

2.5.3 Lab 4

Lab 4 — StatCrunch Lab

NAME: _____

You will need to access these two excel files for this lab

- <http://www.timbusken.com/2-1-39.xls>
- <http://www.timbusken.com/Survey1.xlsx>

You should watch these two videos before you start this lab.

- How to get 'StatCrunch' software
<http://www.youtube.com/watch?v=dF-9BOx18WQ>
- How to Load an Excel File into StatCrunch
http://www.youtube.com/watch?v=FNw_9mDiClS

LOAD THE FIRST EXCEL FILE (named 2-1-39.xls) INTO STATCRUNCH. This video (link below) will show you exactly how to complete questions 1 through 9. After you complete questions 1 through 9, completing the rest of the lab should be self-explanatory. Start the video at 5:00 minutes to skip to 'how to do question 1.'

- <https://www.youtube.com/watch?v=3FfF6kpRSqE&feature=youtu.be&t=4m59s>

Lab 4: How to Make Tables and Sketch Graphs with StatCrunch

Name: _____

Directions:

1. Graphs and tables cannot be drawn by hand. Use StatCrunch or another software. Turn in these lab directions sheets along with your graphs and tables.
2. Graphs must have your first and last name on the title or you will receive no credit for the graph.
3. I will not accept a digital copy of the lab. You must print and turn in a physical copy if you want credit
4. The lab is due BEFORE class starts on the due date. Check the course calendar for the due date.

Lab Questions

1. Construct a **relative frequency histogram** for the data below. The data is a sample of retirement ages of 24 randomly selected doctors in San Diego. (Section 2.1 Exercise 39)

70 54 55 71 57 58 63 65 60 66 57 62
63 60 63 60 66 60 67 69 69 52 61 73

2. Use a **stem-and-leaf plot** that has two rows for each stem to display the data. The data represent the winning scores from Super Bowl I to Super Bowl XLVII. (Section 2.2 Exercise 22) You are not required to include your name on this graph.

35 33 16 23 16 24 14 24 16 21 32 27
35 31 27 26 27 38 38 46 39 42 20 55
20 37 52 30 49 27 35 31 34 23 34 20
48 32 24 21 29 17 27 31 31 21 34

3. Use a **pie chart** to display the data. The data represents the results of an online survey that asked adults how they will invest their money in 2016. (Section 2.2 Exercise 25)

Invest more in stocks 562
Invest more in bonds 144
Hold on to more cash 288
Invest the same as last year 461

4. The numbers of tornadoes by state in 2012 are listed. Use statcrunch to make an **expanded frequency distribution** table (stats→tables→frequency) that includes frequencies, relative frequencies, cumulative frequencies and cumulative relative frequencies. Use 20 for the class width and use 0 for the lower class limit of the first class in your table.

87	0	0	29	19	26	0	1	40	25
0	2	39	33	20	145	65	53	1	17
0	7	39	75	32	4	48	1	0	1
3	8	17	8	18	41	0	15	0	10
10	37	114	1	1	16	0	2	3	6

5. Graph a **histogram** for the tornadoes data set. Don't forget to label your graph's axes and include your name in the title of the graph.

6. Is the data skewed left, skewed right, symmetric or neither symmetric nor skewed?

6. _____

7. Which is larger, the median or the mode?

7. _____

8. Graph a **dotplot** for the tornadoes data set. Don't forget to label your graph's axes and include your name in the title of the graph.

9. The table below shows the years of experience of 14 registered nurses and their annual salaries (in thousands of dollars). Construct a **scatter plot** with the years of experience graphed along the x -axis. Label your graph's axes and title.

years exp.	0.5	2	4	5	7	9	10	12.5	13	16	18	20	22	25
salary	40.2	42.9	45.1	46.7	50.2	53.6	54	58.4	61.8	63.9	67.5	64.3	60.1	59.9

NOW LOAD THE SECOND EXCEL FILE INTO STATCRUNCH

10. Make a dotplot with the 'hours of sleep' variable. 48 students were asked how many hours per night they slept.
11. What is the five number summary for the 'hours of sleep' variable?
11. _____
12. What is the average number of the 'hours of sleep' variable?
12. _____
13. What is the standard deviation of the 'hours of sleep' variable?
13. _____
14. What are the units on the standard deviation of the 'hours of sleep' variable?
14. _____
15. Make a scatter plot. Use the student 'height' variable for your x values and use the student 'shoe size' variable for your y values. Label your graph's axes and title with your name.
16. Make an expanded frequency table for the student 'height' variable that includes columns for frequency, percent of total, and cumulative percent of total.
17. Using the information in your table, what height (in inches) is in the 90th percentile?
17. _____
18. Using the information in your table, what percentage of the students are 66 inches tall?
18. _____
19. Make a stemplot for the variable 'Tim's Age'
20. Make a histogram for the variable 'Tim's Age'

END OF LAB 4