

Activity 1.2 - Charts

Data used - obama-approval-records

Task accomplished:

1 bar chart, 1 stacked bar chart, 1 pie chart, and 1 donut with R#### DSC 640 - Assignment 1.2 - Charts

```
In [36]: # Import required packages
library('magrittr')
```

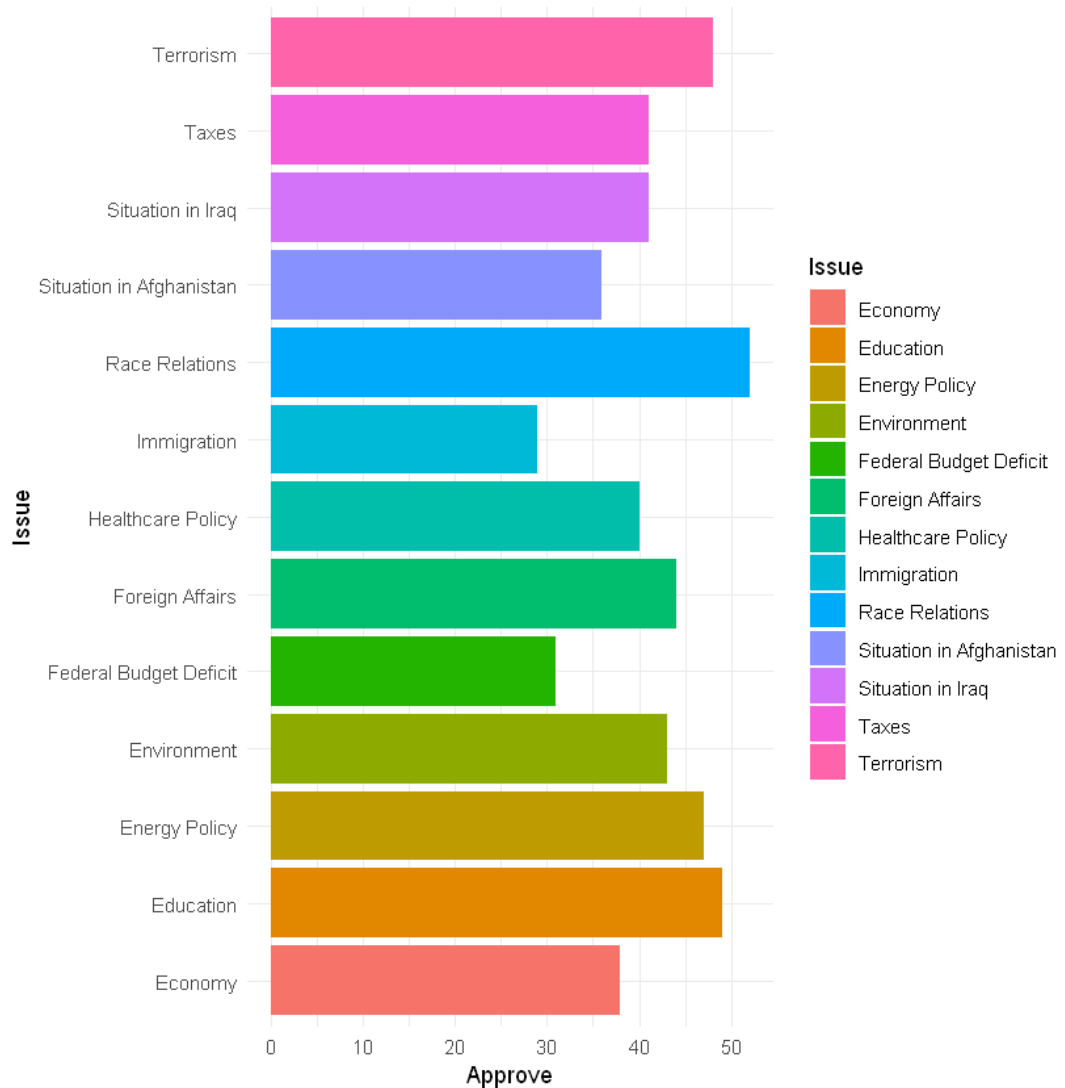
```
In [37]: # Import data to be used for visualization
fileData = ('C:/Users/Sandeep Raina/Desktop/Arti MS/640/Week1/obama-approval-records.xlsx')
obama = read.xlsx(fileData, sheetIndex = 1, stringsAsFactors = FALSE)
obama
```

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

Bar chart

Using bar chart, i am chosing to visualize approval rates for each issue

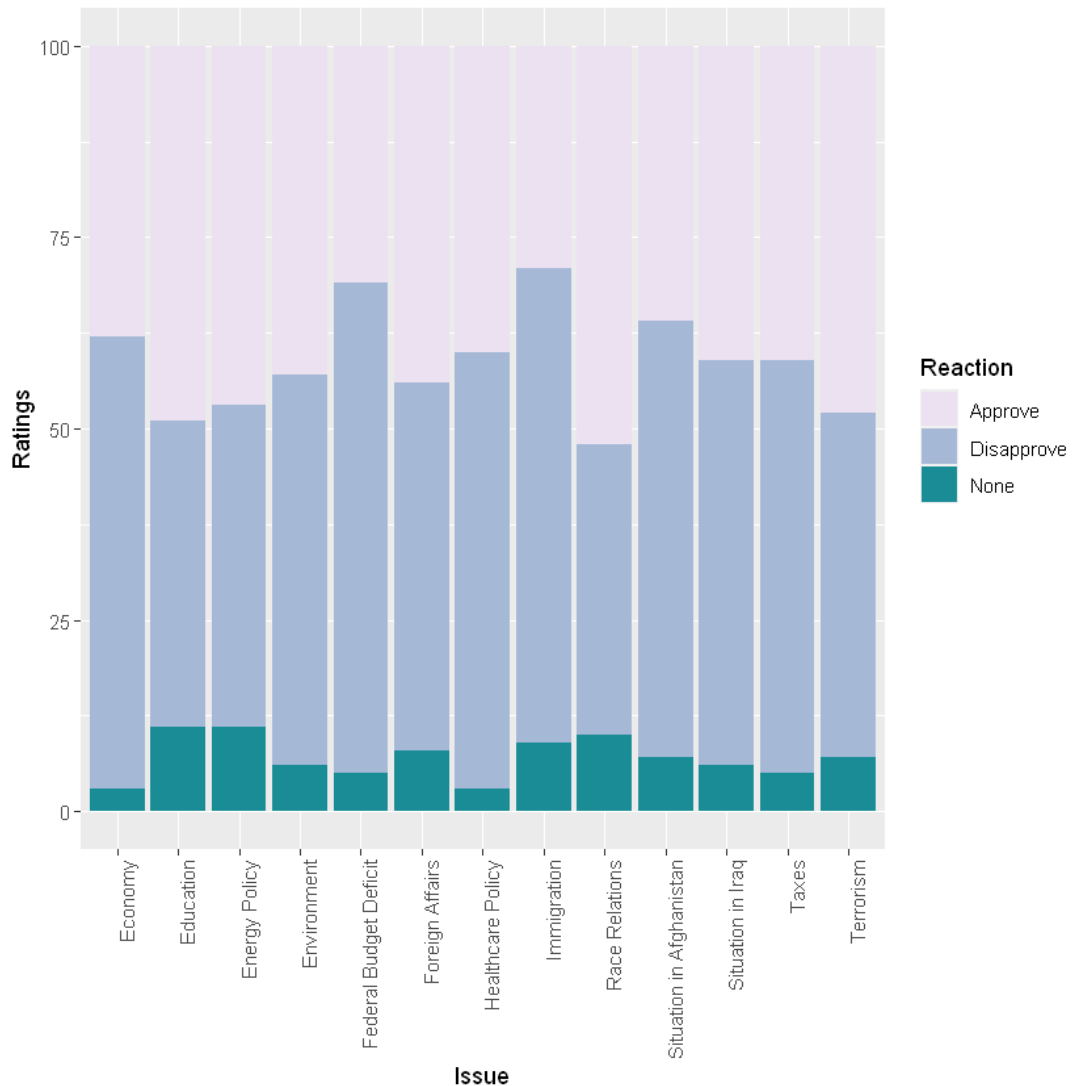
```
In [38]: library(ggplot2)
p<-ggplot(obama, aes(x=Approve, y=Issue, fill=Issue)) +
  geom_bar(stat="identity")+theme_minimal()
p
```



Stacked Bar Chart For this, I will plot each issue with their respective Approval, Disapproval and None counts. This will generate a 100% stacked bar chart for each issue, so that the reactions are rightfully captured.

```
In [39]: # We need to reshape the data to long format for this purpose
obama_long = obama %>%
  tidyr::gather('Reaction', 'Ratings', Approve, Disapprove, None)

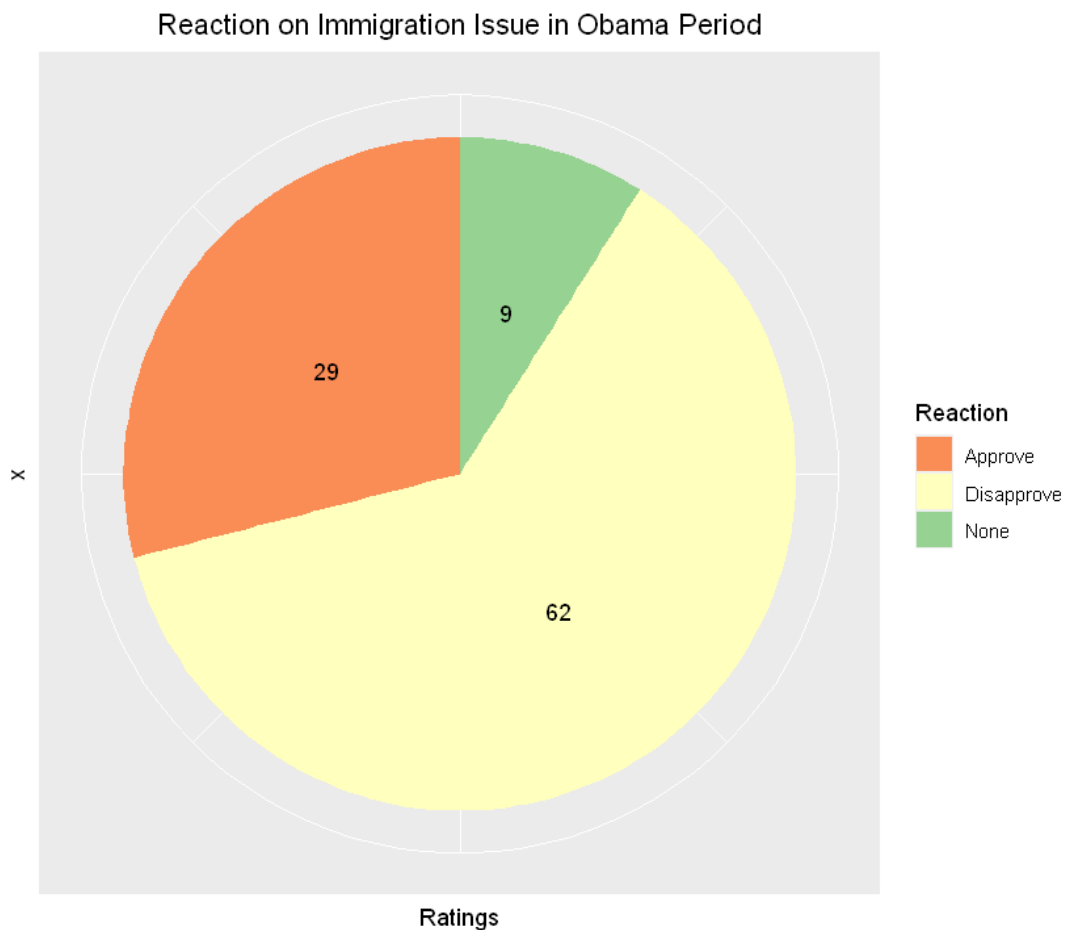
# Plot stacked
ggplot2::ggplot(data = obama_long, ggplot2::aes(x = Issue, y = Ratings,
  ggplot2:: geom_bar(stat='identity') +
  ggplot2::theme(axis.text.x = element_text(angle = 90, hjust = 1)) +
  ggplot2::scale_fill_brewer(palette = 10))
```



Pie Chart

For pie chart demonstration, I would like to pick the Immigration issue and plot the different ratings in a pie.

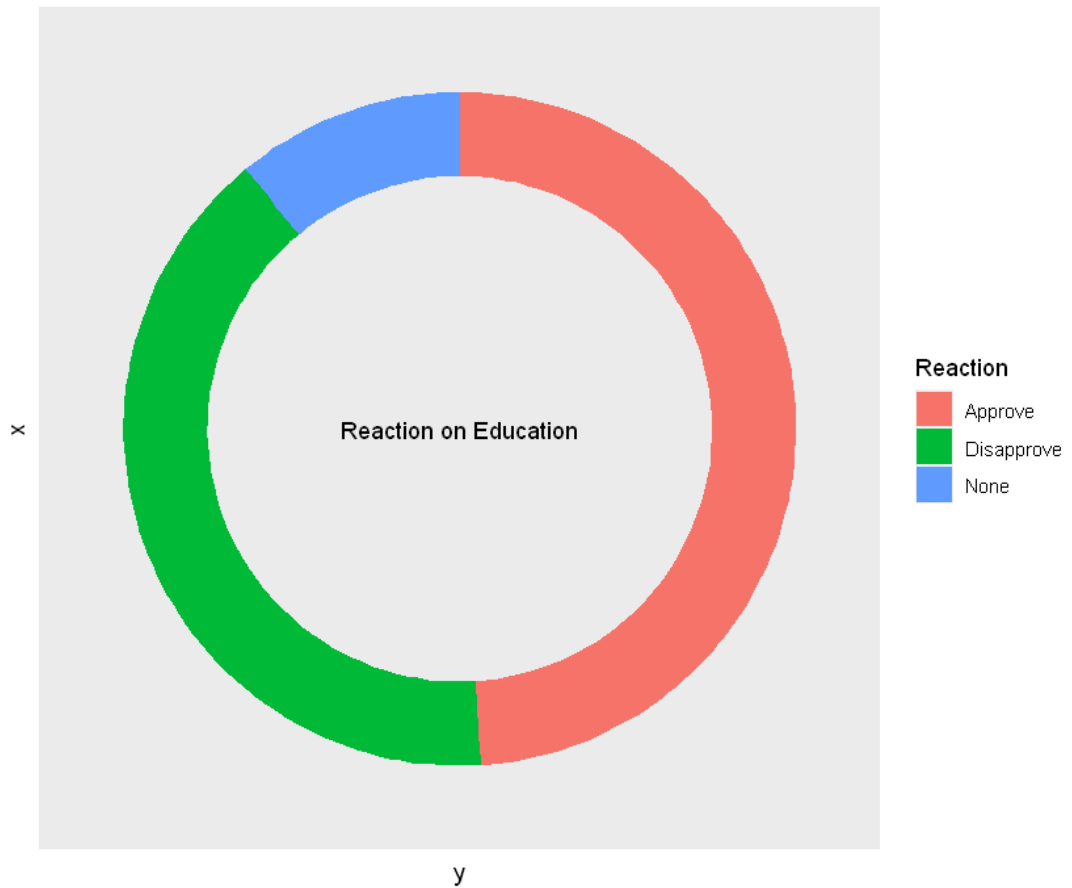
```
In [40]: # For this purpose, I would need the Long data set. Because we need the s
# Since pie chart is not easy to digest, I would NOT use the same color j
obama_long %>%
  dplyr::filter(Issue=='Immigration') %>%
  ggplot2::ggplot(ggplot2::aes(x="", y=Ratings, fill=Reaction))+
  ggplot2::geom_bar(width = 1, stat = 'identity') +
  ggplot2::coord_polar('y', start=0) +
  ggplot2::geom_text(aes(label = Ratings), position = position_stack()) +
  ggplot2::ggtitle(label = 'Reaction on Immigration Issue in Obama') +
  ggplot2::scale_fill_brewer(palette='Spectral') +
  ggplot2::theme(axis.line = element_blank(),
    axis.text = element_blank(),
    axis.ticks = element_blank(),
    plot.title = element_text(hjust = 0.5))
```



Donut Chart

For donut chart demonstration, I would like to pick the Education issue and plot the different ratings in the shape of a ring/donut.

```
In [41]: ► obama_long %>%
  dplyr::filter(Issue=='Education') %>%
  dplyr::mutate(ymax=cumsum(Ratings),
               ymin=c(0,ymax[1:length(ymax)-1])) %>%
  ggplot2::ggplot(ggplot2::aes(fill=Reaction, ymax=ymax, ymin=ymin, xma
  ggplot2::geom_rect() +
  ggplot2::coord_polar(theta='y') +
  ggplot2::xlim(c(0, 4)) +
  ggplot2::theme(panel.grid=element_blank()) +
  ggplot2::theme(axis.text=element_blank()) +
  ggplot2::theme(axis.ticks=element_blank()) +
  ggplot2::annotate('text', x = 0, y = 0, label = 'Reaction on Edu
  ggplot2::labs(title='')
```



In []: ►

