Exercise: Weeks 5 & 6 - Charts (R)

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LOADING LIBRARIES.

```
library(ggplot2)
library(ggplot2)
library(readxl)
library(lessR)
library(dplyr)
library(tidyr)
library(treemap)
```

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

SETTING WORKING DIRECTORY.

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

LOADING DATA.

```
spending_df <- read.csv("/Users/aaronbrown/Documents/Classwork/DSC 640 - Data Presentation and Visualization/data/expenditures_BY_YEAR.csv")
expenditures_df <-  read.table(paste('/Users/aaronbrown/Documents/Classwork/DSC 640 - Data Presentation and Visualization/data/expenditures.txt',sep='/'), header = TRUE, sep = '\t', dec = '.', fill = TRUE)
unemployment_df <- read.csv("/Users/aaronbrown/Documents/Classwork/DSC 640 - Data Presentation and Visualization/data/unemployement-rate-1948-2010.csv")
```

```
print(spending_df)
```

```
print(expenditures_df)
```

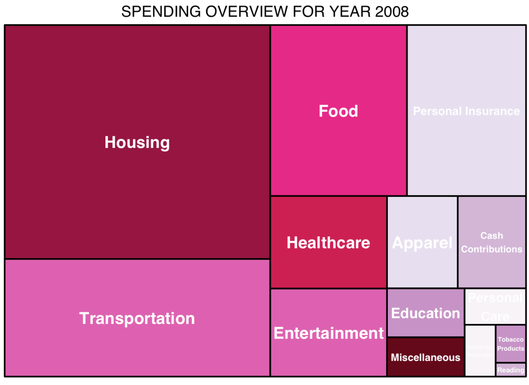
```
print(unemployment_df)
```

CREATING SUBSET FOR YEAR 2008

```
spending_08 <- expenditures_df[expenditures_df$year == 2008,]
```

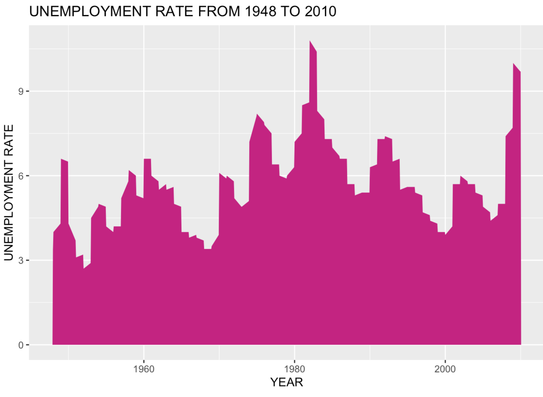
GENERATING TREE MAP

```
treemap(spending_08, index="category",vSize="expenditure",type="index",title="SPENDING OVERVIEW FOR YEAR 2008", fontsize.title=14,
    palette = "PuRd",
    fontsize.labels=c(15,12),               # size of labels. Give the size per level of aggregation: size for group, size for subgroup, sub-subgroups...
    fontcolor.labels=c("white"),            # Color of labels
    fontface.labels=c(2),                   # Font of labels: 1,2,3,4 for normal, bold, italic, bold-italic...
    bg.labels=c("transparent"),             # Background color of labels
    align.labels=list(
        c("center", "center"),
        c("right", "bottom")
        ),                                  # Where to place labels in the rectangle?
    overlap.labels=0.5,
    inflate.labels=F,                       # If true, labels are bigger when rectangle is bigger.
)
```



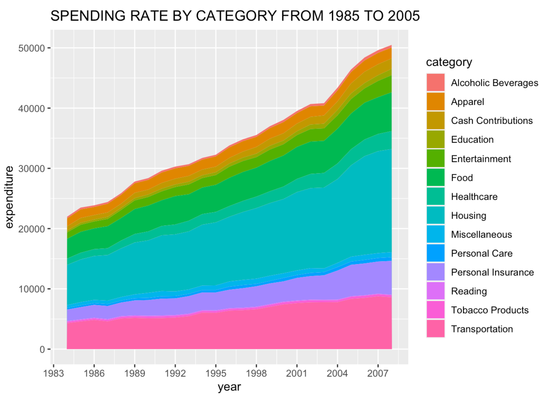
GENERATING AREA CHART

```
ggplot(unemployment_df, aes(x = Year, y=Value)) + geom_area(fill="mediumvioletred") + xlab("YEAR") + ylab("UNEMPLOYMENT RATE") +
  ggtitle("UNEMPLOYMENT RATE FROM 1948 TO 2010")
```



GENERATING STACKED AREA CHART

```
ggplot(expenditures_df, aes(x=year, y=expenditure, fill=category)) +geom_area() + ggtitle("SPENDING RATE BY CATEGORY FROM 1985 TO 2005") +
  scale_x_continuous(n.breaks=10)
```




```
# + scale_fill_brewer(palette = "Set1") for changing palette
```

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