

DSC640_Exercise_1-2_JakeMeyer

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Assignment Instructions

Submit 1 bar chart, 1 stacked bar chart, 1 pie chart, and 1 donut chart with R.

Show Working directory

```
getwd()

## [1] "C:/Users/jkmey/Documents/Github/DSC640_Course_Assignments/DSC640_Repository/Weeks1&2"

dir()

## [1] "~$DSC640_Exercise_1-2_JakeMeyer.pptx"
## [2] "DSC630_Exercise_1-2_JakeMeyer.R"
## [3] "DSC640_Exercise_1-2_JakeMeyer.ipynb"
## [4] "DSC640_Exercise_1-2_JakeMeyer.pbix"
## [5] "DSC640_Exercise_1-2_JakeMeyer.pptx"
## [6] "DSC640_Exercise_1-2_JakeMeyer.twb"
## [7] "DSC640_Exercise_1-2_JakeMeyerRCode.pdf"
## [8] "DSC640_Exercise_1-2_JakeMeyerRCode.Rmd"
## [9] "DSC640_Exercise_1-2_PythonCode.pdf"
## [10] "hotdog-contest-winners.xlsm"
## [11] "hotdog-places.xlsm"
## [12] "obama-approval-ratings.xls"

# 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(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

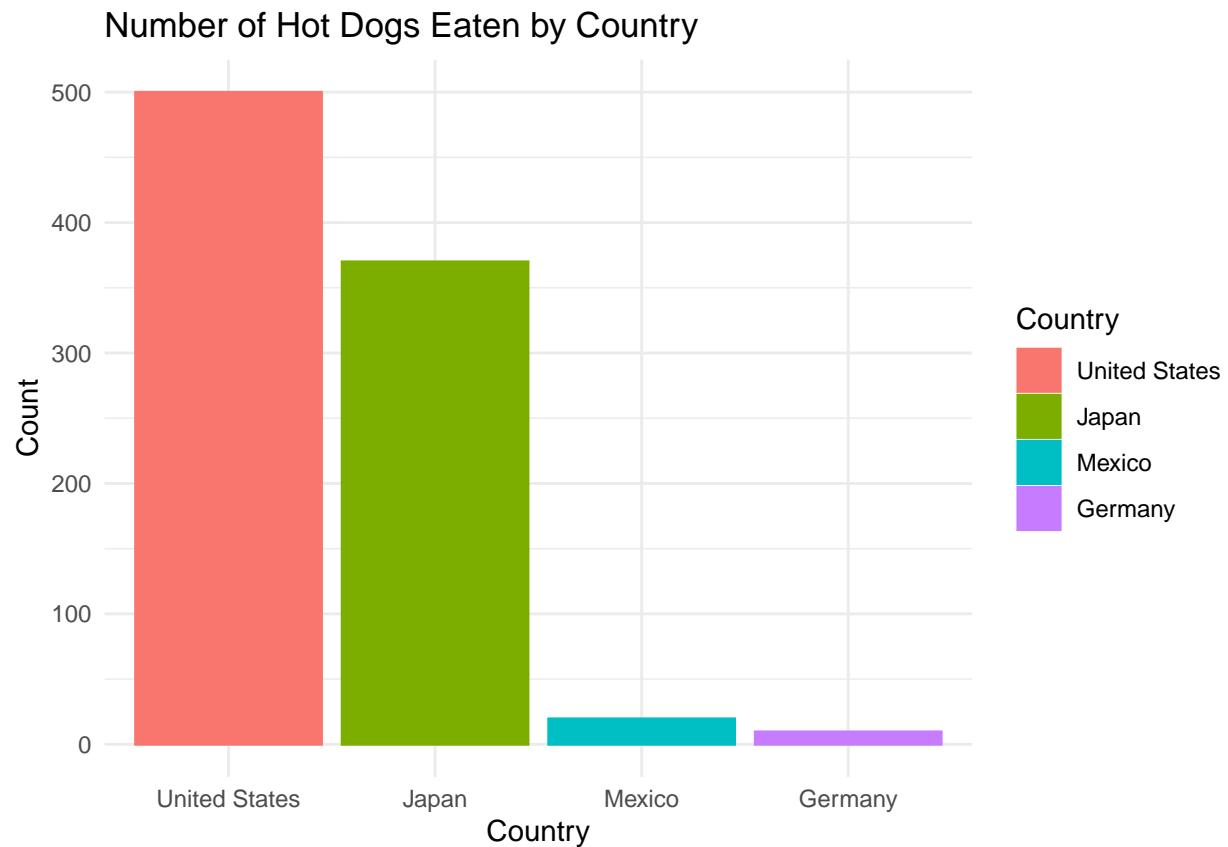
```
df1 <- read_excel("hotdog-contest-winners.xlsm")
df2 <- read_excel("hotdog-places.xlsm")
df3 <- read_excel("obama-approval-ratings.xls")
```

Revise data for Bar Charts

```
df_dogs_eaten <- aggregate(df1$`Dogs eaten`, list(df1$Country), FUN = sum)
colnames(df_dogs_eaten) <- c('Country', 'DogsEaten')
df_dogs_eaten$Country <- factor(df_dogs_eaten$Country,
                                levels = df_dogs_eaten$Country[order(df_dogs_eaten$DogsEaten, decreasing = TRUE)])
```

Bar Chart

```
ggplot(df_dogs_eaten, aes(x = Country, y = DogsEaten, fill = Country, color = Country)) +
  geom_bar(stat = 'identity') + xlab('Country') + ylab('Count') +
  ggtitle('Number of Hot Dogs Eaten by Country')
```



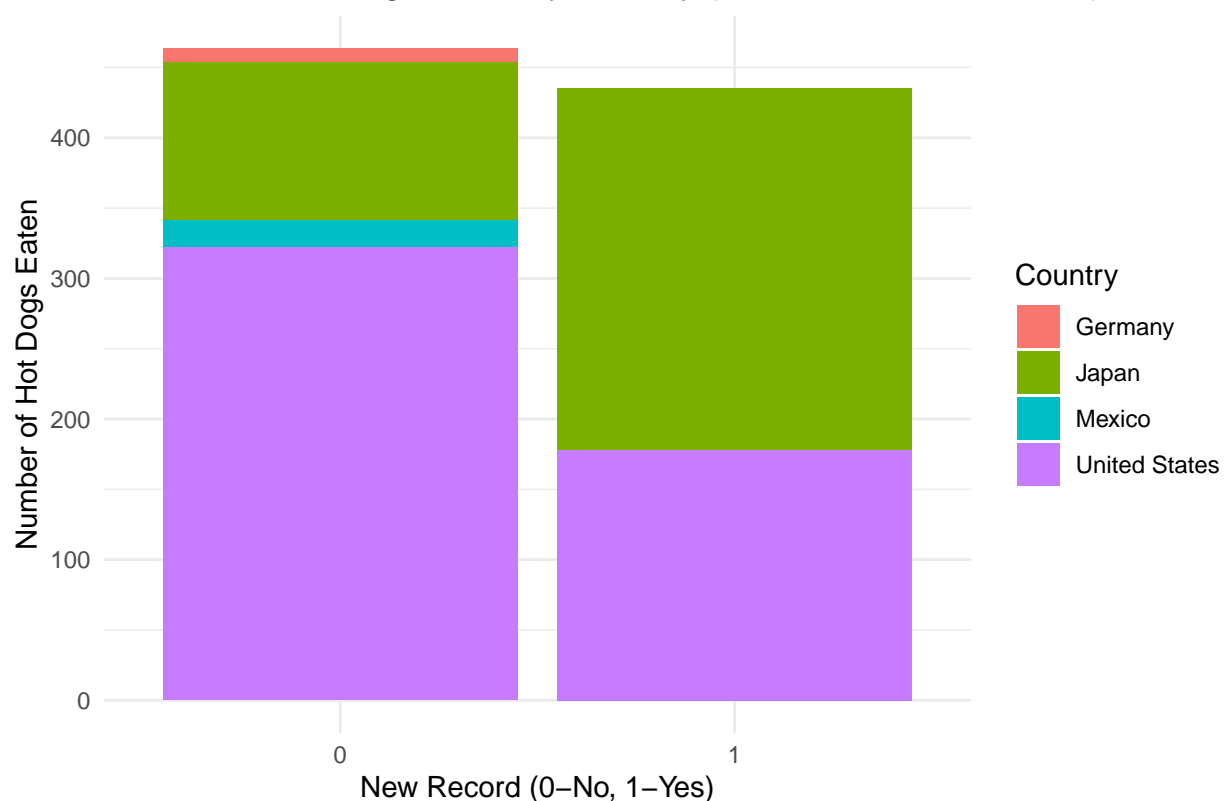
Store data as specific variables

```
x = df1$Country
y = df1$`Dogs eaten`
df1$`New record`=as.factor(df1$`New record`)
group = df1$`New record`
```

Stacked Bar Chart for Hot Dog Eating

```
ggplot(df1, aes(x = group, y = y, fill = x)) +
  geom_bar(position = 'stack', stat='identity') +
  xlab('New Record (0-No, 1-Yes)') + ylab('Number of Hot Dogs Eaten') +
  ggtitle('Number of Hot Dogs Eaten by Country (New Record Breakdown)') +
  guides(fill = guide_legend(title = "Country"))
```

Number of Hot Dogs Eaten by Country (New Record Breakdown)



Stacked Bar Chart for Obama Approval Ratings Using Plotly

```
fig <- plot_ly(df3, x = ~Issue, y = ~Approve, type = 'bar', name = 'Approve')
fig <- fig %>% add_trace(y = ~Disapprove, name = 'Disapprove')
fig <- fig %>% add_trace(y = ~None, name = 'None')
fig <- fig %>% layout(xaxis = list(categoryorder = "total descending"))
fig <- fig %>% layout(yaxis = list(title = 'Approval Percentage'), barmode = 'stack')
fig <- fig %>% layout(title = 'Obama Approval Ratings on Issues')
fig
```

Revise data variables for Pie and Donut Charts

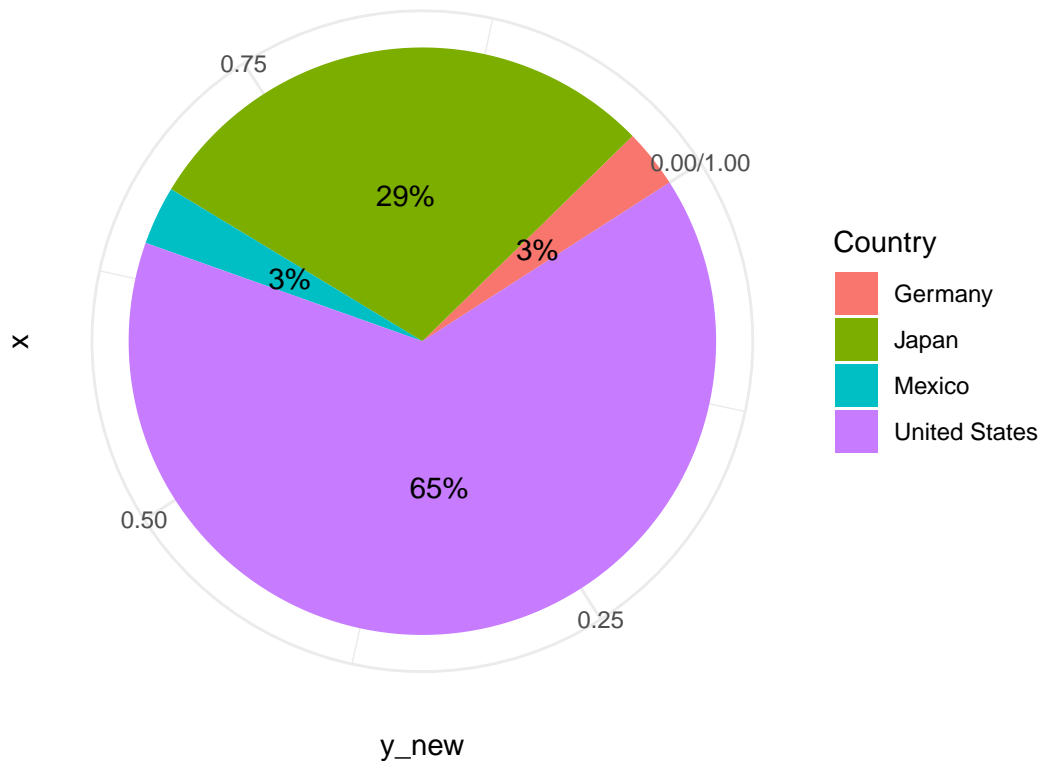
```
percent_table <- table(c(df1$Country))
x_percent <- percent_table / length(df1$Country)
countries <- unique(df1$Country)
df_percent <- data.frame(x_percent)
colnames(df_percent) <- c('Countries', 'Percent')
y_new = df_percent$Percent
x_new = df_percent$Countries
```

Pie Chart

```
ggplot(df_percent, aes(x = "", y = y_new, fill = x_new)) + geom_col() +
  coord_polar(theta = "y", start = 1) +
  ggtitle('Percentage of Hot Dog Eating Champions by Country') +
```

```
geom_text(aes(label = paste0(round(y_new*100), "%"),
                        position = position_stack(vjust = 0.5)) +
guides(fill = guide_legend(title = "Country"))
```

Percentage of Hot Dog Eating Champions by Country



Donut Chart

```
ggplot(df_percent, aes(x=2, y=y_new, fill = x_new)) + geom_col() +
  coord_polar("y", start = 1) +
  geom_text(aes(label = paste0(round(y_new*100), "%"),
                        position = position_stack(vjust = 0.5)) +
  theme(panel.background = element_blank(),
        axis.line = element_blank(),
        axis.text = element_blank(),
        axis.ticks = element_blank(),
        axis.title = element_blank(),
        plot.title = element_text(hjust = 0.5, size = 18)) +
  ggtitle("Percentage of Hot Dog Eating Champions by Country") + xlim(0.5, 2.5) +
  guides(fill = guide_legend(title = "Country"))
```

centage of Hot Dog Eating Champions by Country

