DSC640_Exercise_5-2_JakeMeyer

Jake Meyer

2023-02-10

Assignment Instructions

Submit 1 heat map, 1 spatial chart, and 1 contour chart with R.

Show Working directory

```
getwd()
```

```
## [1] "C:/Users/jkmey/Documents/Github/DSC640_Course_Assignments/DSC640_Repository/Weeks9&10"
```

```
dir()
```

```
## [1] "~$DSC640_Exercise_5-2_JakeMeyer.pptx"
## [2] "costcos-geocoded.csv"
## [3] "DSC640_Exercise_5-2_JakeMeyer.ipynb"
## [4] "DSC640_Exercise_5-2_JakeMeyer.pbix"
## [5] "DSC640_Exercise_5-2_JakeMeyer.pptx"
## [6] "DSC640_Exercise_5-2_JakeMeyer_Power_BI_Images.pdf"
## [7] "DSC640_Exercise_5-2_JakeMeyerRCode.Rmd"
## [8] "ppg2008.csv"
```

```
 # setwd("C:/Users/jkmey/Documents/Github/DSC640_Course_Assignments/DSC640_Repository")
```

Import the necessary libraries

```
library(readxl)
library(ggplot2)
library(tidyverse)
```

```
## -- Attaching packages --------------------------------------- tidyverse 1.3.2 --
## v tibble  3.1.8      v dplyr   1.0.10
## v tidyr   1.2.1      v stringr 1.5.0
## v readr   2.1.3      v forcats 0.5.2
## v purrr   0.3.5
## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
```

```
library(dplyr)
library(scales)
```

```
##
## Attaching package: 'scales'
##
## The following object is masked from 'package:purrr':
```

```
##
##      discard
##
## The following object is masked from 'package:readr':
##
##      col_factor
library(plotly)

##
## Attaching package: 'plotly'
##
## The following object is masked from 'package:ggplot2':
##
##      last_plot
##
## The following object is masked from 'package:stats':
##
##      filter
##
## The following object is masked from 'package:graphics':
##
##      layout
theme_set(theme_minimal())
```

Import the data

```
df1 <- read.csv("ppg2008.csv", header = TRUE, sep = ",")
df2 <- read.csv("costcos-geocoded.csv", header = TRUE, sep = ",")
```

Heat map using 2008 Top 50 NBA Scorer Data.

Order the data by points scored and store as bball.

```
bball <- df1[order(df1$PTS, decreasing = FALSE),]
```

Change row names to first column and select cols 2-20 subset back to bball.

```
row.names(bball) <- bball$Name
bball <- bball[,2:20]
```
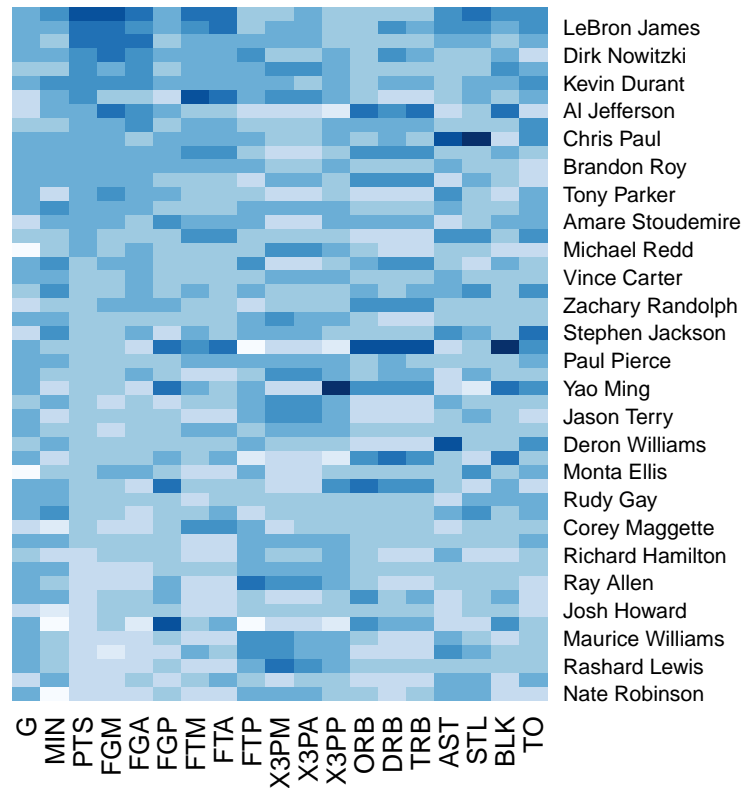
Create a matrix for the heat map.

```
bball_matrix <- data.matrix(bball)
```

Create the heat map.

```
library(RColorBrewer)
```

```
## Warning: package 'RColorBrewer' was built under R version 4.1.3
bball_heatmap <- heatmap(bball_matrix, Rowv=NA,
                         Colv=NA, col = brewer.pal(9, "Blues"),
                         scale="column", margins=c(5,10))
```

LeBron James
Dirk Nowitzki
Kevin Durant
Al Jefferson
Chris Paul
Brandon Roy
Tony Parker
Amare Stoudemire
Michael Redd
Vince Carter
Zachary Randolph
Stephen Jackson
Paul Pierce
Yao Ming
Jason Terry
Deron Williams
Monta Ellis
Rudy Gay
Corey Maggette
Richard Hamilton
Ray Allen
Josh Howard
Maurice Williams
Rashard Lewis
Nate Robinson

G MIN PTS FGM FGA FGP FTM FTA FTP X3PM X3PA X3PP ORB DRB TRB AST STL BLK TO

Spatial Chart using Costco geocoded data.

Load Maps

```
library(maps)
```

```
## Warning: package 'maps' was built under R version 4.1.3
```

```
##
## Attaching package: 'maps'
```

```
## The following object is masked from 'package:purrr':
##
##     map
```
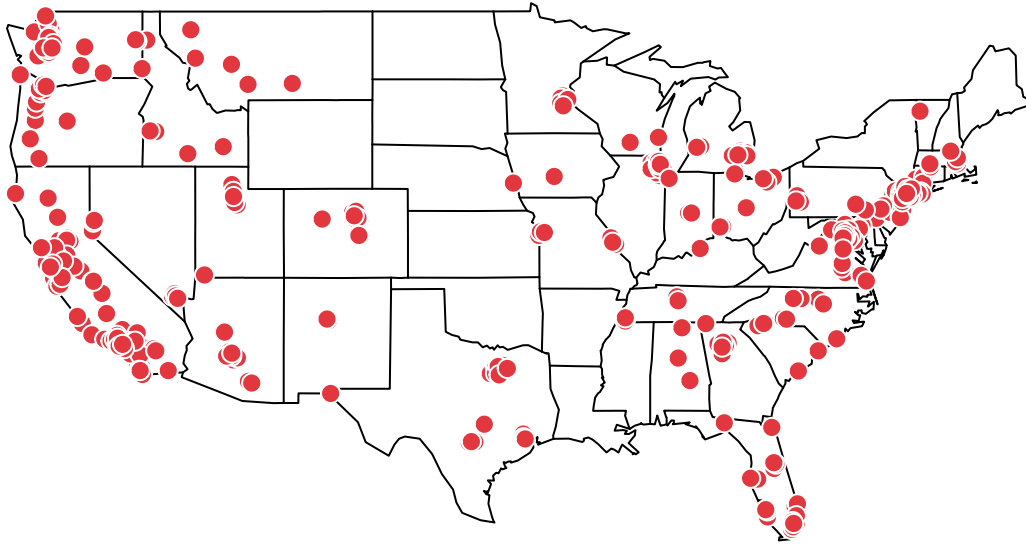
Create the spatial chart of Costco locations.

```
map(database = "state")
symbols(df2$Longitude, df2$Latitude, bg= "#e2373f", fg="#ffffff",
        circles=rep(1, length(df2$Longitude)), inches=0.05, add=TRUE)
```

Contour Chart using Top 50 NBA Scorer Data.

Create the plot.

```
ggplot(data = df1, aes(x = PTS, y = AST)) +
  xlim(15, 35) + ylim(0,15) +
  theme_bw() +
  geom_point(alpha = 0.1, col = "red") +
  geom_density2d(color = "black") +
  ggtitle("Points vs. Assists for Top 50 NBA Scorers (2008)") +
  theme(plot.title = element_text(hjust = 0.5)) +
  labs(x = "Points Per Game", y = "Assists Per Game")
```

Points vs. Assists for Top 50 NBA Scorers (2008)