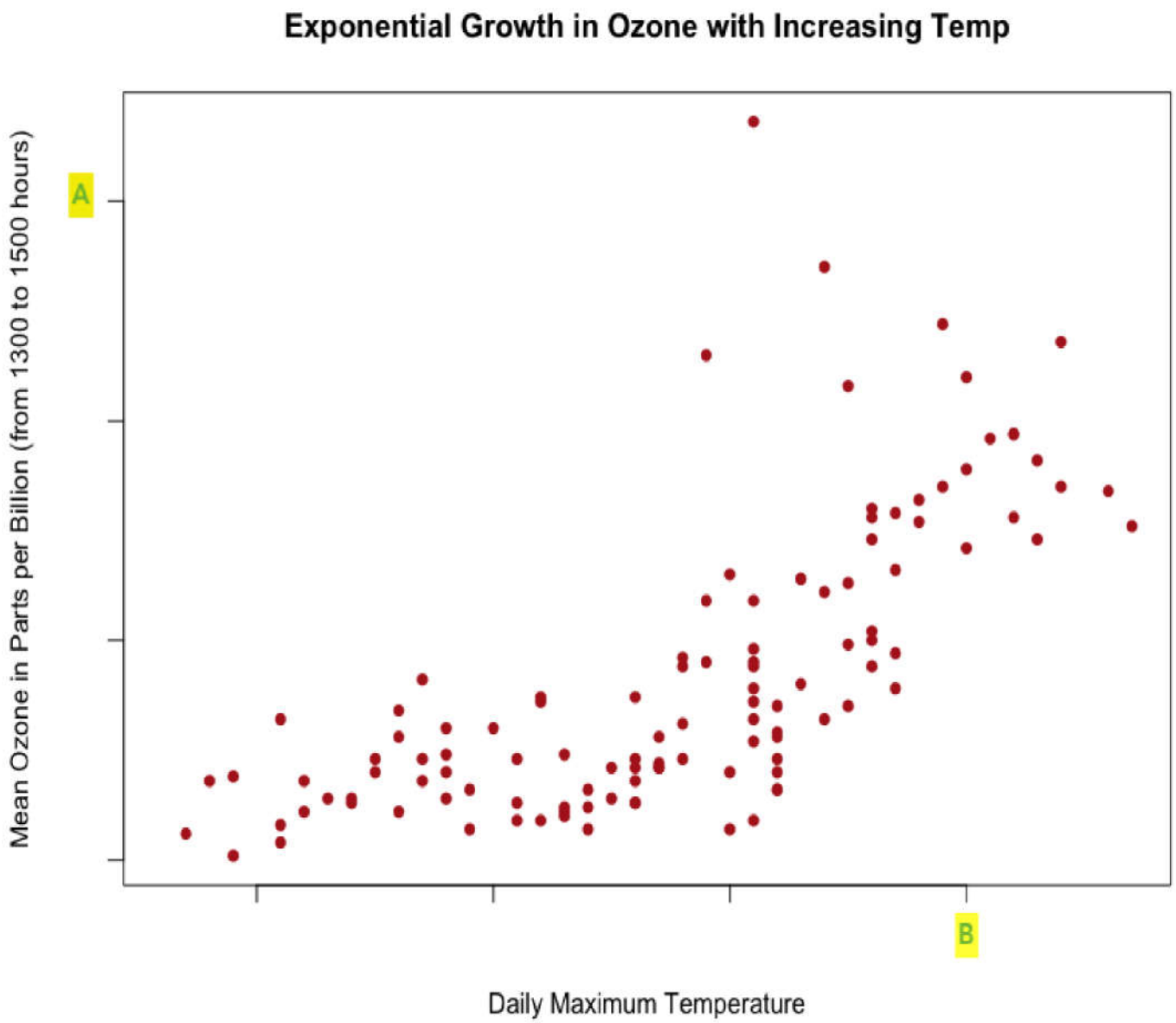
Graphics in R

Mark off each of the following as you complete them.

- [x] Navigate your Statistics Notebook to the "Describing Data" section, specifically the "Graphical Summaries" page of that section menu.
- [x] Scroll down to the section on Scatterplots
- [x] Read the Overview section to gain a general understanding of when and why you might use a scatterplot.
- [x] Click open the "R Instructions" section of that page and then click on any of the three options. Base R is a good place to begin, but ggplot2 and plotly are very powerful methods of creating beautiful graphics in R. So exploring all three methods is recommended. But there is power in gaining a fair understanding of Base R first. So, let's start there.
- [x] Read the "R Instructions" for "Base R" scatterplots. Then study all three example codes. Try to reproduce each code yourself in RStudio. Notice how the pch (which stands for "**pl**otting **ch**aracter") options change the plotting characters in the plot. You may also want to see the "R Help -> R Cheatsheets & Notes" page of your Statistics Notebook for a link to some of the color options you can use in R.

Let's give you a chance to check your understanding of what you just studied about scatterplots in Base R.

Reproduce the following graph using the **airquality** data set. The value of A = 150 and the value of B = 90 . Also, the value for pch in this code is pch = 16 and the color is col = "firebrick".



Were you able to successfully recreate the graph, including the titles, labels, plotting characters, and color?

- (●) Yes!
- ( ) Not quite. I'm going to ask for some help.

In this course, it is encouraged that you try new things out on your own, even when they aren't required, and even if you fail at them at first. If you really want to learn R, that is what you must do. So, it is recommended that you try your hand at reproducing the above plot in ggplot2 and in plotly. Remember, this is optional, not required. But, if you want to try using ggplot2 or plotly or both, which will put you way ahead of the game (so go for it), then first be sure to run the following codes in your Console. (You only need to run these codes once, ever.)

> install.packages("tidyverse") #this loads ggplot2 as well as many other things we will need this semester.

> install.packages("plotly") #this loads the plotly package which is needed to make plotly plots.

Don't be afraid to try. You might like it.

Now, to finish this quiz, choose one of the other types of "Graphics" that are listed on the Graphical Summaries page of the Statistics Notebook. For the graphic you choose do the following.

Type your choice (as it appears in the notebook) here: Bar Charts (Don't choose "Custom Plots" for now.)

Then do each of the following.

- [x] Study the "Overview" for your selected graphic.
- [x] Click on the "R Instructions" for your selected graphic and choose "Base R". (Or, if you successfully tried your hand at a ggplot2 or plotly graphic already, you can select one of those options instead.)
- [x] Study the written R Instructions for your chosen graphic.
- [x] Study the Example Codes for your chosen graphic using the "Hover, Click, and Try" methodology. Note any similarities to the plot(...) code you studied previously.
- [x] Create a graphic that is similar to the Example Codes, but that uses either a different data set, or different columns from the same data set. Be prepared to share this graphic with one of your peers in class tomorrow.

Nicely done. You have finished your first Skills Quiz for Math 325 and should be all set for this week's "Rent" analysis that we will work on in class tomorrow.