

Student Version

Title: Communicating Coronavirus Data

A short summary/abstract of the project: Students will be tasked with preparing eight presentation slides that quickly communicate information about coronavirus data posted by the Texas Department of State Health Services. Students will be expected to consider the features of the data set, make decisions about format, be critical of their peers' work, and revise their own work based on other's criticism. Students will use Google Sheets, Adobe Illustrator CS (or other visualization software), and PowerPoint (or Slides) to complete this project.

Individual or group project: Individual (with brief use of pairs/small group)

Data: For this project Texas Health and Human Services County level data on Covid-19 case rates was used. Other data sets could be used including those from John Hopkins GitHub repository.

Duration: Scheduled for one class with the assumption that it will not be finished and will need to be completed as homework. Office appointments or visiting instructors office hours is recommended.

Deliverables and evaluation: Illustrator file, PNG raster exports, and a PowerPoint file.

Instructions for students:

For this project you will be working individually. You will be working on this project for the remainder of the class period and turn in your completed project electronically before the next class period. Your completed work will consist of a PowerPoint file with nine slides: eight charts and a slide for observations. You will need to have a computer (your own or school lab) with a web browser (preferably Google Chrome) and visualization software (preferably Adobe Illustrator) to finish your work if you work outside of class.

#step01: Your instructor has provided you with a data file that you will need for this assignment. Open the <project-03-tx-covid-class-data-cleaned.csv> file in a spreadsheet (Google Sheets is an appropriate choice).

#step02: Looking at the open CSV file, you will see six tabs at the bottom. Each tab has data you will use to create the first required charts for the assignment. You can also see that each sheet is arranged into COLUMNS and ROWS. This data is cleaned up for you. As discussed in prior classes and the instructional video, this is not always the case. Usually the data you obtain is missing values, is out of order for your intended use, doesn't have uniform formatting, etc. Be

aware of this in the future. If you are curious, you can look at the original data in the last tab called ORIGINAL DATA Cases by County. You can also go to <https://dshs.texas.gov/coronavirus/additionaldata.aspx> to download the most recent file. Look in the first tab on the left, called “Data for graph 1”. There you will see that COLUMN A contains the names of all the counties in Texas. This column is arranged alphabetically.

#step03: Next, open up your visualization software. We will be making charts that correspond to the tabs of the CSV file. See the image [2 county comparison-timeseries.pdf](#) (provided by your instructor) for guidance. Create a new document. If the default units are inches, make sure you change that to match the dimensions in the next sentence. Since we will be saving images to use in PowerPoint or Slides later make your width 1024 pixels and the height 768 pixels.

#step04: You will now make your first chart. The edges of this chart should lie 140 pixels from the boundary of the image (which should be 1024 pixels x 768 pixels). Use your data from cell A1 (upper left) to EA255 (lower right) of the “Data for graph 1” tab to create a line chart (not a bar chart) with the dimensions described above. Check that the dates lie on the x-axis of your chart. Depending on your visualization software, you may need to transpose your data or rearrange the columns to achieve this.

#step05: Now, repeat the steps to create a new chart (again, leave a 140 pixel border around the chart that will lie in the 1024 x 768 image) for each of the “Data for graph 2,” “Data for graph 3,” and “Data for graph 4” tabs in your spreadsheet. For the “Data for graph 2” tab, use the data from cells starting at B1 and highlight to the right and down to cell EB28. For “Data for graph 3,” use data from cell A1 to EA13. For “Data for graph 4,” use data from cell A1 to EA12. Don’t forget to save your file as you work in-case of a crash.

#step06: When you get to this point, raise your hand and let the instructor know you are on step six. You will be paired with someone else at the same point. Work with the assigned partner to complete the next steps. The first thing you should do is to check each other to make sure your graphs look reasonably close to the same as each other’s. Next, you will make at least 6 observations about your default graphs. Your observations need to be typed out as complete sentences. Do this together to make your observations as specific as possible. Create a new image (again 1024 x 768) to record these observations. Questions to ask as guides for your observations: What is difficult to read? What other information would you like to see to help contextualize what you see (or know is there)? What would you like to see more clearly? How can you personalize the graph(s) to increase the impact of the information? What is confusing? What seems clear? (There has to be something clear, even if it seems obvious or “common sense”) What information do you have from your own discipline, past experience with making charts, or otherwise, that you think would improve the use of the charts? What is something that

you WANT to see but can't tell from the charts? What is something that you WANT TO KNOW but isn't clear from the charts?

#step07: Based on observations you will make 4 changes or additions to your plots. You will need to duplicate each of your original images with the default plots, and make at least one change to each. If you are having trouble determining what to do, raise your hand and ask the instructor for help. The following list are options you can use to address issues for any plot. In order of difficulty and from lowest points value to highest they are: 1) Possible observations, there is too much data to see single counties to compare to each other. I don't know where these counties are. I can't see my county. These and similar observations can all attempt the same types of change, namely, a visual change. For instance, you could make the line of data that represents the county you are from RED and make Guadalupe county (where TLU is located) GOLD. 2) The second type of change is also a visual change but is more complex. If you made observations about other contextual information, such as when key events occurred, then you can add a VERTICAL line. You will want to label this line directly or indirectly somehow so that its function is clearly communicated. Making it a contrasting color could be beneficial as well depending on how many dates you are placing on your graphic as an additional layer of information. 3) Does your observation lead you to a question that you can't answer directly from the data? If so, you will potentially be able to make a transformation to or with the data in the spreadsheet in order to make a change or an entirely new graphic. An example question would be something like "How can we more accurately compare counties when the populations are so different?" If you look at either the tab for chart 3 or chart 4 in the spreadsheet that was given to you, you can see that when you compare the values in the cells for those counties are MUCH less than the values for the counties in the ORIGINAL DATA. That is because the data on sheets 3 and 4 was mathematically adjusted to show Cases per 1000 people. This is a very simple and common way to adjust data to address the type of question posed in this options example. To do this calculation you need to take the data in each cell, divide it by the County population and multiply it by 1000. There are other calculations that we can perform depending on your question. Talk to the instructor.

#step08: In addition to the minimum 4 changes made in the last step, you will need to add the following required elements to your final art board. You are required to add the Author (identify yourself, by name as the "author"), Title (you will create this based on what you plotted and what you added), Source (you must explicitly state the URL from above or the originating agency for the data). This is only for the 4 images you copied and made additions to in the last step, not the images with your observations.

#step09: Export your nine images (four original charts, one observations image, and four revised charts) as PNGs.

#step10: Create a new blank PowerPoint file (in Microsoft PowerPoint or Google Slides) with a blank black background. Import each of your PNGs to a new slide. Organize your PowerPoint so that the original default plot comes first and is followed by your modified plot with required elements (Author, Title, and Source). In the Presenter's Notes for each of the slides with the default plots you will need to add the written observations you made about the default plots. For the modified plots you are required to write as specifically as possible WHAT changes you made and WHY. Now, add two more slides. Add one at the very beginning and put your name, project title and course number on it. On the last slide, identify at least one other improvement you would like to see made to improve the presentation of information. This can be absolutely anything, from animation, to colors, to more or different data. You must also identify WHY you would like to make this change and whether or not you believe that this would mean the visualization that resulted from that change would make the possible audience for the visualization SMALLER or LARGER.

#step11: Turn in the digital files to your instructor.