch features.
6. The "Options" button in your StatCrunch results area can be used to edit, copy, print, or save your work. You will be able to save your work to either your computer or in your account on the StatCrunch website. We suggest saving your work to the website so you can access it from any computer. Access any saved data by clicking Data→Load Data→My Data. To load results, click StatCrunch→Open statcrunch.com. In the new window, click MyStatCrunch. The results are available under "My Results".
7. A few notes of **caution** about StatCrunch: This is a web-based application so be careful about how you handle your browser window during your session. For instance, you should not use the back button and you should always access other websites in another browser. Otherwise, you will lose all your data and results in your StatCrunch session without any warning!

[1] More detailed information can also be found on the StatCrunch website at: www.statcrunch.com

[2] See syllabus for instructions on how to access the online course management system, MyStatLab. Access to StatCrunch can also be purchased separately on their website.

Do now

1. Let's first practice loading a data set from the textbook. Click on data set 9, named Movies. Notice, the rows and columns are now filled with data. How many rows and columns are there? Use the scroll bar to check this. What types of variables are included in this data set? Which are *quantitative*?

2. You can clear data by selecting "Edit" → "Select All" followed by "Edit" → "Cut". Specific rows or columns can be deleted by selecting "Edit" → "Column" (or Row)→ "Delete". Next click on the name of the column or row you wish to delete and click "Delete". You can choose several columns or rows to delete by pressing the control key while clicking on them. Try this. You may have to reload the data.

3. The first thing you'll often want to do during data analysis is visualize your data. The **GRAPH** tab will assist with this. Click on "Graph" → "Pie Chart" → "With Data" and then click *Budget*. Now, click "Compute!". A pie graph should appear in a separate window (this is the default option, see below for viewing results differently). You will learn about the appropriate graphs to use with which data types next lab.

4. Most frequently you will want to make a descriptive summary of data. The **STAT** command will allow you to do this. Click on "Stat" → "Summary Stats" → "Columns" to achieve this. Notice only the quantitative variables in the data set are available for selection here. Select each variable (by control-clicking in case you want to choose several), and click "Compute!" when you're done. A table of summary statistics should pop up. We will discuss how to interpret these values later in the course and revisit this application in Lab 3. Many of the other **STAT** features will also be explored in future labs.

5. Practice saving and reopening your results using the **OPTIONS** Tab in your results window. Click "Options" → "Save". In the popup window, you can choose a title under which to save your results, and you can choose whether the results should be public or only accessible to you. You can also add a tag and a note to your results. Your results are now saved at statcrunch.com. To access them later, follow the procedures described above: click StatCrunch→Open statcrunch.com. In the new window, click MyStatCrunch. The results are available under "My Results". Click on the file to open. You can now copy, print, or email your results.

6. Continue to explore StatCrunch. Feel free to try out a new data set! As with any statistical software, you will learn more and become more comfortable the more you utilize StatCrunch.

Finish

- After playing around with graphing options, choose a graph you have created and found interesting.
- Save the graph on your hard drive as follows:
  - Click "Options" in the window displaying the graph.
  - Select "Print."
  - Click "Save as pdf."
  - Name your file as follows: "Lab1-Firstname-Lastname.pdf"
- Upload this pdf file on Blackboard, so that your instructor can have a look at it.