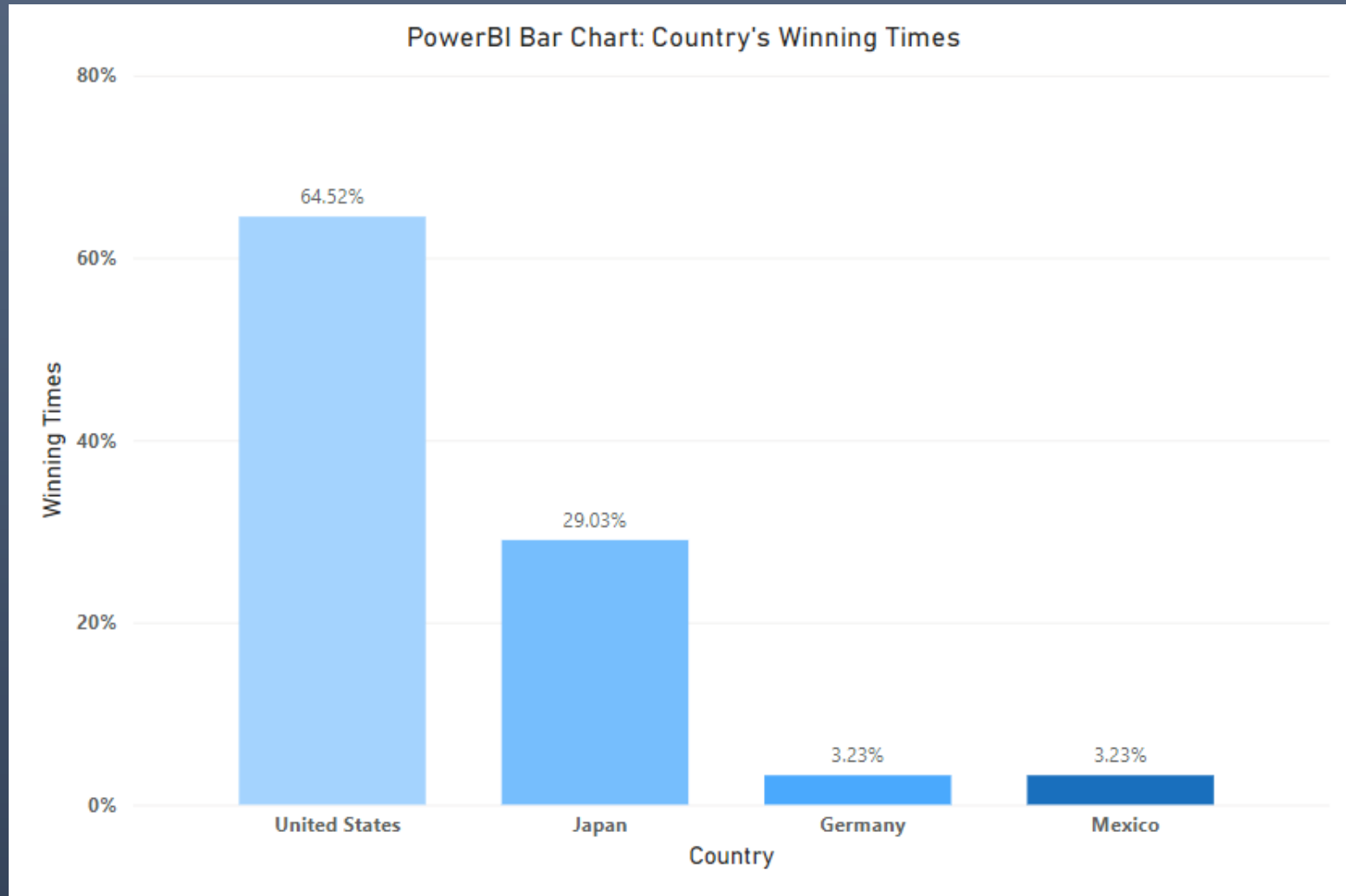


Assignment 1.2 Charts

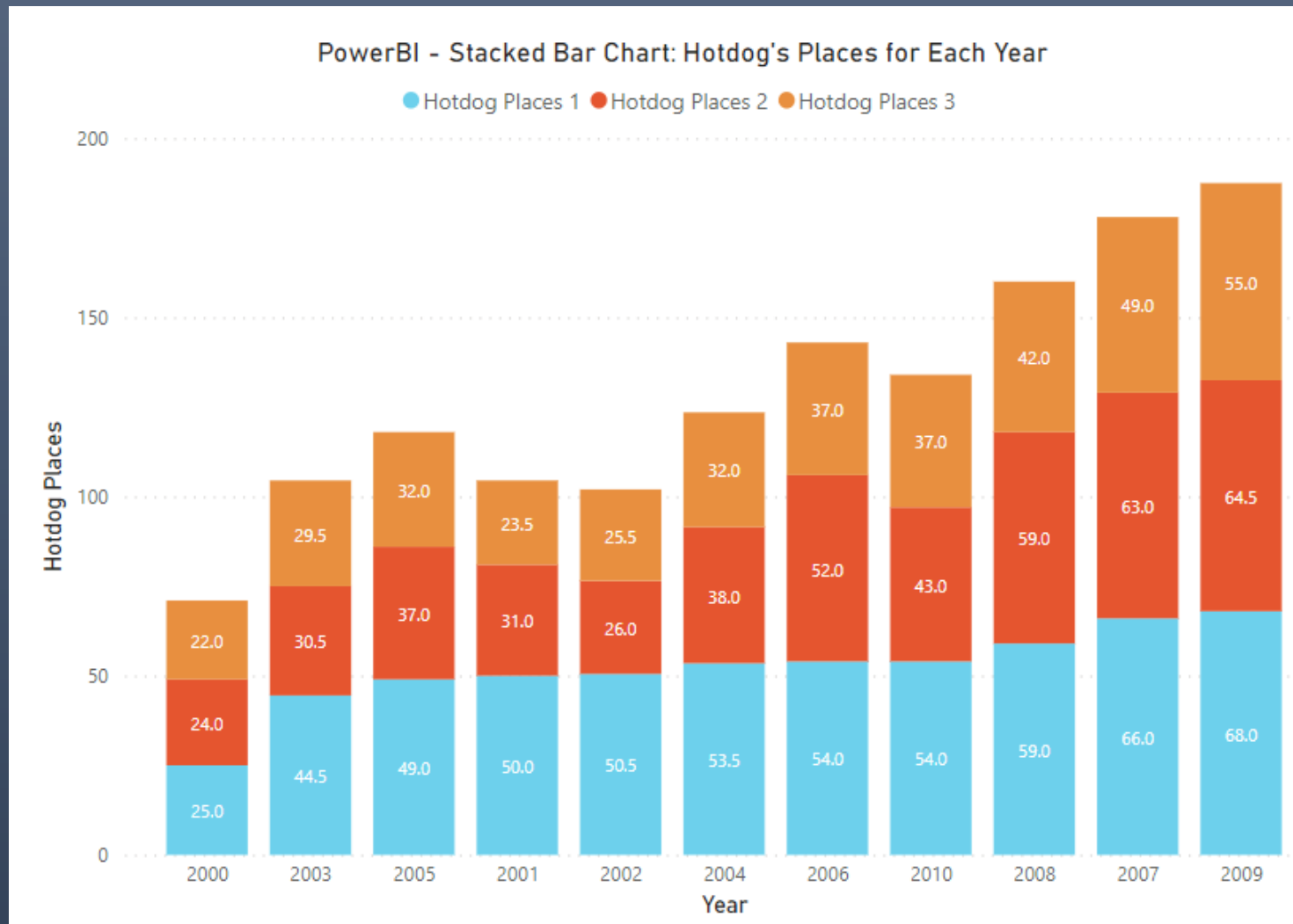
DSC640

Taniya Adhikari

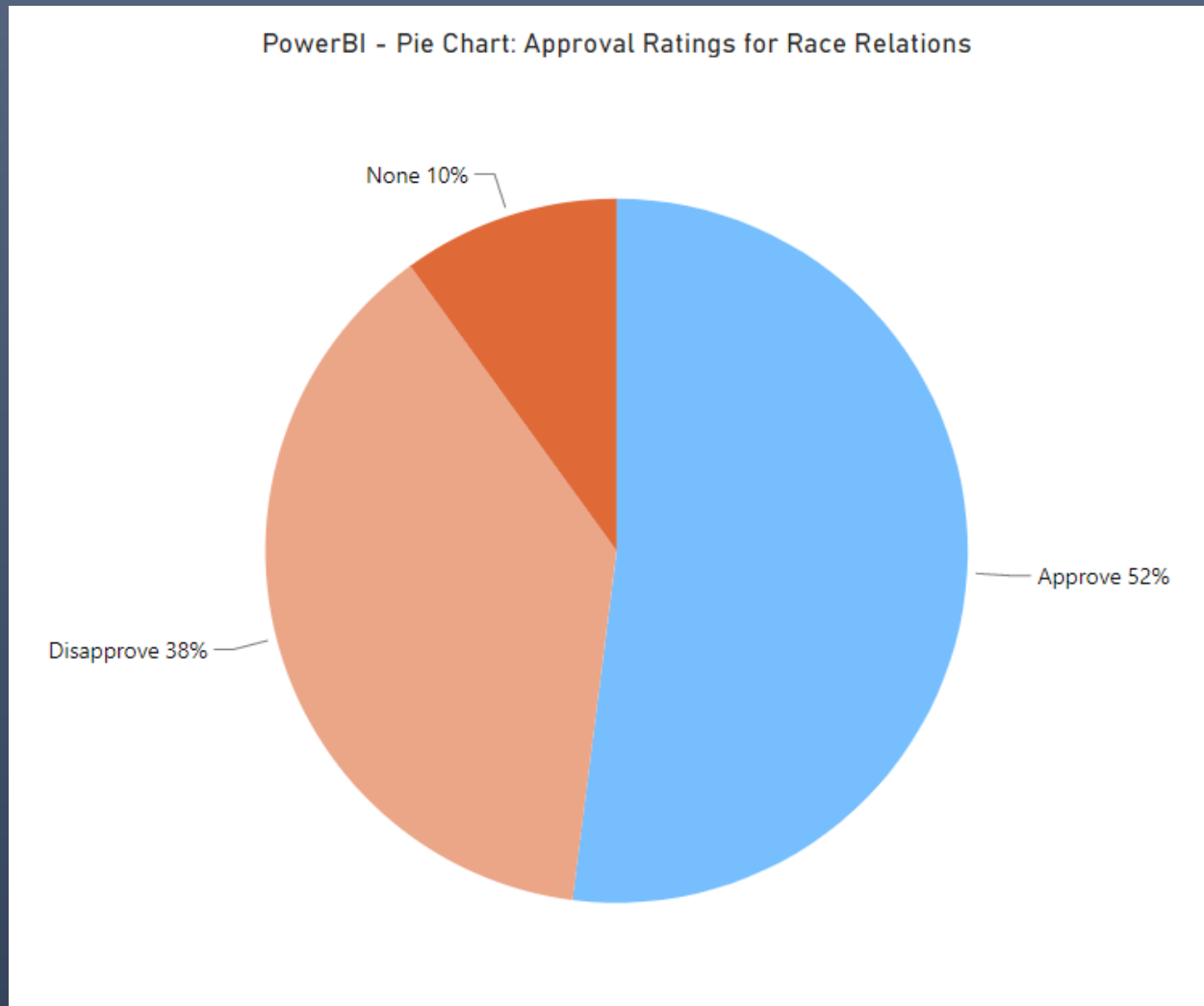
PowerBI – Bar Chart



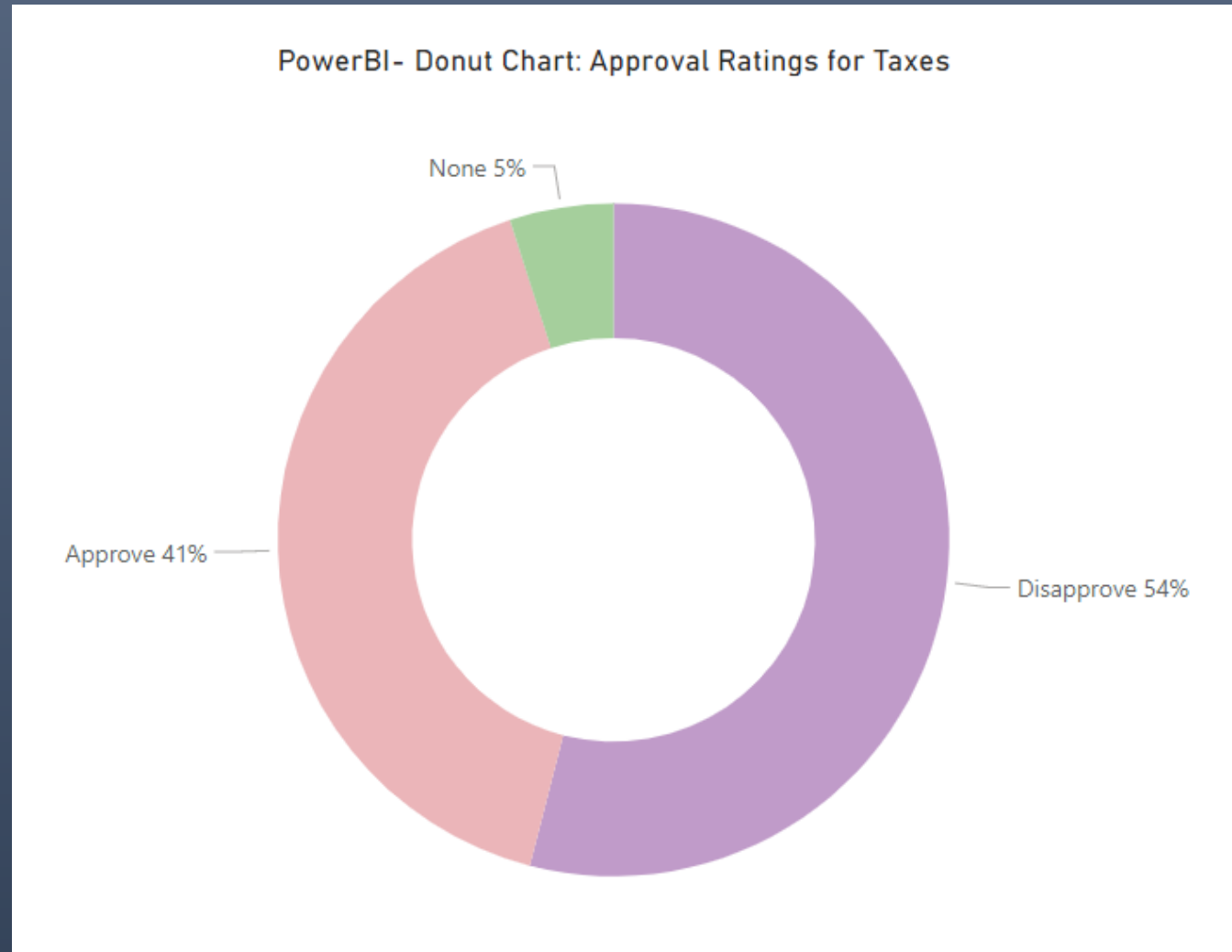
PowerBI – Stacked Bar Chart



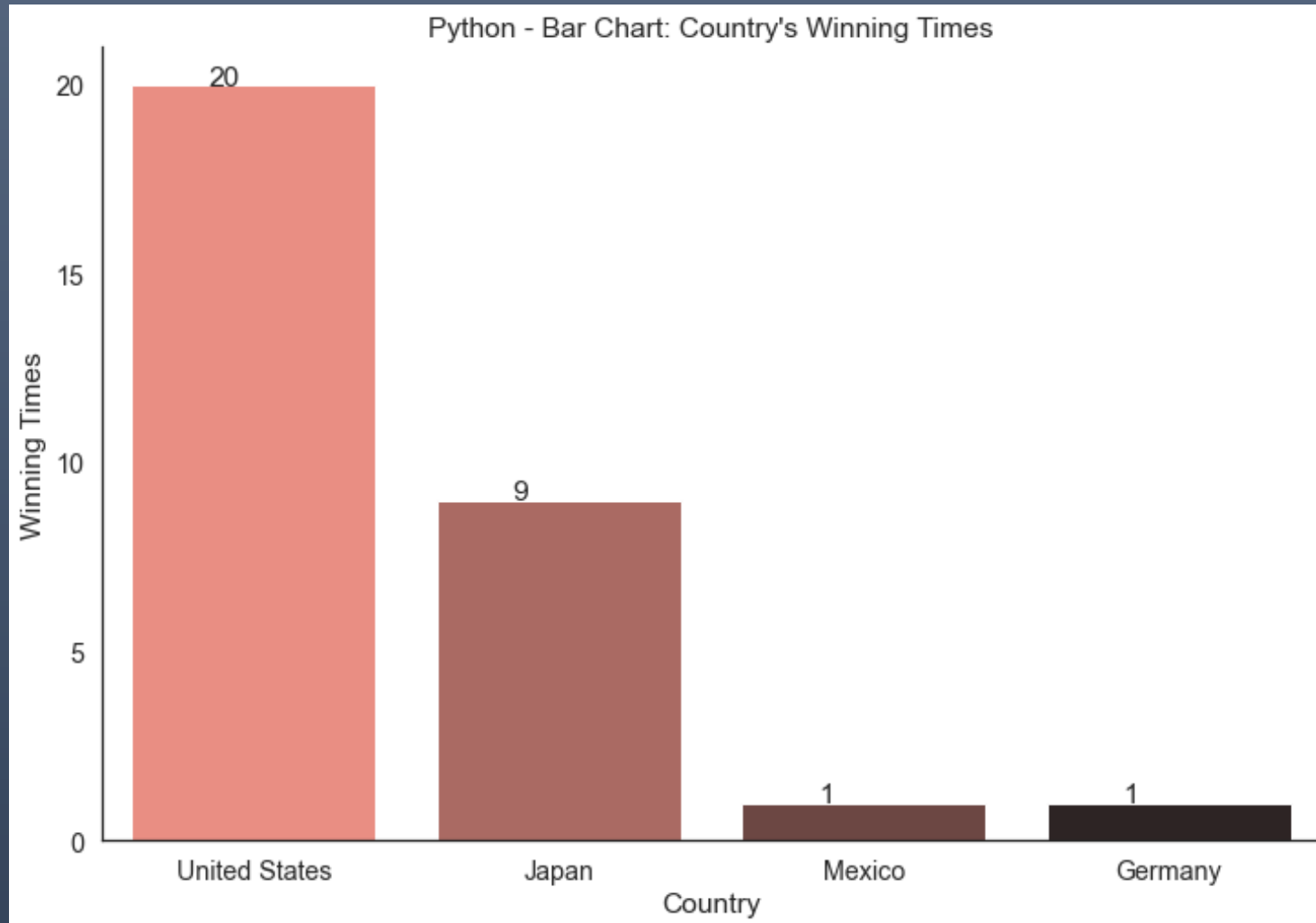
PowerBI – Pie Chart



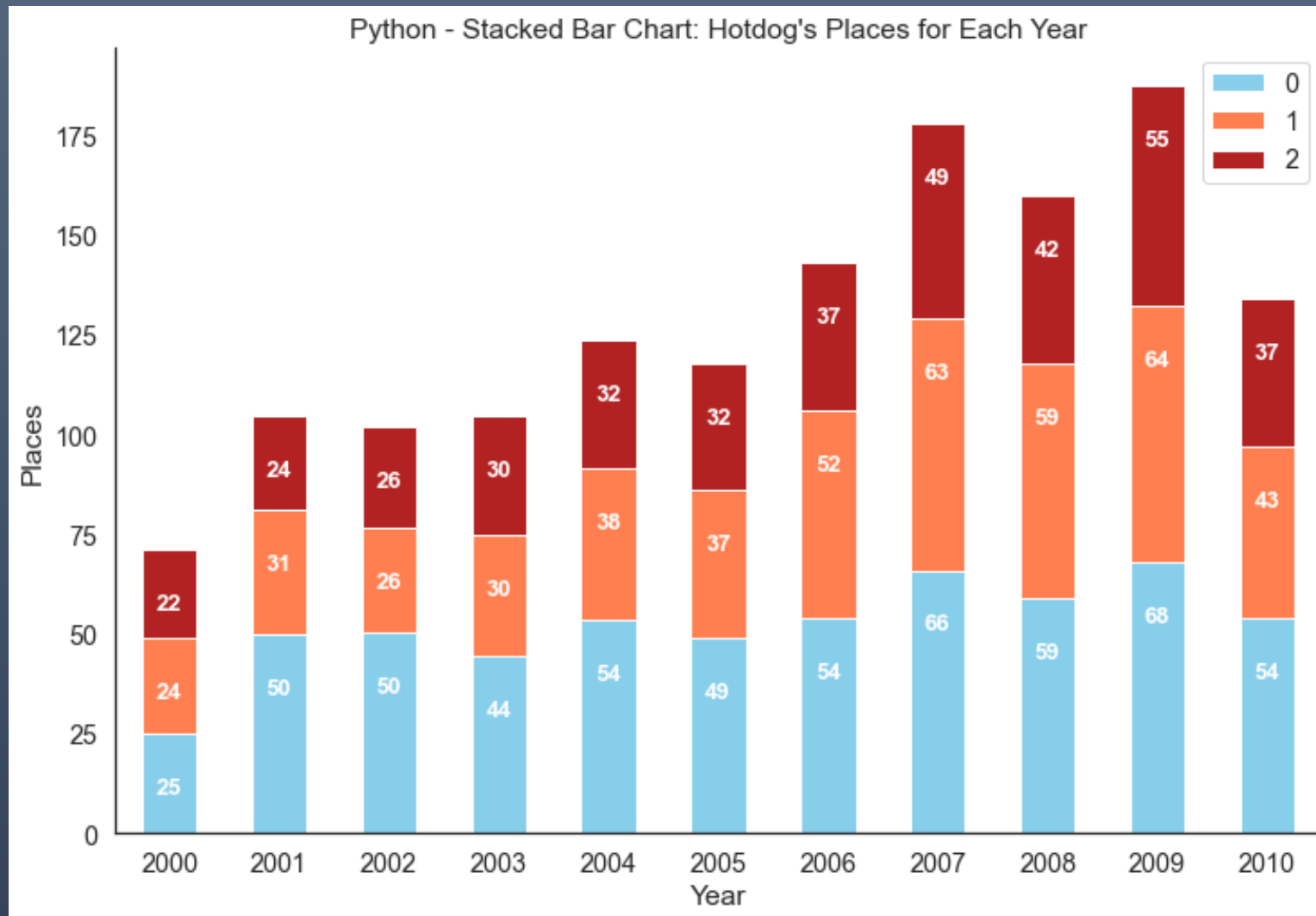
PowerBI – Donut Chart



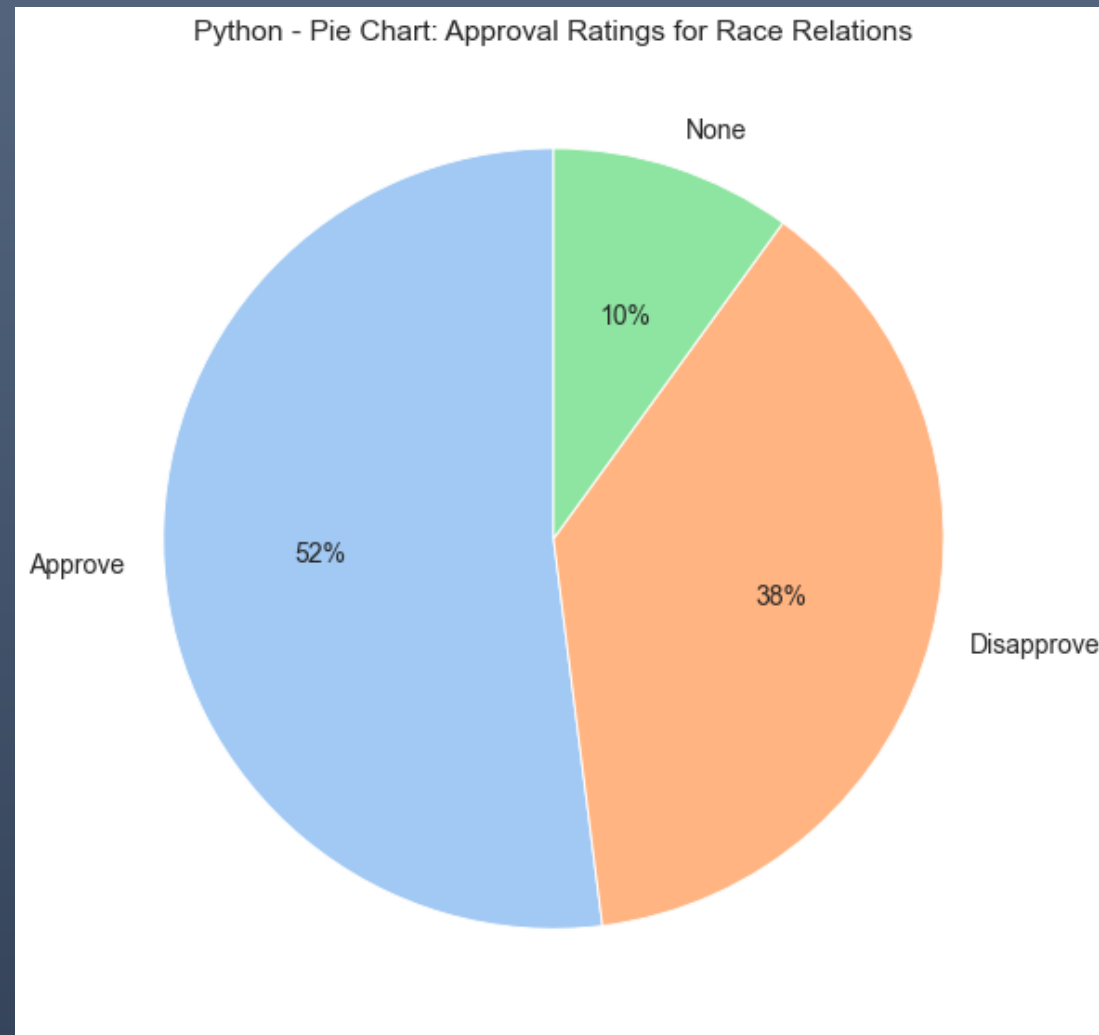
Python – Bar Chart



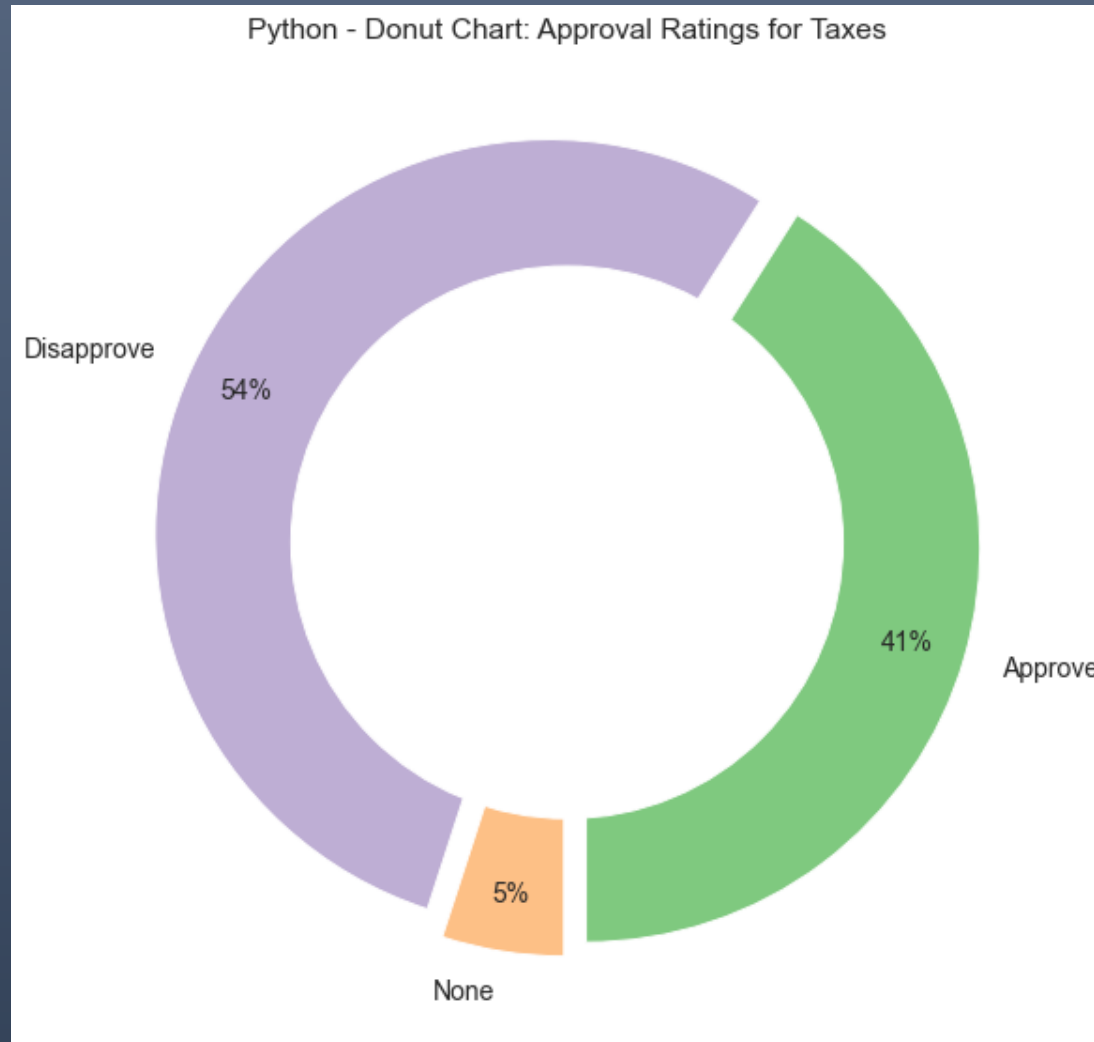
Python – Stacked Bar Chart



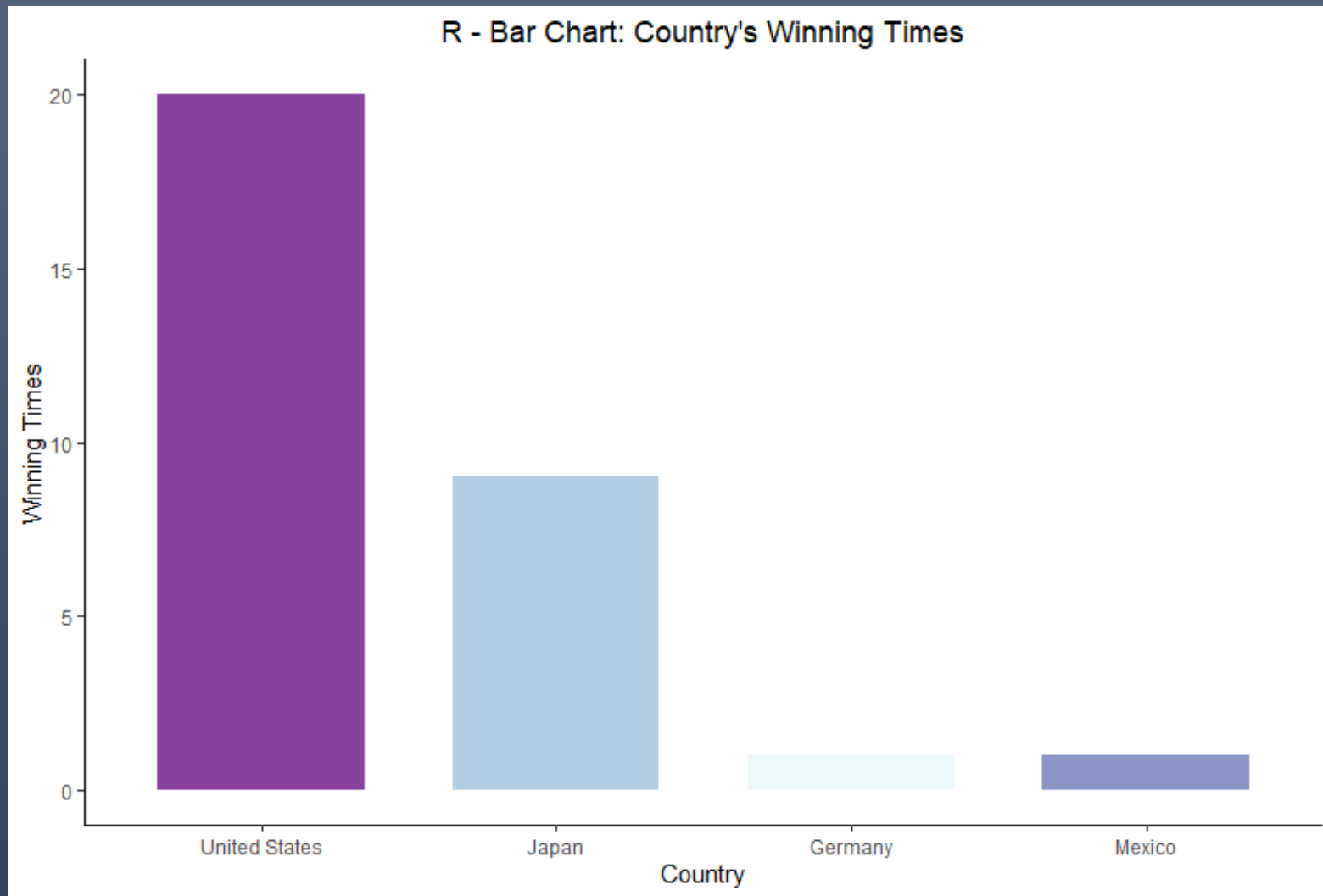
Python – Pie Chart



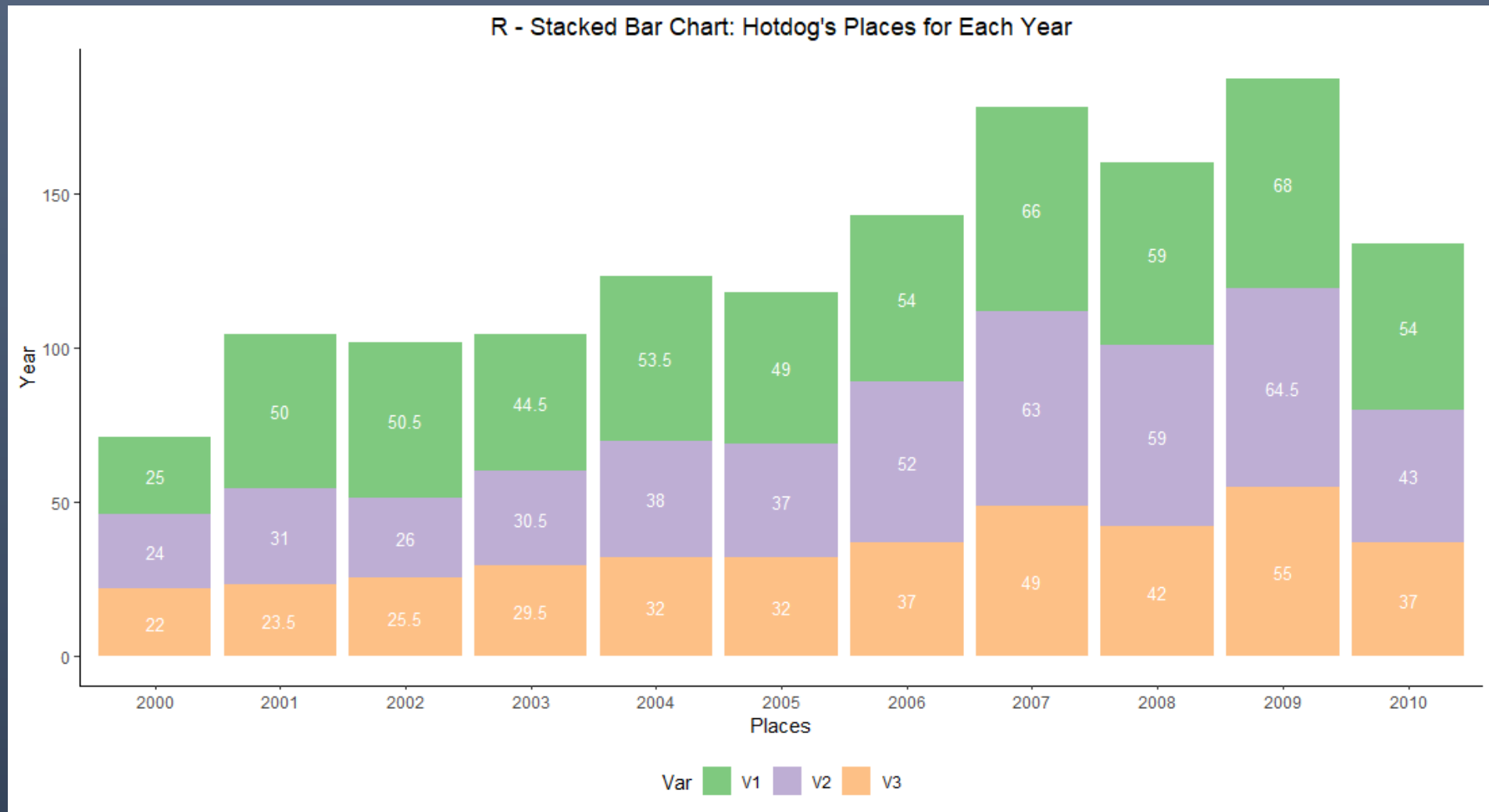
Python – Donut Chart



R – Bar Chart

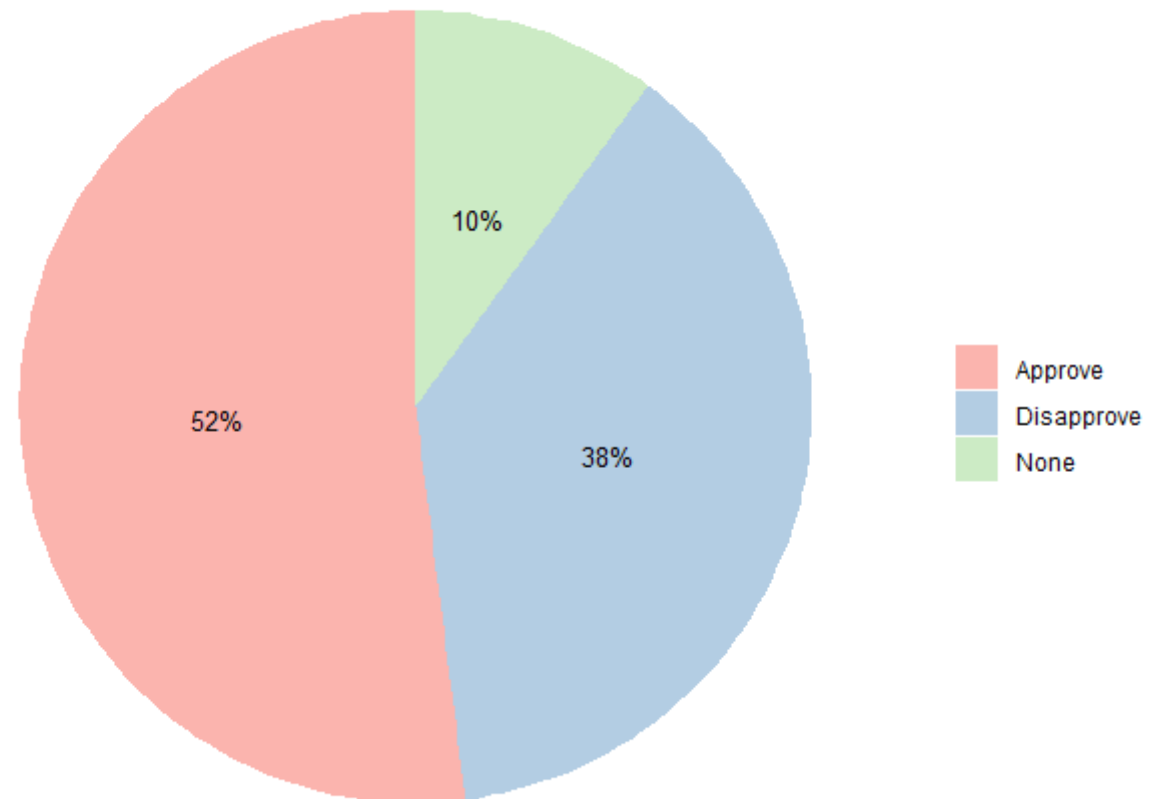


R – Stacked Bar Chart



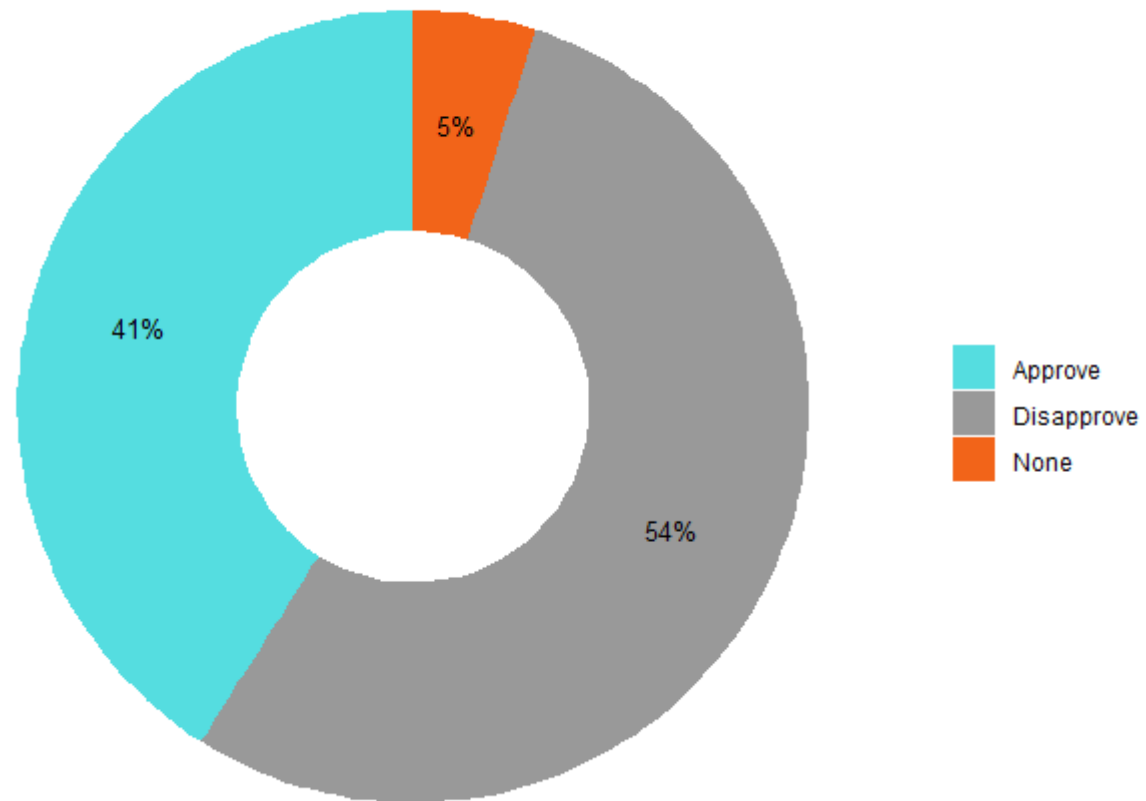
R – Pie Chart

R - Pie Chart: Approval Ratings for Race Relations



R – Donut Chart

R - Donut Chart: Approval Ratings for Taxes



Supplemental Files

- Python Code
- R Code
- PowerBI File

Assignment 1.2: Charts

DSC640

Taniya Adhikari

```
In [1]: import pandas as pd
import numpy as np
import seaborn as sns
import matplotlib.pyplot as plt
%matplotlib inline

## Dataset 1
df1 = pd.read_excel('hotdog-contest-winners.xlsm', sheet_name='hot-dog-contest-winners')
df1.head()

## Bar Chart

plt.rcParams['figure.figsize'] = [12,8]

sns.set(font_scale = 1.3)
sns.set_style("white")

ax = sns.countplot(x=df1['Country'],data=df1,order = df1['Country'].value_counts().index,
                  palette = "dark:salmon_r")

plt.yticks([0,5,10,15,20])
for p in ax.patches:
    ax.annotate('{}' .format(round(p.get_height())) , (p.get_x()+0.25, p.get_height()+0.01))

ax.set(title = "Python - Bar Chart: Country's Winning Times", xlabel = "Country", ylabel = "Winning Times")
sns.despine()

## Dataset 2
df2 = pd.read_excel('hotdog-places.xlsm', sheet_name='hot-dog-places')
df2.head()
df2 = df2.transpose()
df2.head()

## Stacked Bar Chart
plt.rcParams['figure.figsize'] = [12,8]
```

```

ax = df2.plot(kind='bar', stacked=True, color={0: "skyblue", 2: "firebrick", 1: "coral"})

y_offset = -15
for bar in ax.patches:
    ax.text(
        # text in the middle
        bar.get_x() + bar.get_width() / 2,

        # Add the height of the bar to the start of the bar,
        bar.get_height() + bar.get_y() + y_offset,
        round(bar.get_height()),

        # Center the Labels
        ha='center',
        color='w',
        weight='bold',
        size=13
    )

# Just add a title and rotate the x-axis labels to be horizontal.
plt.title("Python - Stacked Bar Chart: Hotdog's Places for Each Year")
plt.xlabel("Year")
plt.ylabel("Places")
plt.xticks(rotation=0, ha='center')

right_side = ax.spines["right"]
right_side.set_visible(False)
top = ax.spines["top"]
top.set_visible(False)
plt.show()

## Dataset 3
df3 = pd.read_excel('obama-approval-ratings.xls', sheet_name='Sheet1')
df3.head(14)

## Pie Chart
df3 = df3.transpose()
df3.columns = df3.iloc[0]
df3 = df3.drop(df3.index[0])
df3.head()

plt.rcParams['figure.figsize'] = [12,8]
plt.rcParams["figure.autolayout"] = True
plt.rcParams["axes.edgecolor"] = "black"

```



```
plt.rcParams["axes.linewidth"] = 1.0

#define Seaborn color palette to use
colors = sns.color_palette('pastel')[0:5]

#create pie chart
plt.pie(df3['Race Relations'], labels=df3.index, colors = colors, autopct='%.0f%%', startangle=90, textprops={'fontsize': 14})
plt.title("Python - Pie Chart: Approval Ratings for Race Relations")
plt.show()

## Donut Chart
plt.rcParams['figure.figsize'] = [12,8]

colors = sns.color_palette('Accent')[0:5]
# explosion
explode = (0.05, 0.05, 0.05)

plt.pie(df3['Taxes'], labels=df3.index, colors = colors, autopct='%.0f%%', pctdistance=0.85, startangle=-90,
        textprops={'fontsize': 14}, explode=explode)

# draw circle
centre_circle = plt.Circle((0, 0), 0.70, fc='white')
fig = plt.gcf()

# Adding Circle in Pie chart
fig.gca().add_artist(centre_circle)
plt.title("Python - Donut Chart: Approval Ratings for Taxes")
plt.show()
```

```
### Assignment 1.2
### DSC640
### Taniya Adhikari
```

```
df1 <- read_excel("hotdog-contest-winners.xlsx", sheet = "hot-dog-contest-winners")
head(df1)
```

```
### Bar Chart
```

```
df1 %>%
  group_by(Country) %>%
  summarise(count = n()) %>%
  ggplot(aes(x=reorder(Country, (-count)), y = count, fill=Country))+
  geom_bar(stat="identity", width=0.7)+
  scale_fill_brewer(palette="BuPu")+
  theme_classic()+ ylab("Winning Times")+
  xlab("Country")+
  theme(legend.position='none', plot.title = element_text(hjust = 0.5))+
  ggtitle("R - Bar Chart: Country's Winning Times")
```

```
df2 <- read_excel('hotdog-places.xlsx', sheet='hot-dog-places')
df2 <- as.data.frame(t(as.matrix(df2)))
df2$Year <- rownames(df2)
rownames(df2) <- c(0,1,2,3,4,5,6,7,8,9,10)
head(df2)
```

```
### Stacked Bar Chart
```

```
df2 %>% select(V3, V2, V1, Year) %>%
  pivot_longer(., cols = c(V3, V2, V1), names_to = "Var", values_to = "Val") %>%
  # Stacked barplot with multiple groups
  ggplot(aes(x=Year, y=Val, fill=Var)) +
  geom_bar(stat="identity")+
  geom_text(aes(label=Val), size = 3.5, position = position_stack(vjust = 0.5), color="white")+
  scale_fill_brewer(palette="Accent")+
  theme_classic()+ ylab("Year")+
  xlab("Places")+
  theme(legend.position="bottom", plot.title = element_text(hjust = 0.5))+
```

```

  ggtitle("R - Stacked Bar Chart: Hotdog's Places for Each Year")
df2 <- read_excel('hotdog-places.xlsm', sheet='hot-dog-places')
df2 <- as.data.frame(t(as.matrix(df2)))
df2$Year <- rownames(df2)
rownames(df2) <- c(0,1,2,3,4,5,6,7,8,9,10)
head(df2)
df2 %>% select(V3, V2, V1, Year) %>%
  pivot_longer(., cols = c(V3, V2, V1), names_to = "Var", values_to = "Val") %>%
  # Stacked barplot with multiple groups
  ggplot(aes(x=Year, y=Val, fill=Var)) +
  geom_bar(stat="identity")+
  geom_text(aes(label=Val), size = 3.5, position = position_stack(vjust = 0.5), color="white")+
  scale_fill_brewer(palette="Accent")+
  theme_classic()+ ylab("Year")+
  xlab("Places")+
  theme(legend.position="bottom", plot.title = element_text(hjust = 0.5))+
  ggtitle("R - Stacked Bar Chart: Hotdog's Places for Each Year")

```

```

df3 <- read_excel('obama-approval-ratings.xls', sheet='Sheet1')
head(df3)
df3 <- as.data.frame(t(as.matrix(df3)))
colnames(df3) <- df3[1,]
df3 <- df3[-1,]
colnames(df3) <- make.names(names(df3))
df3 <- as.data.frame(sapply(df3, as.numeric))
df3$Rating <- c("Approve", "Disapprove", "None")

```

```

### Pie Chart
bp<- ggplot(df3, aes(x="", y=Race.Relations, fill=Rating))+
  geom_bar(width = 1, stat = "identity")
pie <- bp + coord_polar("y", start=0) +
  geom_text(aes(label = paste0(round(Race.Relations), "%")), position= position_stack(vjust = 0.5),
size=3.5)
pie + scale_fill_brewer(palette="Pastel1")+
  labs(x = NULL, y = NULL, fill = NULL, title = "R - Pie Chart: Approval Ratings for Race Relations")+

```

```

theme_classic()+ theme(legend.position="right", axis.line = element_blank(),
                        axis.text = element_blank(),
                        axis.ticks = element_blank(),
                        plot.title = element_text(hjust = 0.5, color= "#666666"))

```

Donut Chart

```

hsize<- 1.5
df3 <- df3 %>%
  mutate(x = hsize)
ggplot(df3, aes(x=hsize, y=Taxes, fill=Rating))+
  geom_bar(width = 1, stat = "identity")+
  coord_polar(theta = "y")+
  geom_text(aes(label = paste0(round(Taxes), "%")), position= position_stack(vjust = 0.5), size=3.5) +
xlim(c(0.2, hsize+0.5))+
  scale_fill_manual(values=c("#55DDE0", "#999999", "#F26419"))+
  labs(x = NULL, y = NULL, fill = NULL, title = "R - Donut Chart: Approval Ratings for Taxes")+
  theme_classic()+ theme(legend.position="right", axis.line = element_blank(),
                        axis.text = element_blank(),
                        axis.ticks = element_blank(),
                        plot.title = element_text(hjust = 0.5, color= "#666666"))

```

