Young_DSC 640_Assignment 5.2_R

Bret Young

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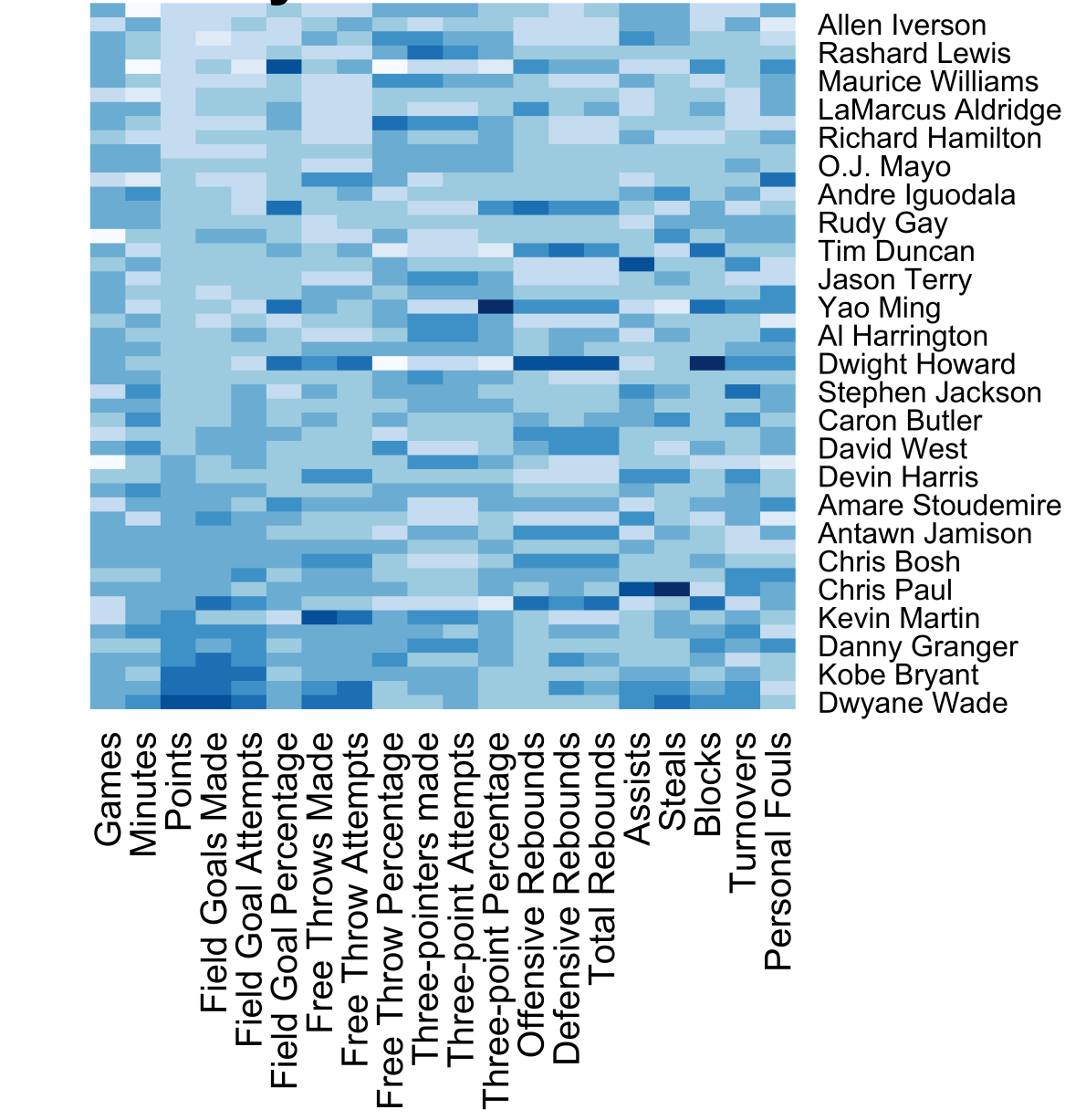
```
# load data
file = 'ppg2008.csv'
data_1 = read.delim(file, header = TRUE, sep = ',')
```

```
# Print data
head(data_1)
```

	Name <fctr>	G <int>	MIN <dbl>	PTS <dbl>	FGM <dbl>	FGA <dbl>	FGP <dbl>	FTM <dbl>	FTA <dbl>
1	Dwyane Wade	79	38.6	30.2	10.8	22.0	0.491	7.5	9.8
2	LeBron James	81	37.7	28.4	9.7	19.9	0.489	7.3	9.4
3	Kobe Bryant	82	36.2	26.8	9.8	20.9	0.467	5.9	6.9
4	Dirk Nowitzki	81	37.7	25.9	9.6	20.0	0.479	6.0	6.7
5	Danny Granger	67	36.2	25.8	8.5	19.1	0.447	6.0	6.9
6	Kevin Durant	74	39.0	25.3	8.9	18.8	0.476	6.1	7.1

6 rows | 1-10 of 22 columns

```
# Margins area
par(oma=c(5,3,3,3)) # all sides have 3 lines of space
par(mar=c(5,4,4,2) + 0.1)

# load library
library("RColorBrewer")

row.names(data_1) = data_1$Name

# set lables
colnames(data_1)[2:21] = c('Games', 'Minutes', 'Points', 'Field Goals Made', 'Field G
oal Attempts', 'Field Goal Percentage', 'Free Throws Made', 'Free Throw Attempts', 'F
ree Throw Percentage', 'Three-pointers made', 'Three-point Attempts', 'Three-point Pe
rcentage', 'Offensive Rebounds', 'Defensive Rebounds', 'Total Rebounds', 'Assists', '
Steals', 'Blocks', 'Turnovers', 'Personal Fouls')

# convert to matrix
data_1_matrix = data.matrix(data_1[,2:21])

heatmap(data_1_matrix, scale = "column", Colv = NA, Rowv = NA, main = "NBA Player Per
Game Stats", col = brewer.pal(9,"Blues"))
```




```
# load data
file_2 = 'costcos-geocoded.csv'
data_2 = read.delim(file_2, header = TRUE, sep = ',')
```

```
# Print data
head(data_2)
```

	Address <fctr>	City <fctr>	State <fctr>	Zip.Code <fctr>	Latitude <dbl>	Longitude <dbl>
1	1205 N. Memorial Parkway	Huntsville	Alabama	35801-5930	34.74309	-86.60096
2	3650 Galleria Circle	Hoover	Alabama	35244-2346	33.37765	-86.81242
3	8251 Eastchase Parkway	Montgomery	Alabama	36117	32.36389	-86.15088
4	5225 Commercial Boulevard	Juneau	Alaska	99801-7210	58.35920	-134.48300
5	330 West Dimond Blvd	Anchorage	Alaska	99515-1950	61.14327	-149.88422
6	4125 DeBarr Road	Anchorage	Alaska	99508-3115	61.21081	-149.80434

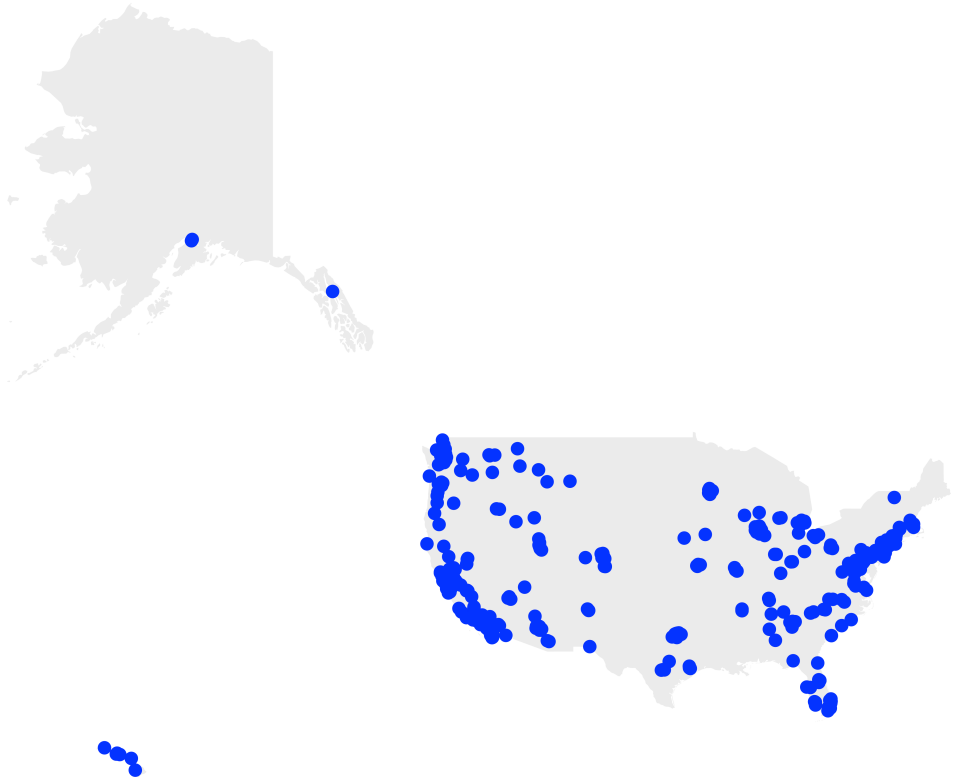
6 rows

```
str(data_2)
```

```
## 'data.frame':    417 obs. of  6 variables:
##  $ Address  : Factor w/ 416 levels "1 Industrial Lane",..: 49 255 387 316 243 276
269 268 341 124 ...
##  $ City     : Factor w/ 369 levels "Albany","Albuquerque",..: 139 137 210 147 7 7
256 330 330 117 ...
##  $ State    : Factor w/ 40 levels "Alabama","Alaska",..: 1 1 1 2 2 2 3 3 3 3 ...
##  $ Zip.Code : Factor w/ 415 levels "01089-4672","01923-1014",..: 115 114 116 415 4
14 413 239 238 237 235 ...
##  $ Latitude : num  34.7 33.4 32.4 58.4 61.1 ...
##  $ Longitude: num  -86.6 -86.8 -86.2 -134.5 -149.9 ...
```

```
# Load library for plotting data
library(ggplot2)
library(mapproj)
library(maps)
library(dplyr)

# Get the USA map
US = map_data("world") %>% filter(region == "USA")

# Create Plot and custom features
ggplot() +
    geom_polygon(data = US, aes(x = long, y = lat, group = group), fill="grey", alpha
=0.3) +
    geom_point(data = data_2, aes(x = Longitude, y = Latitude), color = 'blue') +
    theme_void() +
    xlim(-170, -55) +
    ylim(15, 72) +
    coord_map() +
    ggtitle("Costco Locations In the United States") +
    labs(caption = "Source: Data Collected By Nathan Yau") +
    theme(plot.title = element_text(face = "bold", size = 18),
          plot.caption = element_text(color = "light gray")
          )
```

Costco Locations In the United States



Source: Data Collected By Nathan Yau

```
# import Library
library(tidyverse)

data("volcano")

data_3 = as.data.frame(volcano) %>%
            rownames_to_column() %>%
            gather(key, value, -rowname) %>%
            mutate(key = as.numeric(gsub("V", "", key)), rowname = as.numeric(rowname
))
```

```
head(data_3)
```

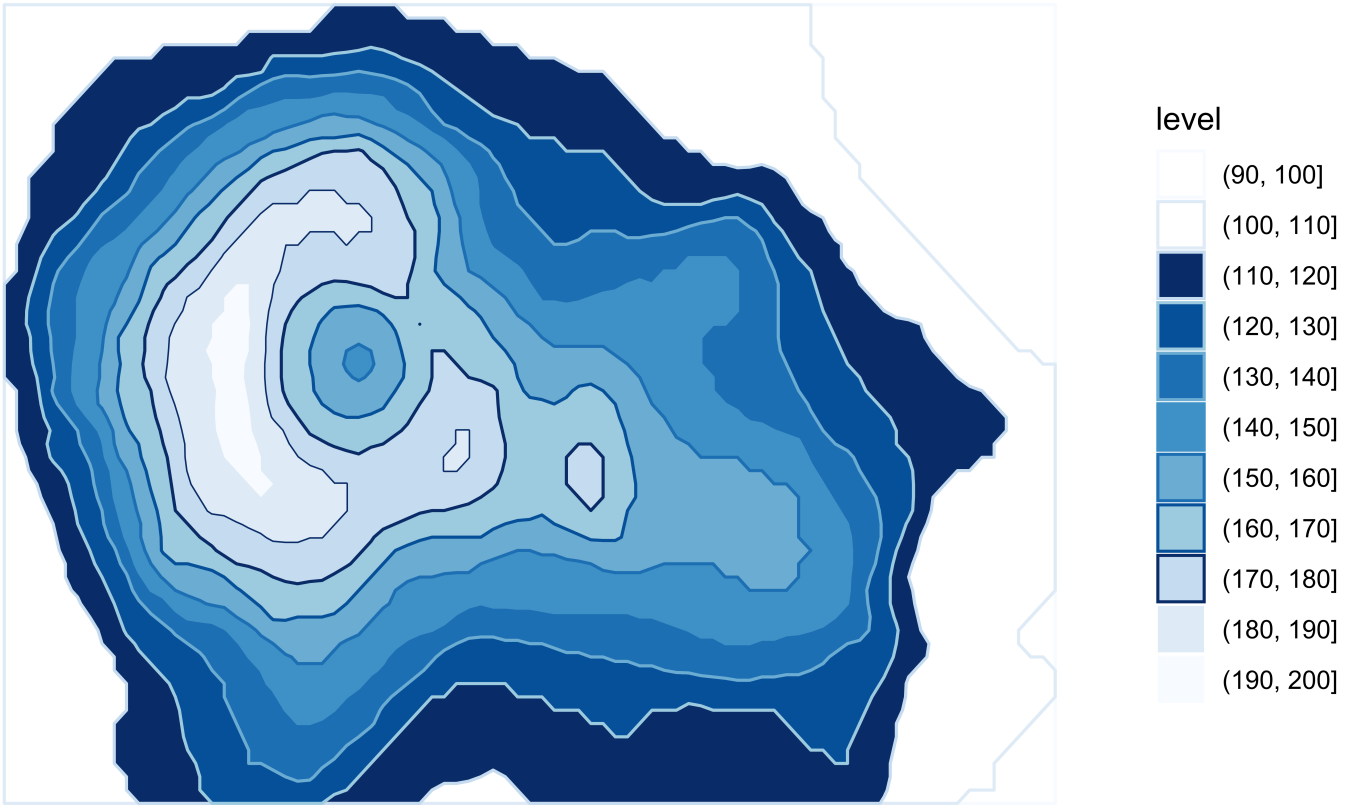
	rowname <dbl>	key <dbl>	value <dbl>
1	1	1	100

2	2	1	101
3	3	1	102
4	4	1	103
5	5	1	104
6	6	1	105

6 rows

```
# import Library
library(directlabels)

ggplot(data_3) +
      geom_contour_filled(aes(x = rowname,
                  y = key,
                  z = value,
                  colour = ..level..)) +
      scale_colour_brewer(palette = 'Blues') +
      scale_fill_brewer(palette = "Blues", direction = -1) +
      ggtitle("Valcano Elevation Plot") +
      labs(caption = "Source: Data is loaded from R volcano dataset",
          x = "",
          y = "") +
      theme_classic() +
      theme(plot.title = element_text(face = "bold", size = 18),
            plot.subtitle = element_text(color = "light gray"),
            plot.caption = element_text(color = "light gray")
            ) +
      guides(x = "none", y = "none")
```

Valcano Elevation Plot



Source: Data is loaded from R volcano dataset