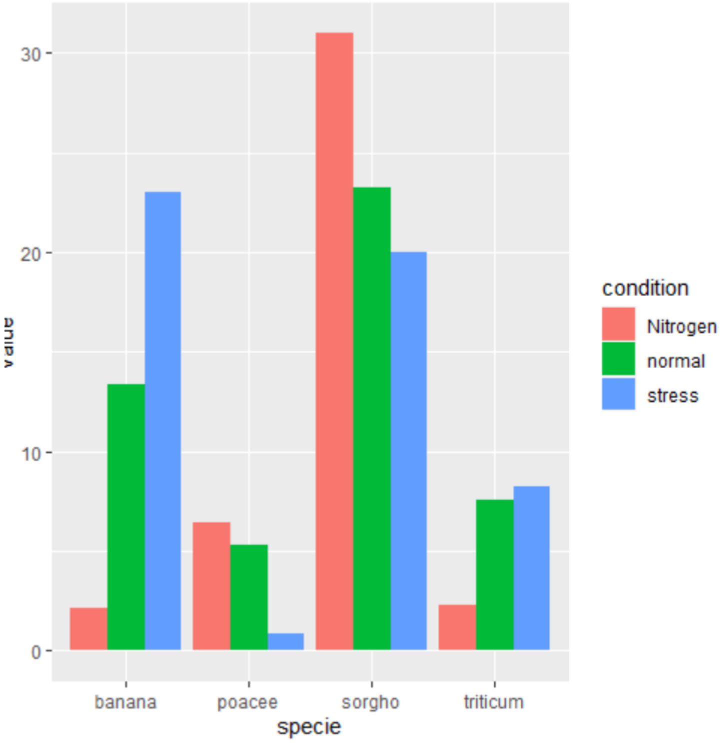
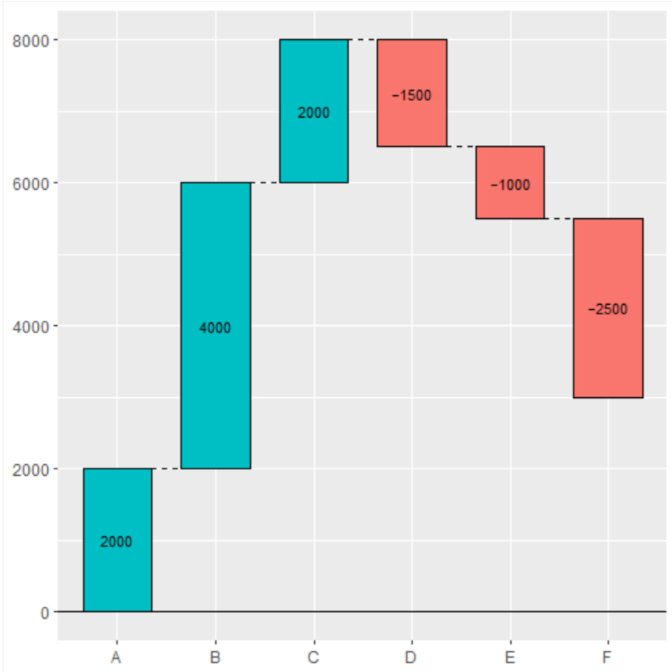
Comparing Categories

Stacked Bar Chart



```
 # library
library(ggplot2)

# create a dataset
specie <- c(rep("sorgho" , 3) ,
rep("poacee" , 3) , rep("banana" , 3) ,
rep("triticum" , 3) )
condition <- rep(c("normal" , "stress" ,
"Nitrogen") , 4)
value <- abs(rnorm(12 , 0 , 15))
data <-
data.frame(specie,condition,value)

# Grouped
ggplot(data, aes(fill=condition,
y=value, x=specie)) +
    geom_bar(position="dodge",
stat="identity")
```

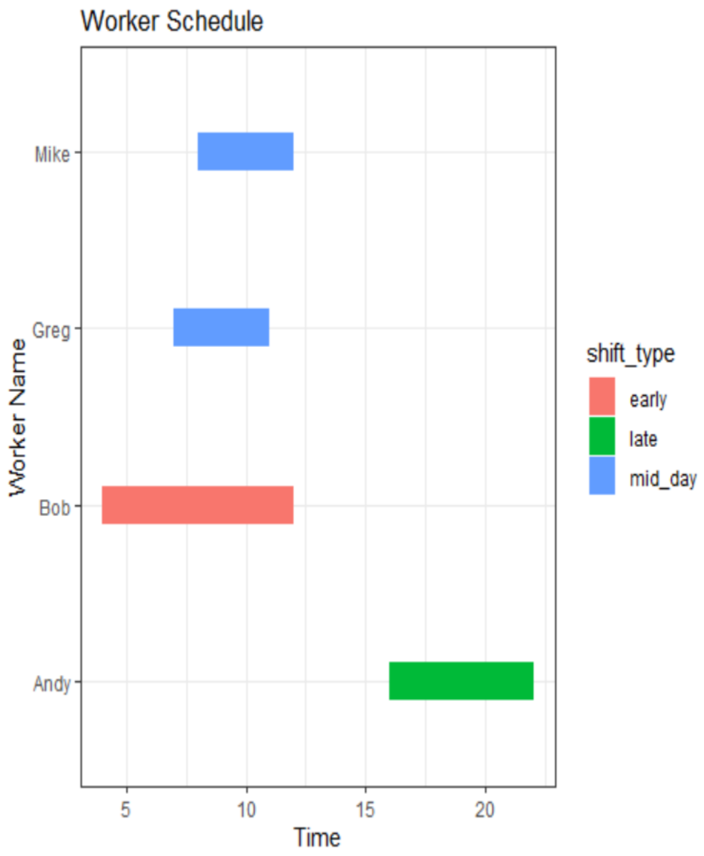
Waterfall Chart



```
# install.packages("ggalluvial")
library(ggalluvial)

group <- LETTERS[1:6]
value <- c(2000, 4000, 2000,
          -1500, -1000, -2500)
df <- data.frame(x = group, y = value)
# install.packages("waterfalls")
library(waterfalls)

waterfall(df)

# Equivalent to:
waterfall(values = value, labels =
group)
```

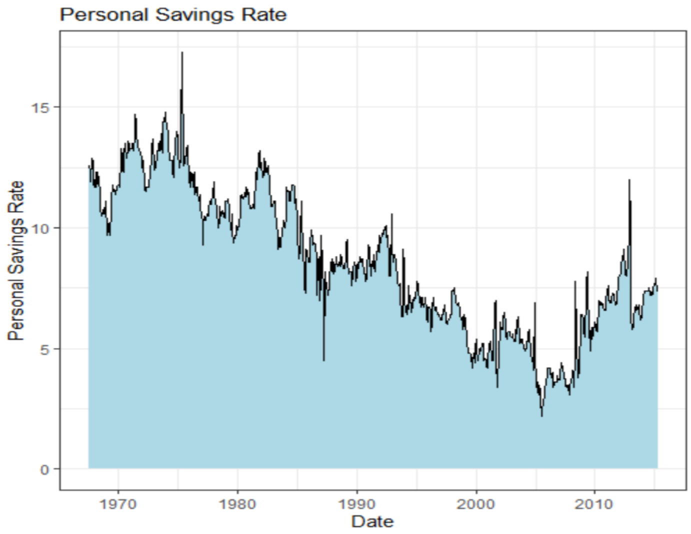
TIME

Gantt Chart



```
#create data frame
data <- data.frame(name = c('Bob',
'Greg', 'Mike', 'Andy'),
start = c(4, 7, 12, 16),
end = c(12, 11, 8, 22),
shift_type = c('early', 'mid_day',
'mid_day', 'late')
)

#create gantt chart that visualizes
start and end time for each worker
ggplot(data, aes(x=start,
xend=end, y=name, yend=name,
color=shift_type)) +
  theme_bw()+ #use ggplot theme
with black gridlines and white
background
  geom_segment(size=8) +
#increase line width of segments in
the chart
  labs(title='Worker Schedule',
x='Time', y='Worker Name')
```

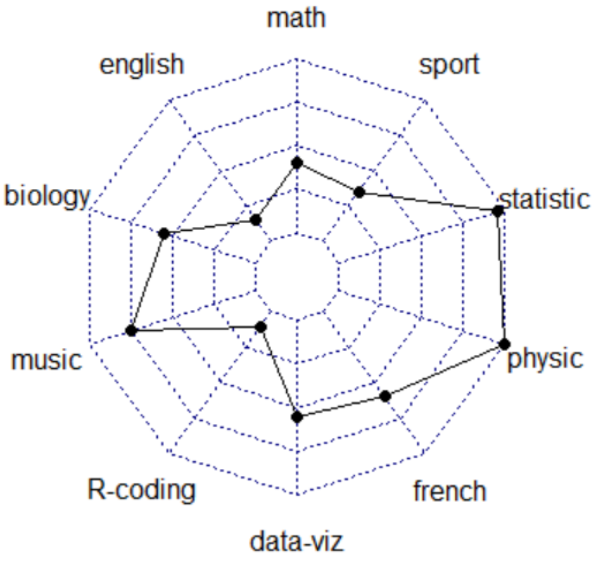
Area Chart



```
ggplot(economics, aes(x = date, y =
psavert)) +
  geom_area(fill="lightblue",
color="black") +
  labs(title = "Personal Savings Rate",
      x = "Date",
      y = "Personal Savings Rate")
```

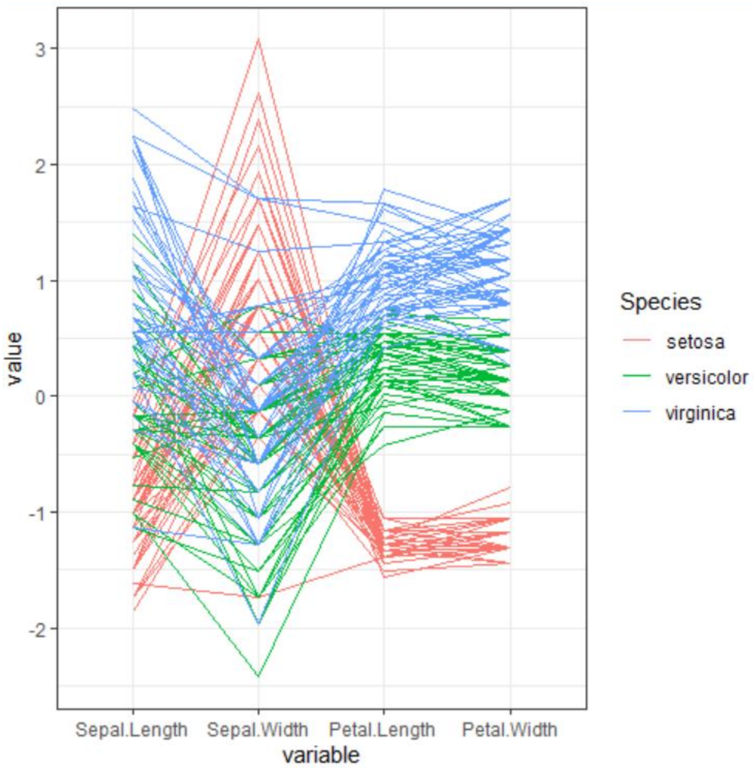
Relationships

Radar Chart



```
# Library
library(fmsb)

# Create data: note in High school for Jonathan:
data <- as.data.frame(matrix( sample( 2:20 , 10 , replace=T) , ncol=10))
colnames(data) <- c("math" , "english" , "biology" , "music" , "R-coding", "data-viz" , "french" , "physic", "statistic", "sport" )
data <- rbind(rep(20,10) , rep(0,10) , data)
radarchart(data)
```

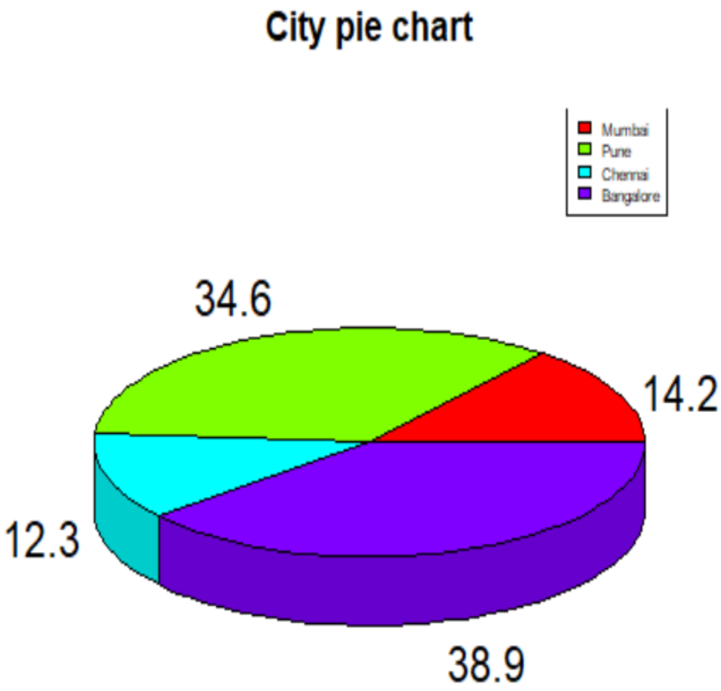
Parallel Coordinates Chart



```
# Libraries
library(GGally)

# Data set is provided by R natively
data <- iris

# Plot
ggparcoord(data,
    columns = 1:4, groupColumn = 5
    )
```

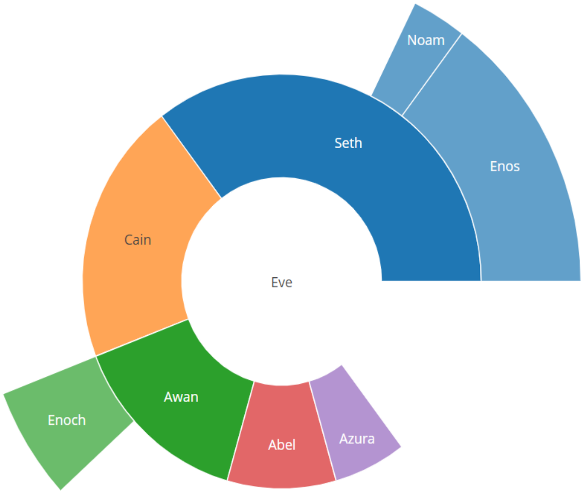
Part to Whole

Pie Chart



```
# Get the library.
library(plotrix)

# Create data for the graph.
geeks <- c(23, 56, 20, 63)
labels <- c("Mumbai", "Pune",
"Chennai", "Bangalore")

piepercent<- round(100 * geeks /
sum(geeks), 1)

# Plot the chart.
pie3D(geeks, labels =
piepercent,
   main = "City pie chart", col =
rainbow(length(geeks)))
legend("topright", c("Mumbai",
"Pune", "Chennai", "Bangalore"),
                cex = 0.5, fill =
rainbow(length(geeks)))
```

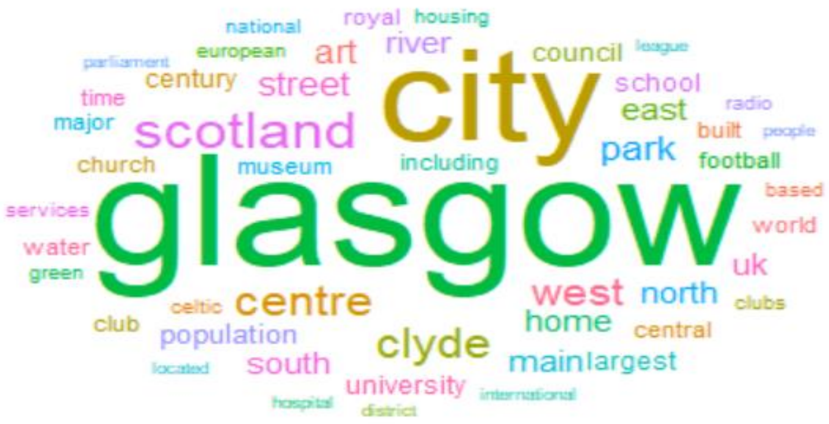
Sunburst Diagram



```
library(plotly)

fig <- plot_ly(
  labels = c("Eve", "Cain", "Seth",
"Enos", "Noam", "Abel", "Awan",
"Enoch", "Azura"),
  parents = c("", "Eve", "Eve", "Seth",
"Seth", "Eve", "Eve", "Awan", "Eve"),
  values = c(10, 14, 12, 10, 2, 6, 6, 4,
4),
  type = 'sunburst'
)

fig
```

Qualitative

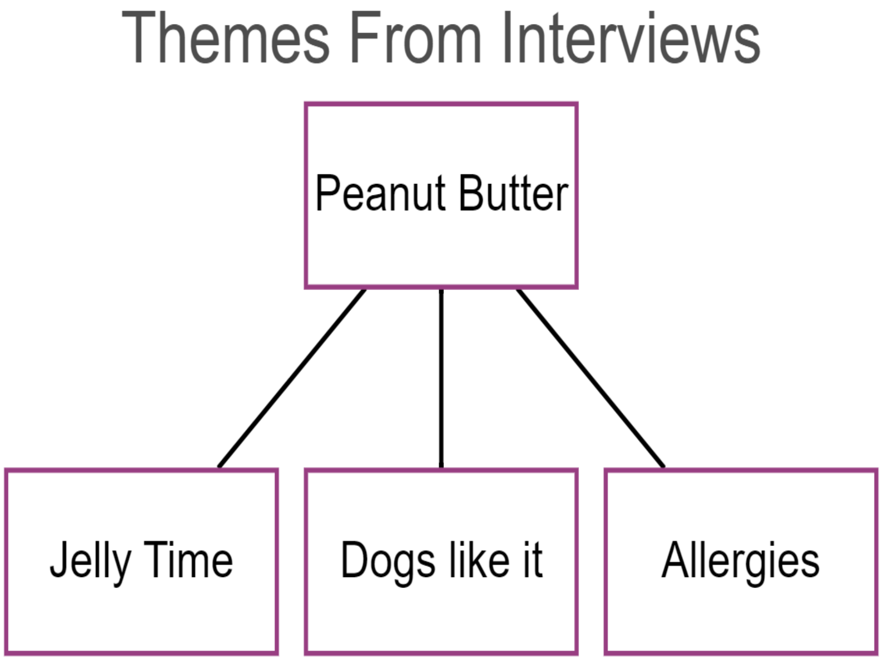
Word Cloud



```
library(tidytext) # for transforming data
library(tidyverse) # for data wrangling
library(Cairo) # for ggwordcloud package to run
library(ggwordcloud) # to render wordclouds
library(DiagrammeR) # to make qual coding
library(rgexf) #To create graph files

glasgowData <- read.table("C:/Users/HP/Downloads/Glasgow.txt", header = FALSE, fill
= TRUE, encoding = "UTF-8")

tidy_glasgow <- gather(glasgowData, key, word) %>%
  select(word)

#checks how many unique words there are in total

unique(tidy_glasgow$word) %>%
  length()

tokens <- tidy_glasgow %>%
  unnest_tokens(word, word) %>%
  count(word, sort = TRUE) %>%
  ungroup()
```

```
top_10 <- tokens %>%
  head(10)

knitr::kable(top_10, caption = "Top ten all words table")

# removing stop words with built in tidytext package

data("stop_words")
tokens_clean <- tokens %>%
  anti_join(stop_words)

# removing numbers

nums <- tokens_clean %>% filter(str_detect(word, "^[0-9]")) %>% select(word) %>%
unique()

tokens_clean <- tokens_clean %>%
  anti_join(nums, by = "word")

unique_stopwords <- data.frame(word = c("glasgow's","city's", "scottish"))

tokens_clean <- tokens_clean %>%
  anti_join(unique_stopwords, by = "word")

top_10_clean <- tokens_clean %>%
  head(10)

knitr::kable(top_10_clean, caption = "Top ten clean table")

wordcloudplot <- head(tokens_clean, 50) %>%
    ggplot(aes(label = word, color = word, size = n)) +
    geom_text_wordcloud_area() +
    scale_size_area(max_size = 20) +
    theme_minimal() + ggtitle("Glasgow Word Cloud")
```

Word Trees



```
x <- scan("C:/Users/HP/Downloads/peanut.txt", what="", sep="\n", quiet = TRUE)
from=c(x[1], x[1], x[1])
to=c(x[2],x[3],x[4])
nodesn=c(x[1],x[2],x[3],x[4])
nodes <- create_node_df(n=length(nodesn), label=nodesn,  width=0.9, shape =
"rectangle", color = "#983E82", fillcolor = "white")
edges <- create_edge_df(from = factor(from, levels=nodesn), to = factor(to,
levels=nodesn), arrowhead = "arrow", color = "black")
graph <- create_graph(nodes_df = nodes, edges_df = edges, directed = FALSE)
graph %>%
render_graph(title = "Themes From Interviews", layout = "tree")
```