Exercise: Weeks 11 & 12 - Charts (R)

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LOADING LIBRARIES.

```
library(ggplot2)
library(ggplot2)
library(readxl)
library(lessR)
library(dplyr)
library(tidyr)
library(mapview)
library(RColorBrewer)
library(plotly)
```

```
# install.packages("plotly")
```

SETTING WORKING DIRECTORY.

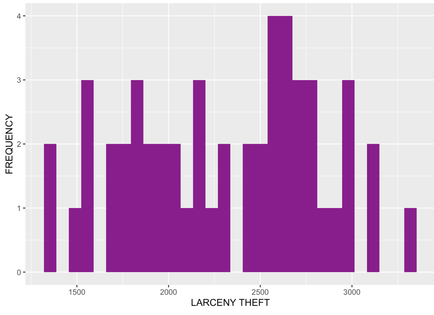
```
setwd("/Users/aaronbrown/Documents/Classwork/DSC 640 - Data Presentation and Visualization/")
```

LOADING DATA.

```
crime_df <- read.csv("/Users/aaronbrown/Documents/Classwork/DSC 640 - Data Presentation and Visualization/data/crimeratesbystate-formatted.csv")
hotdog_df <- read_excel("/Users/aaronbrown/Documents/Classwork/DSC 640 - Data Presentation and Visualization/data/hotdog-contest-winners.xlsm")
education_df <- read.csv("/Users/aaronbrown/Documents/Classwork/DSC 640 - Data Presentation and Visualization/data/education.csv")
```

R - GENERATING HISTOGRAM.

```
ggplot(crime_df, aes(x = larceny_theft))+geom_histogram(fill="darkmagenta") + xlab("LARCENY THEFT") + ylab("FREQUENCY")
```

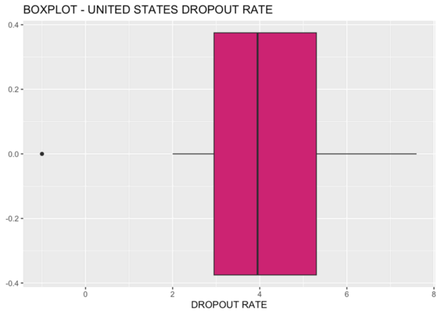



```
  ggtitle("HISTOGRAM - DISTRIBUTION OF LARCENY THEFT")
```

```
## $title
## [1] "HISTOGRAM - DISTRIBUTION OF LARCENY THEFT"
##
## attr(,"class")
## [1] "labels"
```

R - GENERATING BOXPLOT.

```
ggplot(education_df, aes(x=dropout_rate)) + geom_boxplot(fill="deeppink3") + ggtitle("BOXPLOT - UNITED STATES DROPOUT RATE") +
  xlab("DROPOUT RATE")
```

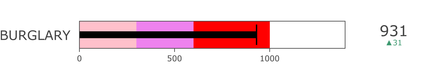


R - GENERATING BULLET CHART.

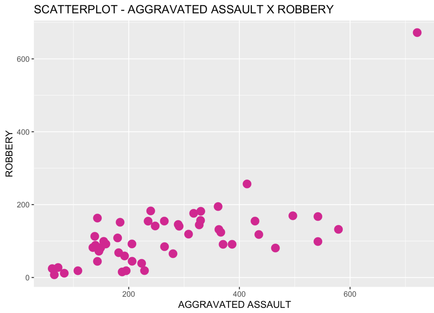
```
crime_df_ga = crime_df[trimws(crime_df$state)== "Georgia",]


fig <- plot_ly()
fig <- fig %>%
  add_trace(
    type = "indicator",
    mode = "number+gauge+delta",
    value = crime_df_ga$burglary,
    delta = list(reference = 900),
    domain = list(x = c(0.1, 1), y = c(0, 0.1)),
    title =list(text = "BURGLARY"),
    gauge = list(
      shape = "bullet",
      axis = list(range = c(NULL, 900)),
      threshold = list(
        line= list(color = "black", width = 2),
        thickness = 0.75,
        value = crime_df_ga$burglary),
      steps = list(
        list(range = c(0, 300), color = "pink"),
        list(range = c(300, 600), color = "violet"),
        list(range = c(600, 1000), color = "red")),
    bar = list(color = "black")))

fig
```




```
 ggplot(crime_df, aes(aggravated_assault, robbery)) +  ggtitle("SCATTERPLOT - AGGRAVATED ASSAULT X ROBBERY") + geom_point(
  shape = 19, color = "violetred", size = 4) + labs(x="AGGRAVATED ASSAULT", y="ROBBERY")
```



REFERENCES.

ggplot2 title : main, axis and legend titles http://www.sthda.com/english/wiki/ggplot2-title-main-axis-and-legend-titles

Line graph in ggplot2 https://r-charts.com/evolution/line-graph-ggplot2/

ggplot2 line plot : Quick start guide - R software and data visualization http://www.sthda.com/english/wiki/ggplot2-line-plot-quick-start-guide-r-software-and-data-visualization

Customize your R treemap https://r-graph-gallery.com/236-custom-your-treemap

R color cheatsheet https://www.nceas.ucsb.edu/sites/default/files/2020-04/colorPaletteCheatsheet.pdf

ggplot2 Quick Reference: colour (and fill) https://sape.inf.usi.ch/quick-reference/ggplot2/colour

GGPLOT POINT SHAPES BEST TIPS https://www.datanovia.com/en/blog/ggplot-point-shapes-best-tips/

Building heatmap with R https://r-graph-gallery.com/215-the-heatmap-function.html

Lollipop plot https://r-graph-gallery.com/lollipop-plot.html

R Color Brewer's palettes https://r-graph-gallery.com/38-rcolorbrewers-palettes.html