Exercise 1.2: Charts

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Plots Using R

```
knitr::opts_chunk$set(echo = TRUE)

# Set Working Directory
setwd("C:/Users/micha/OneDrive/Documents/GitHub/DSC640/Weeks1-2/")

# Load libraries
library('readxl')
library('ggplot2')
library(reshape2)
```

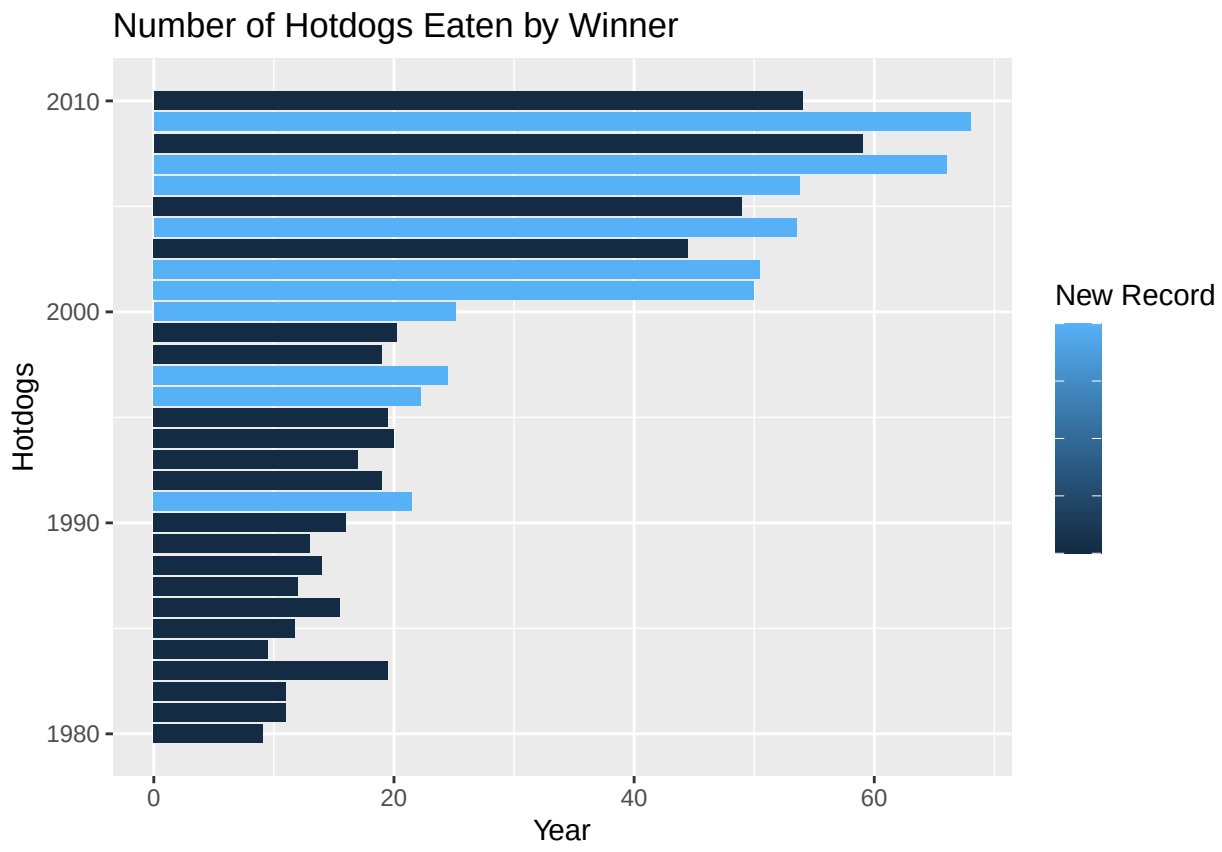
Load Data

```
# Load DataFrames
dogDF <- read_excel("hotdog-contest-winners.xlsm")
thanksObama <- read_excel("obama-approval-ratings.xls")

# Add column combining year and winner
dogDF$YearWinner <- paste(dogDF$Winner, dogDF$Year)
```

Bar Chart

```
# Plot bar chart
bar <- ggplot(data=dogDF, aes(x=Year, y=`Dogs eaten`, fill=`New record`))
bar + geom_bar(stat = "identity") + coord_flip() +
  theme(legend.text = element_blank()) +
  ggtitle("Number of Hotdogs Eaten by Winner") +
  labs(y="Year", x="Hotdogs") +
  labs(fill="New Record")
```

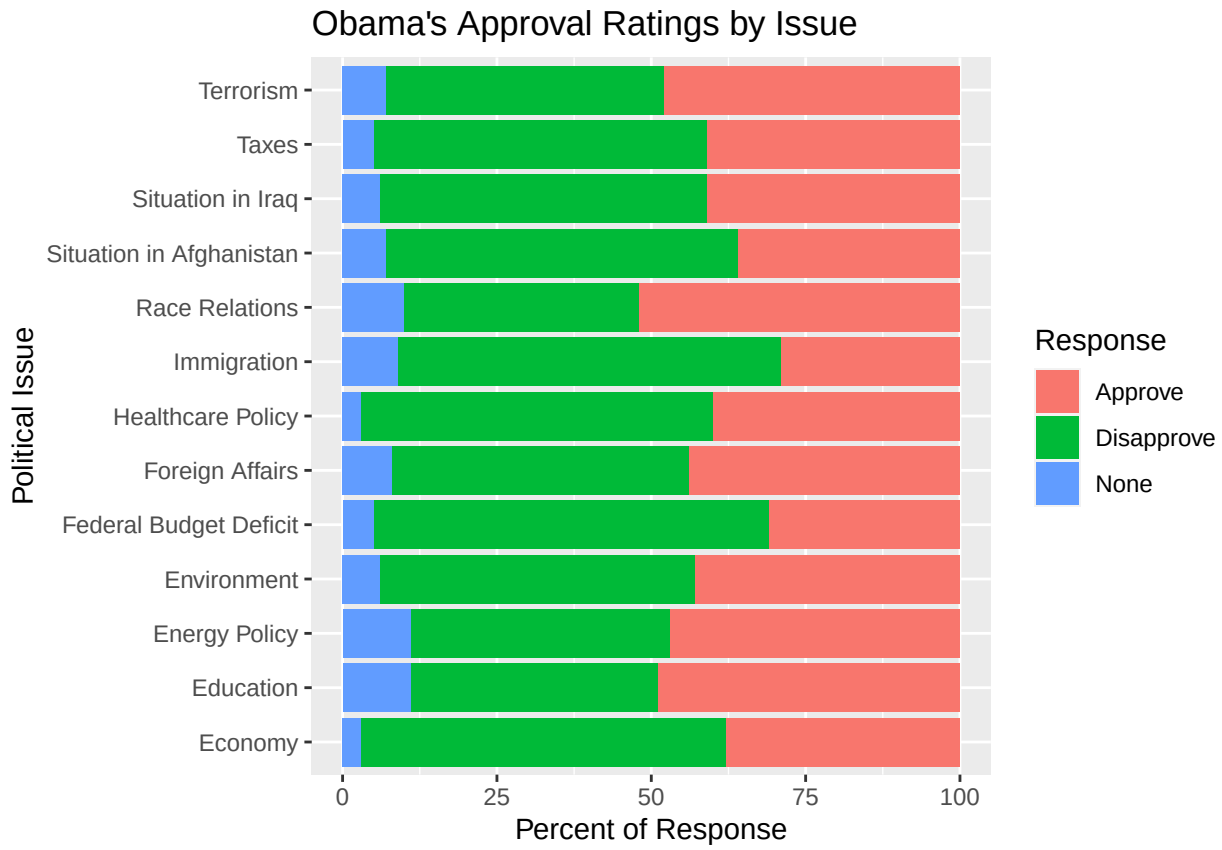


Stacked Bar Chart

```
# Melt data set into proper format for plotting
meltObama <- melt(thanksObama)
```

```
## Using Issue as id variables
```

```
# Plot stacked bar chart
ggplot(meltObama, aes(x=Issue, y=value, fill=variable)) +
  geom_bar(stat="identity") + coord_flip() +
  ggtitle("Obama's Approval Ratings by Issue") +
  labs(y="Percent of Response", x="Political Issue") +
  labs(fill="Response")
```

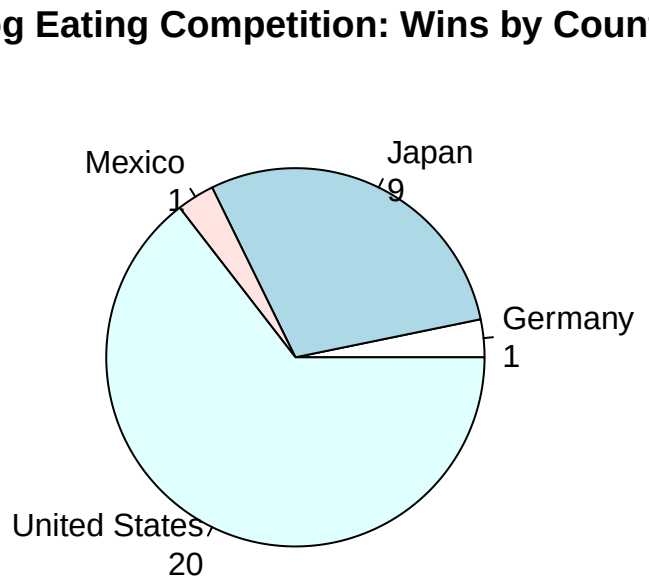


Pie Chart

```
# Convert data to table
mytable <- table(dogDF$Country, dnn = list("Country"))

# Set up chart labels
lbls <- paste(names(mytable), "\n", mytable, sep="")

# Plot pie chart
pie(mytable, labels = lbls,
    main = "Hotdog Eating Competition: Wins by Country")
```



Donut Chart

```
# Compute percentages
winsDF <- as.data.frame(mytable, responseName = "Wins")

winsDF$fraction <- winsDF$Wins / sum(winsDF$Wins)

# Compute the cumulative percentages
winsDF$ymax <- cumsum(winsDF$fraction)

# Compute the bottom of each rectangle
winsDF$ymin <- c(0, head(winsDF$ymax, n=-1))

# Compute label position
winsDF$labelPosition <- (winsDF$ymax + winsDF$ymin) / 2

# Plot the donut chart
ggplot(winsDF, aes(ymax=ymax, ymin=ymin, xmax=4, xmin=3, fill=Country)) +
  geom_rect() +
  geom_text(x=3.5, aes(y=labelPosition, label=Wins), size=5) +
  coord_polar(theta = 'y') +
  xlim(c(2, 4)) +
  theme_void() +
  ggtitle("Hotdog Eating Competition: Wins by Country")
```