

Assignment_1_2_Vayuvegula_Soma_Shekar_Python

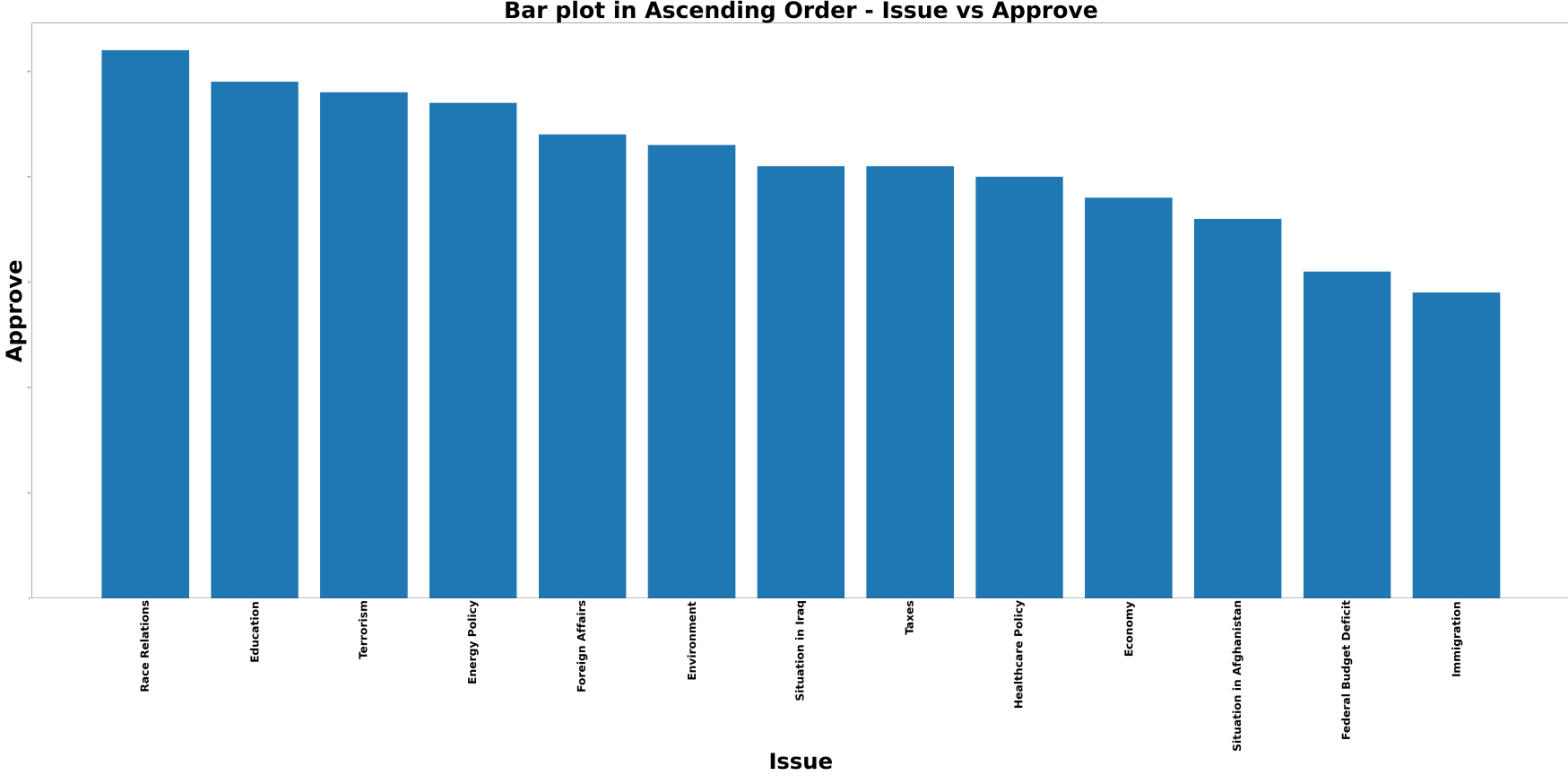
```
In [1]: #Import libraries
import matplotlib.pyplot as plt
import pandas as pd
```

```
In [2]: #Read CSV data
df_obama = pd.read_excel("/Users/somashekarvayuvegula/Documents/Workspace/Data_Presentation_Visualization/Week_1/Week1_data.xlsx")
df_obama
```

	Issue	Approve	Disapprove	None
0	Race Relations	52	38	10
1	Education	49	40	11
2	Terrorism	48	45	7
3	Energy Policy	47	42	11
4	Foreign Affairs	44	48	8
5	Environment	43	51	6
6	Situation in Iraq	41	53	6
7	Taxes	41	54	5
8	Healthcare Policy	40	57	3
9	Economy	38	59	3
10	Situation in Afghanistan	36	57	7
11	Federal Budget Deficit	31	64	5
12	Immigration	29	62	9

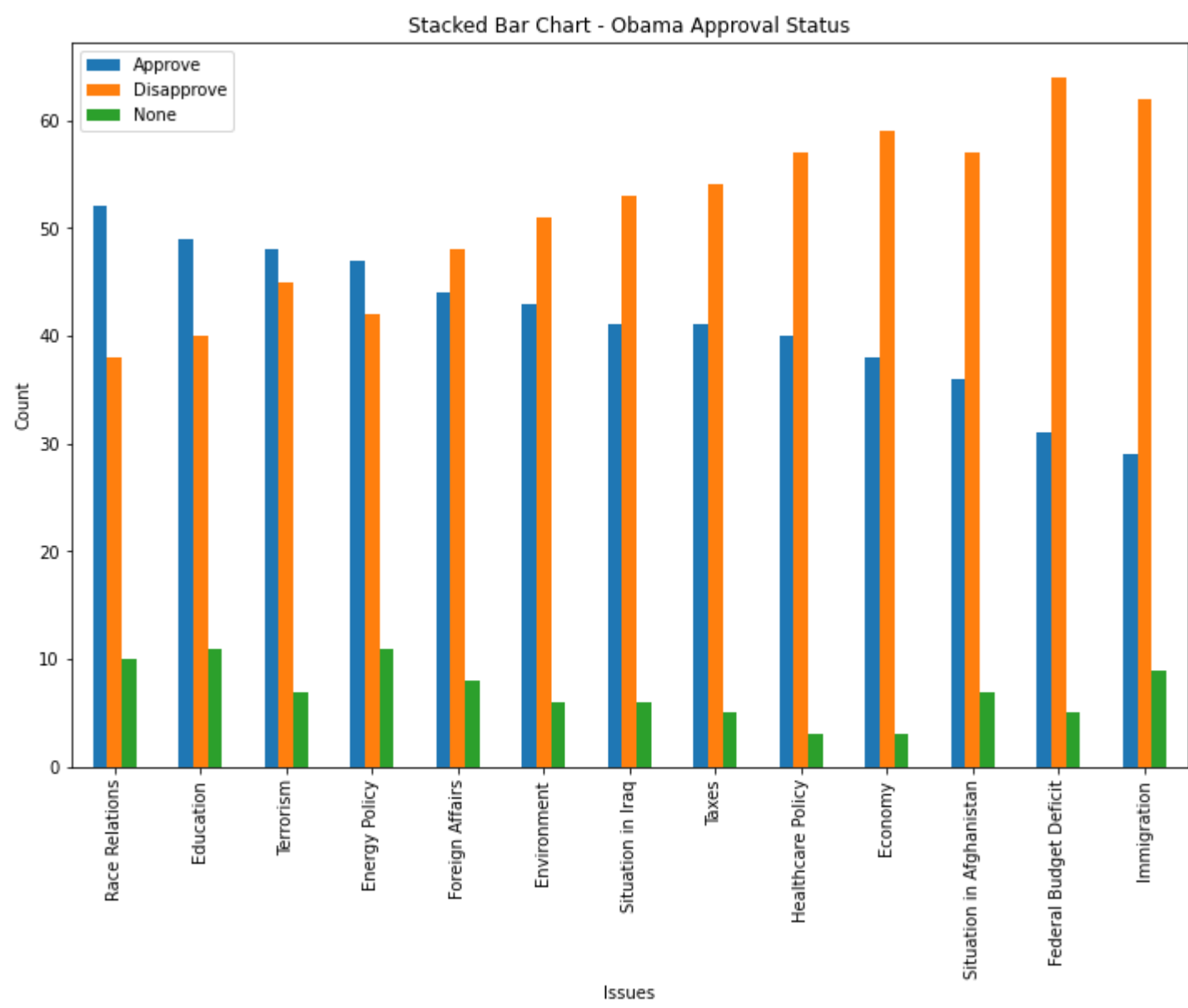
Bar charts:

```
In [3]: plt.figure(figsize=(120,46))
# bar plot with matplotlib
width = 0.8 # the width of the bars
plt.bar('Issue', 'Approve',width,data=df_obama)
plt.xticks(label="Issue",rotation=90, horizontalalignment="center", size=48, weight='bold')
plt.xlabel("Issue", size=95, weight='bold')
plt.ylabel("Approve", size=95, weight='bold')
plt.title("Bar plot in Ascending Order - Issue vs Approve", size=98, weight='bold')
plt.show()
```



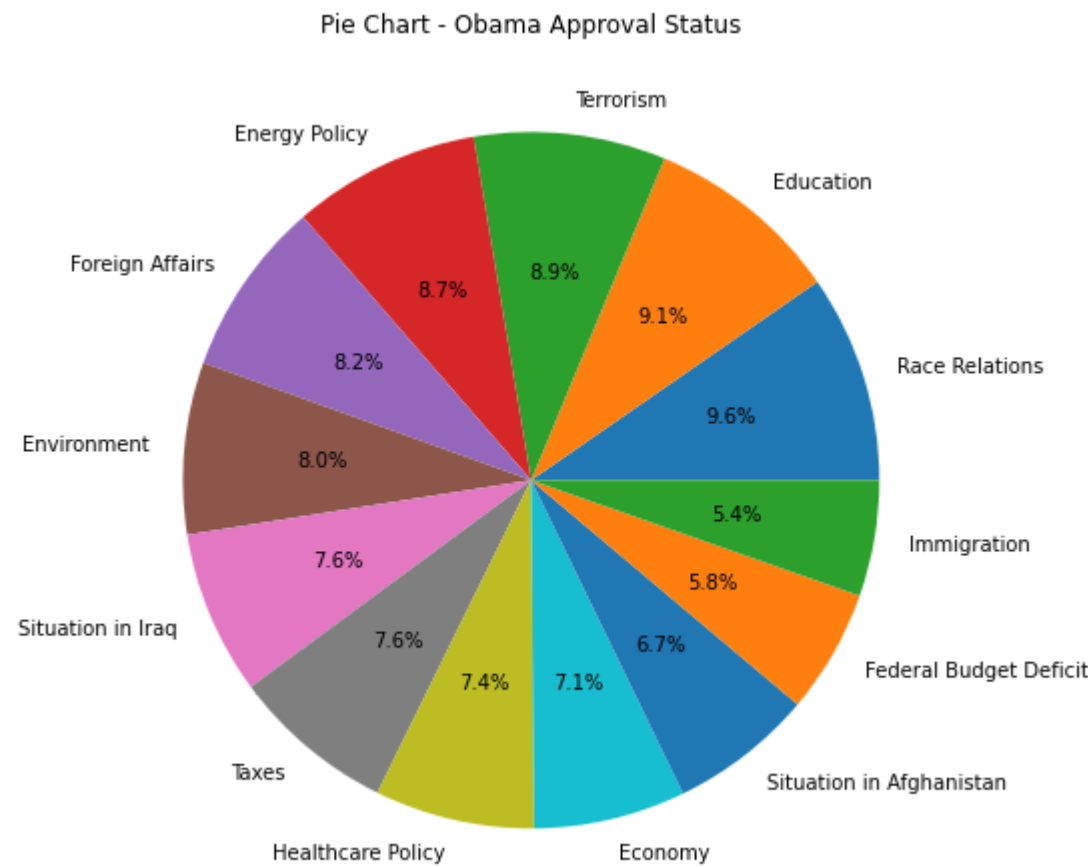
Stacked Bar Charts:

```
In [4]: df_obama.plot.bar(x="Issue",title="Stacked Bar Chart - Obama Approval Status",xlabel="Issues",ylabel="Count",figsize=(12,8))
```



Pie Charts:

```
In [5]: plt.figure(figsize=(12,8))
plt.pie(df_obama['Approve'],labels=df_obama['Issue'],autopct='%1.1f%%')
plt.title('Pie Chart - Obama Approval Status')
plt.show()
```



Donut Charts:

```
In [6]: plt.figure(figsize=(12,8))

#Creating sum of all statuses
total=[sum(df_obama['Approve']),sum(df_obama['Disapprove']),sum(df_obama['None'])]

#labels
labels=['Approve','Disapprove','None']

#colors
colors=['green','red','blue']

#explosion
explode=(0.05,0.05,0.05)

# Pie Chart
plt.pie(total, colors=colors, labels=labels,
        autopct='%1.1f%', pctdistance=0.85,
        explode=explode)

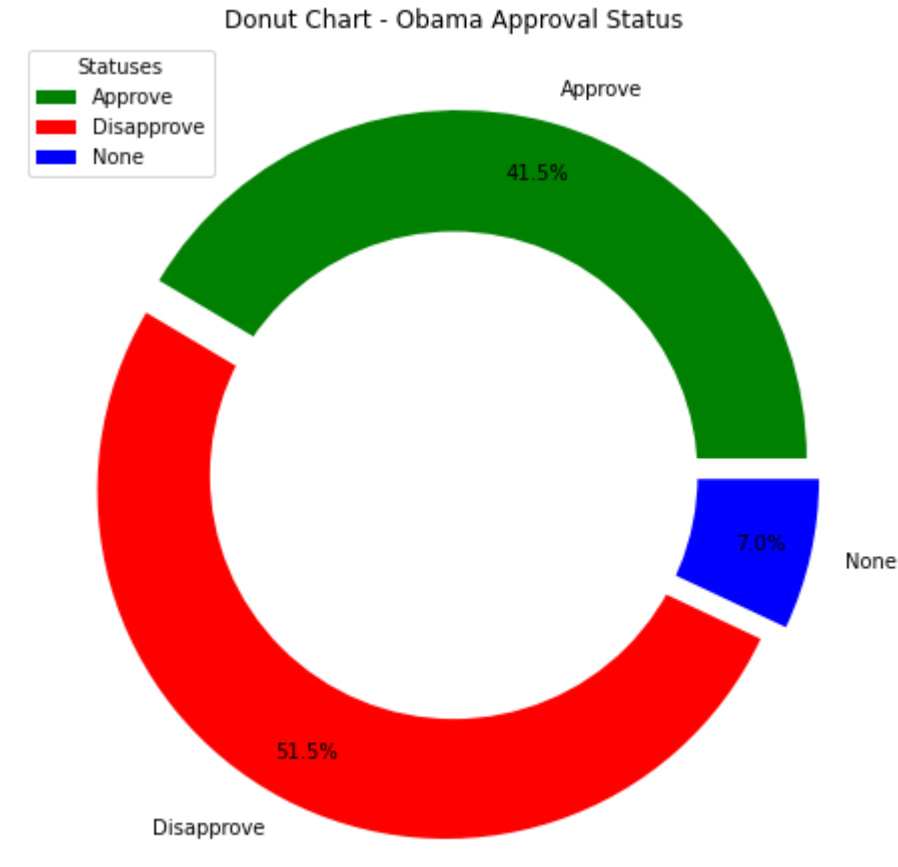
# draw circle
centre_circle = plt.Circle((0, 0), 0.70, fc='white')
fig = plt.gcf()

# Adding Circle in Pie chart
fig.gca().add_artist(centre_circle)

# Adding Title of chart
plt.title('Donut Chart - Obama Approval Status')

# Add Legends
plt.legend(labels, loc="upper left", title="Statuses")

# Show Chart
plt.show()
```



In []:

Assignment_1_2_Vayuvegula_Soma_Shekar_R

Soma Shekar Vayuvegula

12/06/2023

Importing and Cleaning Data

Dataset importing

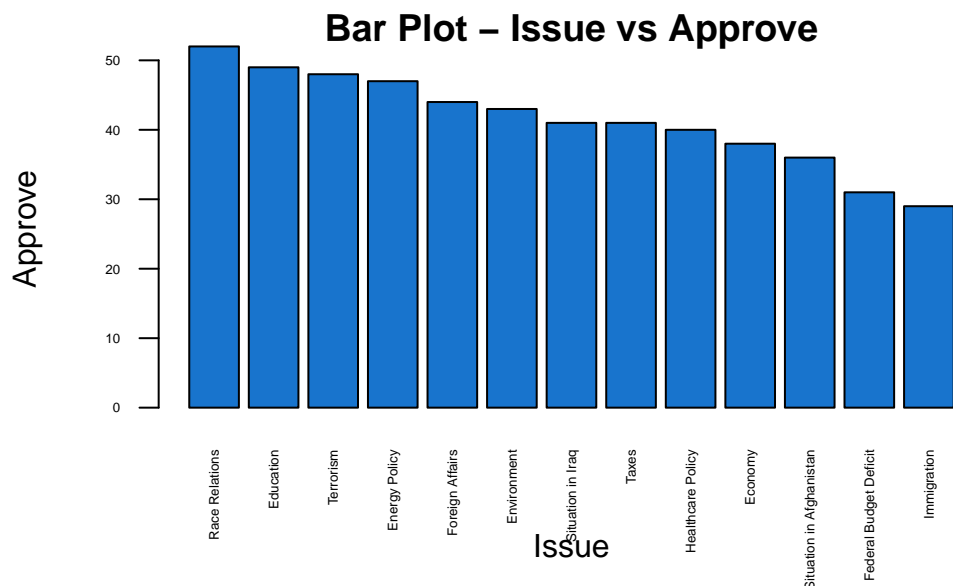
```
library("readxl")

df_obama <- read_excel("/Users/somashekarvayuvegula/Documents/Workspace/Data_Presentation_Visualization,

head(df_obama)
```

```
## # A tibble: 6 x 4
##   Issue      Approve Disapprove  None
##   <chr>      <dbl>      <dbl> <dbl>
## 1 Race Relations    52        38    10
## 2 Education        49        40    11
## 3 Terrorism        48        45     7
## 4 Energy Policy    47        42    11
## 5 Foreign Affairs  44        48     8
## 6 Environment     43        51     6
```

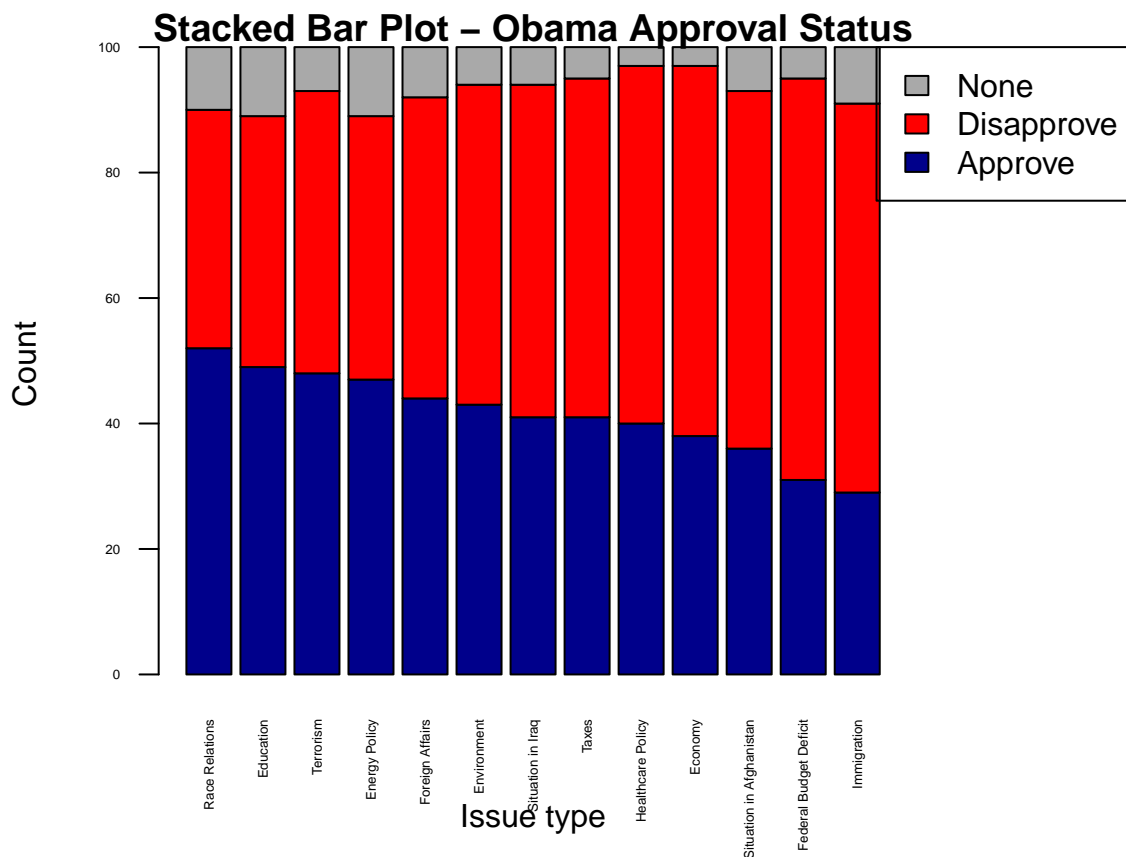
```
par(mar=c(12, 10, 1, 1))
barplot(t(as.matrix(df_obama$Approve)),names.arg = df_obama$Issue,
        col="dodgerblue3",main="Bar Plot - Issue vs Approve",xlab="Issue",ylab="Approve",las=2,cex.axis=
```



```
issues <- df_obama$Issue
df_obama<-subset(df_obama,select=c(Approve,Disapprove,None))
head(df_obama)
```

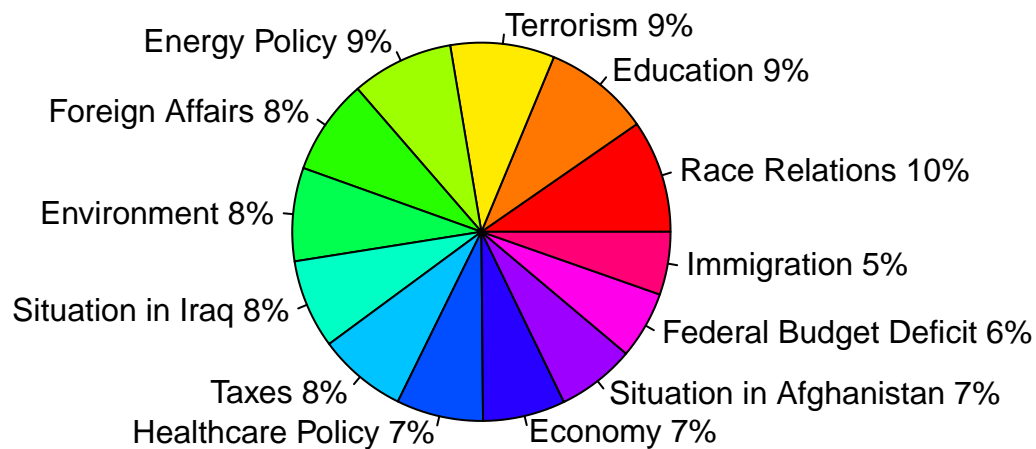
```
## # A tibble: 6 x 3
##   Approve Disapprove  None
##   <dbl>      <dbl> <dbl>
## 1     52         38    10
## 2     49         40    11
## 3     48         45     7
## 4     47         42    11
## 5     44         48     8
## 6     43         51     6
```

```
par(mar=c(5, 5, 1, 8))
barplot(t(as.matrix(df_obama)),names.arg = issues,
  main = "Stacked Bar Plot - Obama Approval Status",
  xlab = "Issue type", ylab = "Count", las=2,cex.axis=0.4, cex.names=0.4,
  col = c("darkblue", "red", "darkgrey"),
  legend.text = c("Approve", "Disapprove", "None"),args.legend = list(x = "topright",
    inset = c(-0.3, 0)),
  beside = FALSE)
```



```
pct<-round(df_obama$Approve/sum(df_obama$Approve)*100)
lbls<-paste(issues,pct)
lbls <- paste(lbls,"%",sep="")
pie(df_obama$Approve,labels = lbls,col=rainbow(length(lbls)),main="Pie Chart - Obama Approval Status")
```

Pie Chart – Obama Approval Status



```
library(ggplot2)

# Create test data.
data <- data.frame(
  category=issues,
  count=df_obama$Approve
)

# Compute percentages
data$fraction <- data$count / sum(data$count)

# Compute the cumulative percentages (top of each rectangle)
data$ymax <- cumsum(data$fraction)

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

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

# Compute a good label
data$label <- paste0(data$category, "\n value: ", data$count)

# Make the plot
ggplot(data, aes(ymax=ymax, ymin=ymin, xmax=4, xmin=3, fill=category)) +
  geom_rect() +
  geom_label( x=3.55, aes(y=labelPosition, label=label), size=1.75) +
  scale_fill_brewer(palette=4) +
  coord_polar(theta="y") +
  xlim(c(2, 4)) +
  theme_void() +
  theme(legend.position = "none")
```

```
## Warning in RColorBrewer::brewer.pal(n, pal): n too large, allowed maximum for palette GnBu is 9
## Returning the palette you asked for with that many colors
```

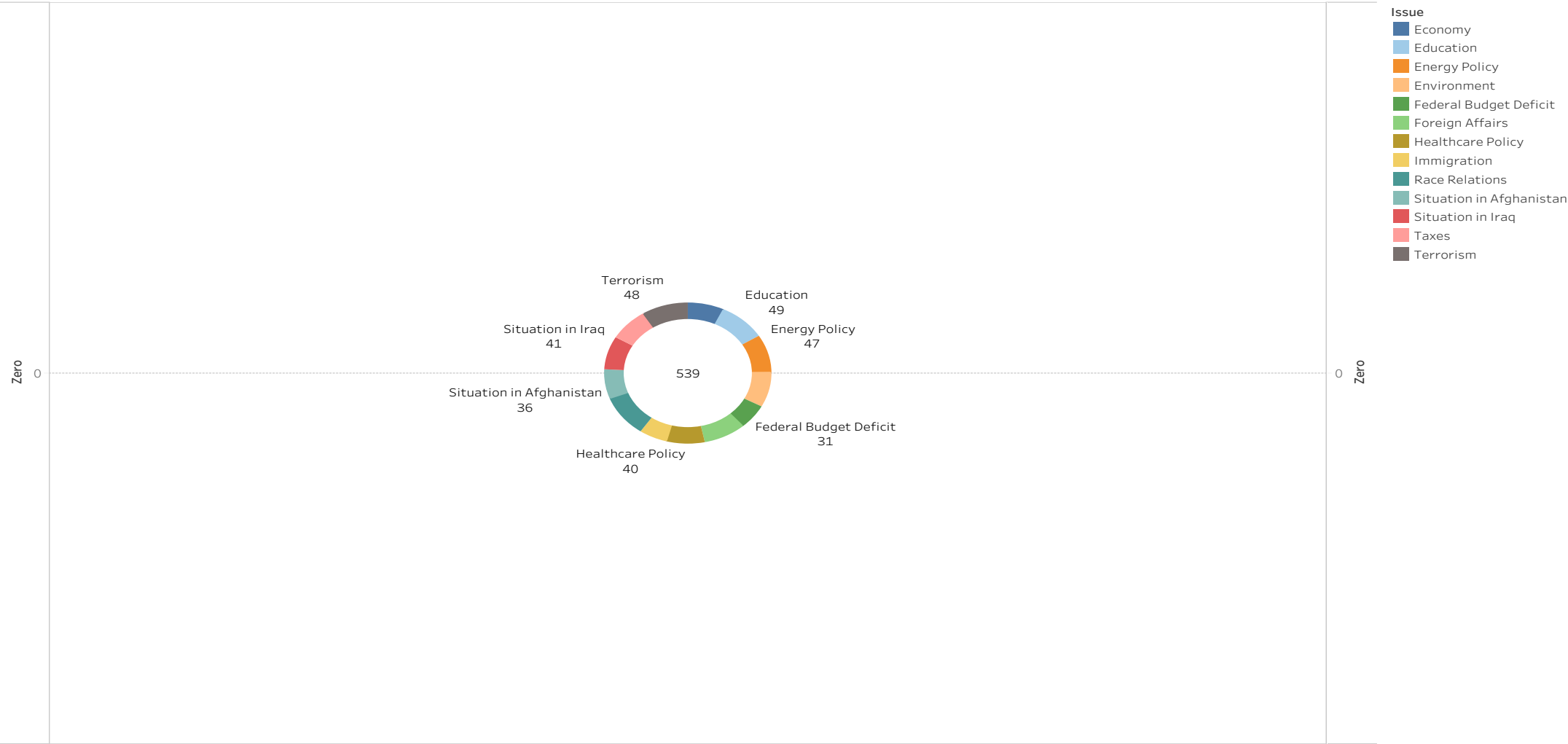


Assignment_1_2_Vayuvegula_Soma_Shekar_Tableau

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Donut Chart - Obama Approval Status

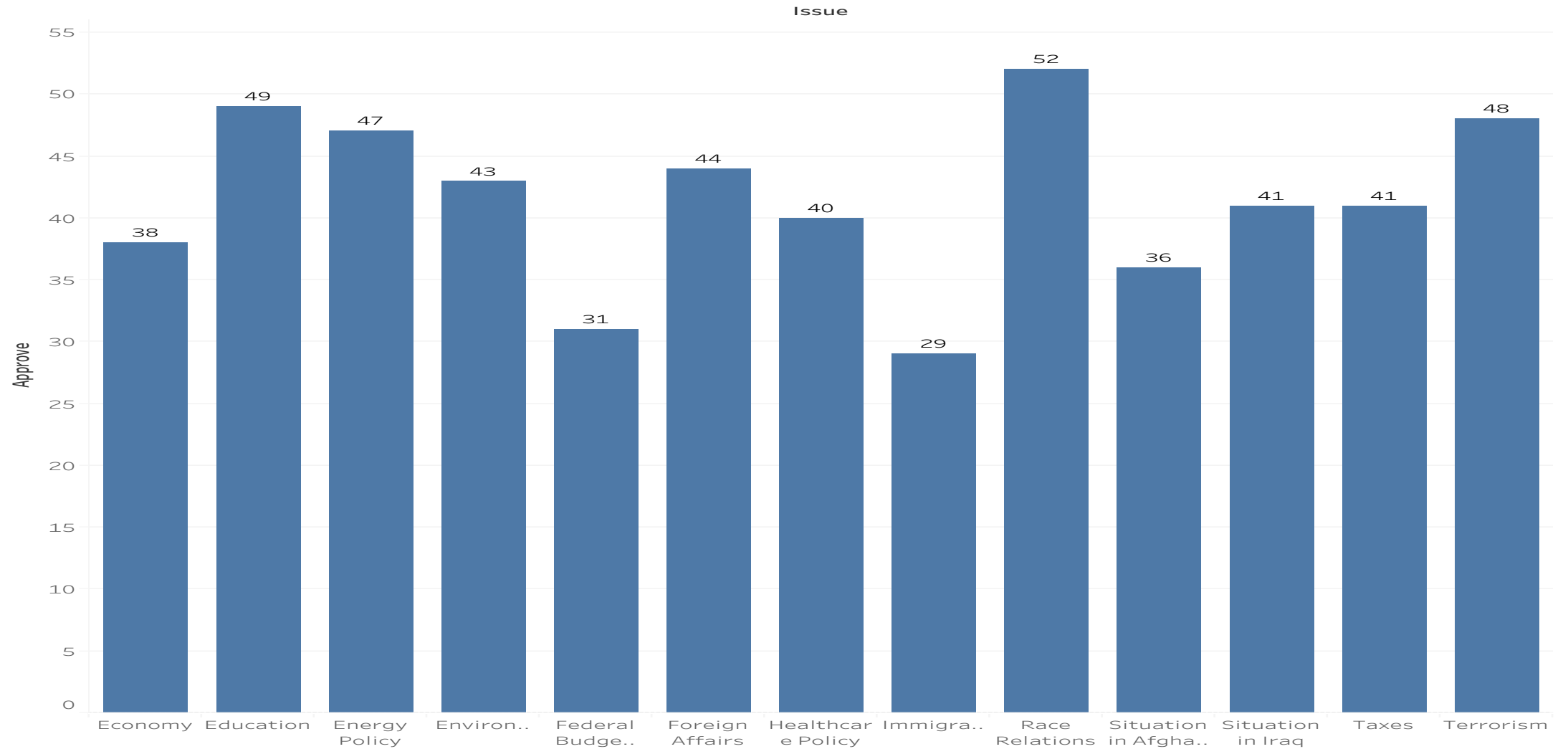
Donut Chart - Obama Approval Status



Sum of Zero and sum of Zero. For pane Sum of Zero: Color shows details about Issue. The marks are labeled by Issue and sum of Approve.

Bar plot in Ascending Order - Issue vs Approve

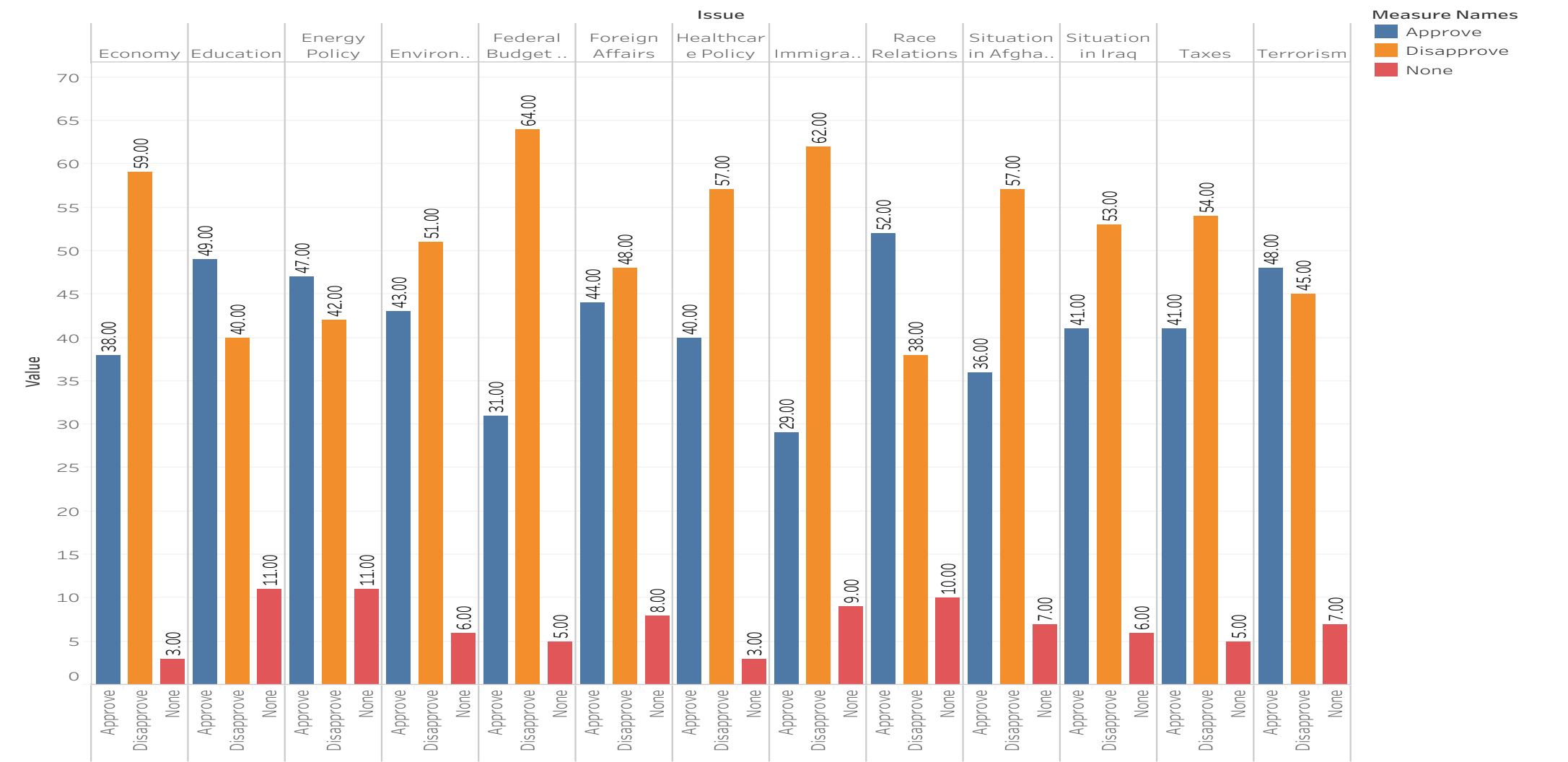
Bar plot in Ascending Order - Issue vs Approve



Sum of Approve for each Issue.

Stacked Bar Chart - Obama Approval Status

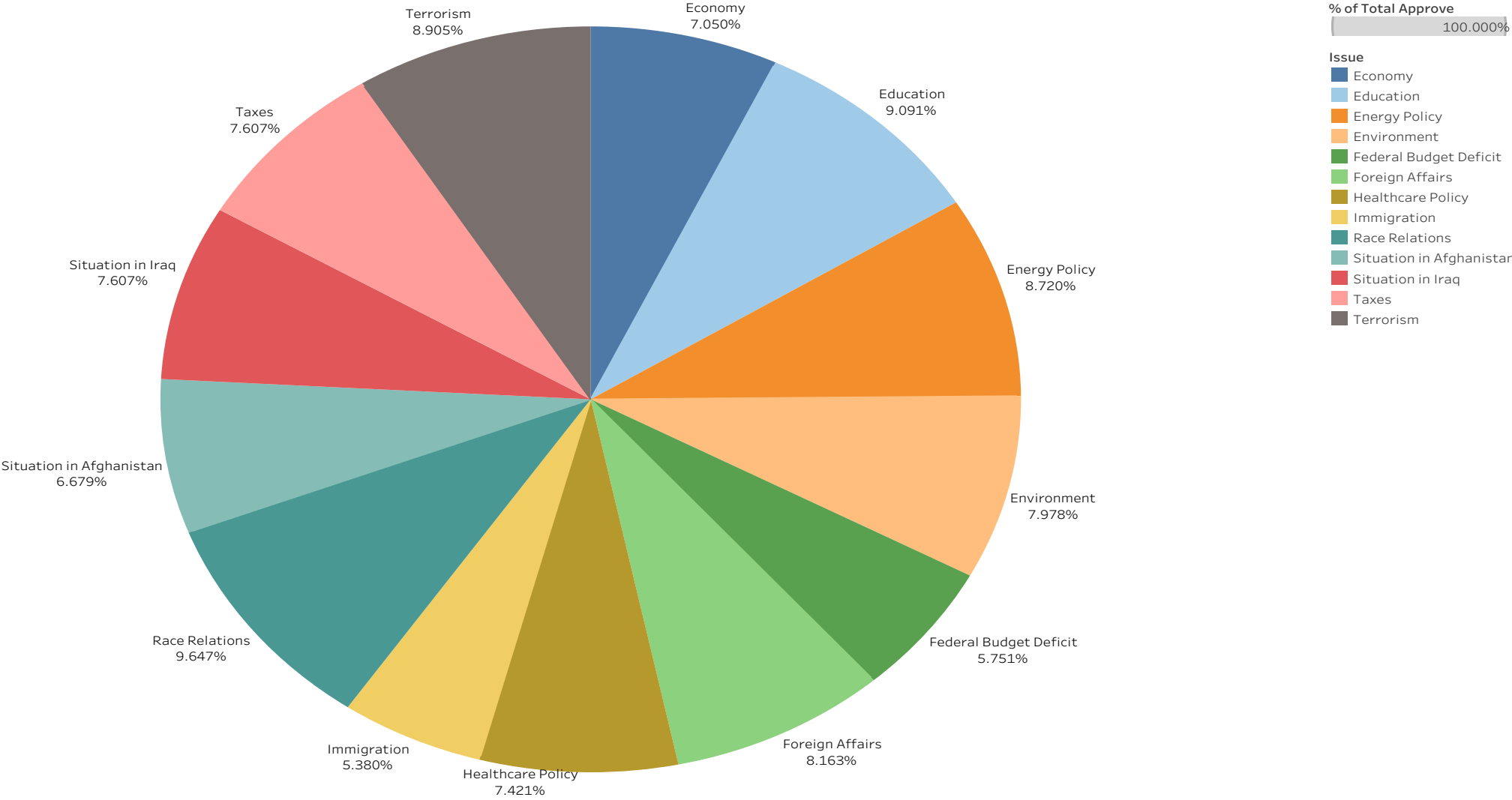
Stacked Bar Chart - Obama Approval Status



Approve, Disapprove and None for each Issue. Color shows details about Approve, Disapprove and None.

Pie Chart - Obama Approval Status

Pie Chart - Obama Approval Status



Issue and % of Total Approve. Color shows details about Issue. Size shows % of Total Approve. The marks are labeled by Issue and % of Total Approve.