# Scatterplot with multiple densities
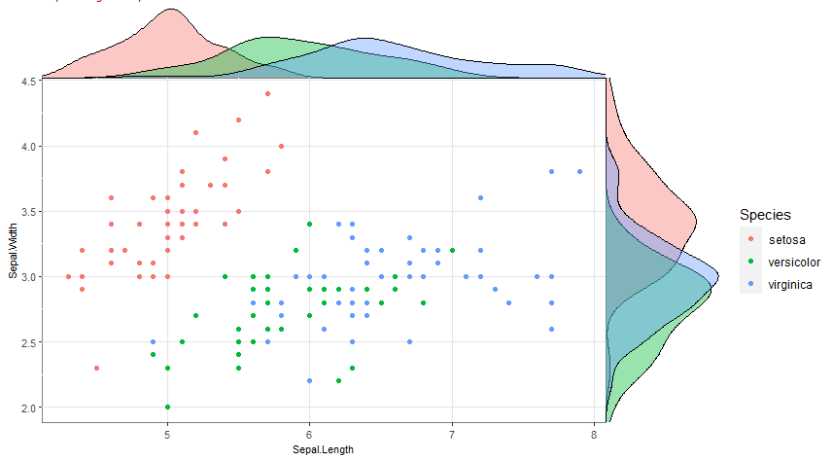


**Scatterplot with marginal densities**
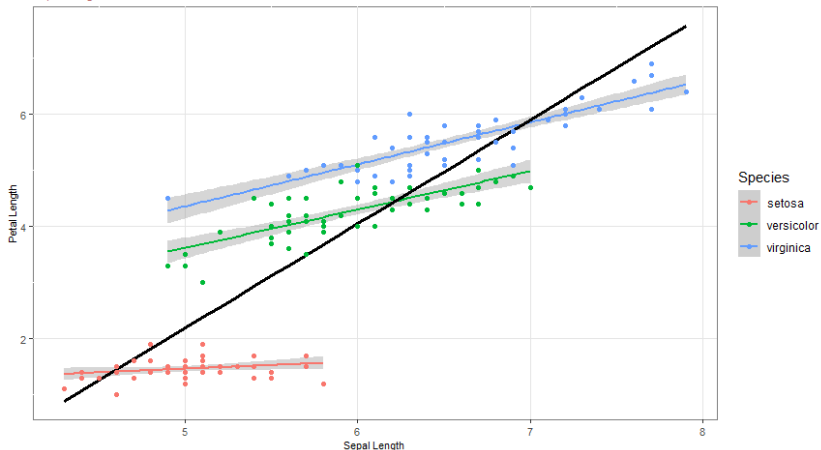*Sepal.Length x Sepal.Width from Iris dataset*
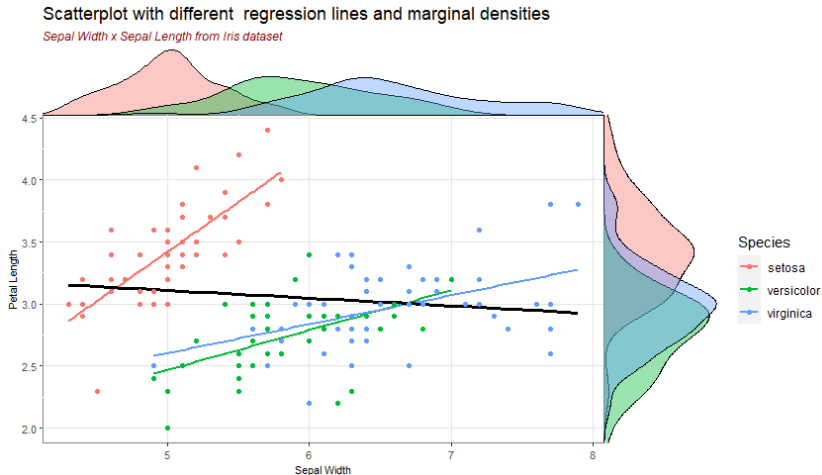
Species
- setosa
- versicolor
- virginica

# Scatterplot with multiple regression lines



Scatterplot with different regression lines
Sepal.Length x Petal.Width from Iris dataset

# Scatterplot with multiple regression lines and densities



Scatterplot with different regression lines and marginal densities
*Sepal Width x Sepal Length from Iris dataset*

# Scatterplot with multiple nonppara-metric lines and boxplots



Scatterplot with different Nonparametric regression lines and marginal boxplots plots
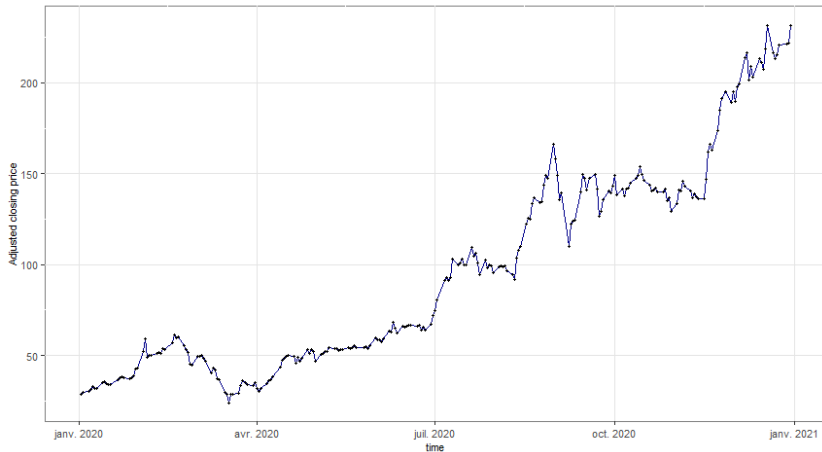*Sepal.Length x Petal.Length from Iris dataset*
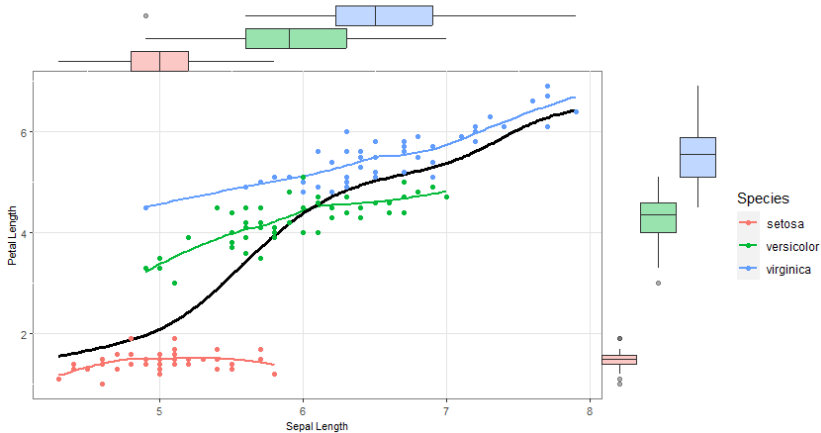
# Scatterplot with point sizes and color by group



Scatterplot with point sizes and colors by group
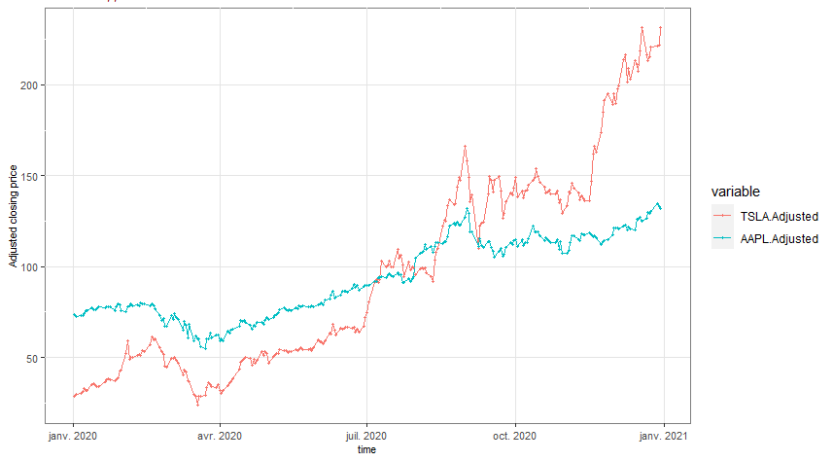
*subset of diamonds dataset*
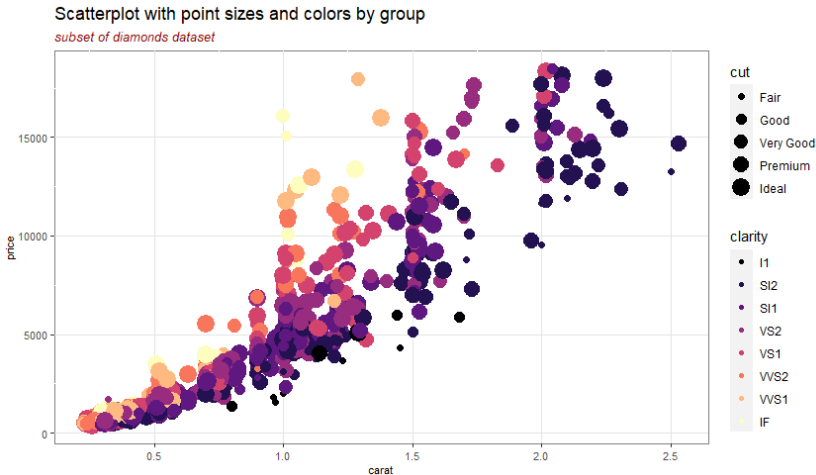
# Plot of time series data

**Time series plot**
*Tesla stock*

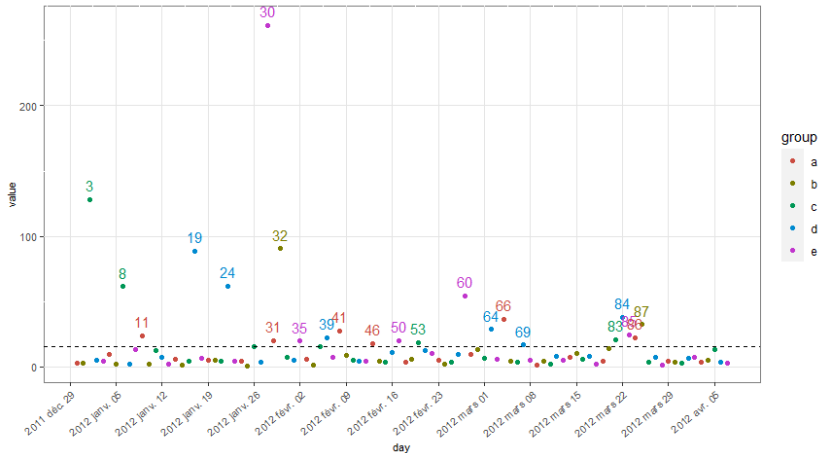# Multiple time series

# Diverging bar plot
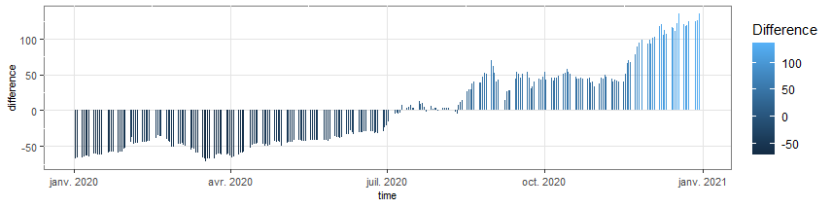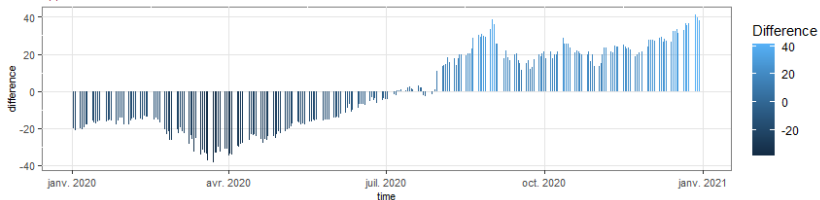
# Time data with selected labels


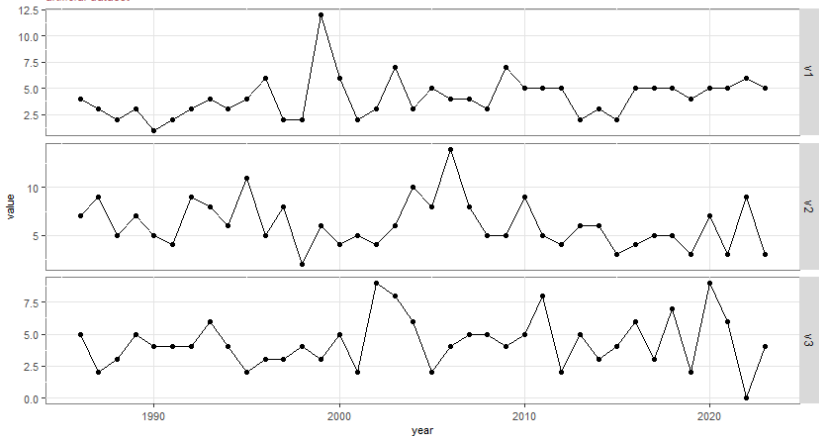
**Time data with labels above average**

*variable y by month colored by group label, on artificial dataset*
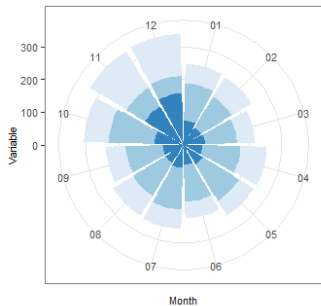
# Sparklines plots



Sparklines plot with facet_grid
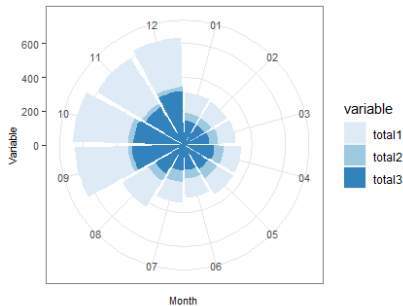artificial dataset

# Circular stacked bar plot

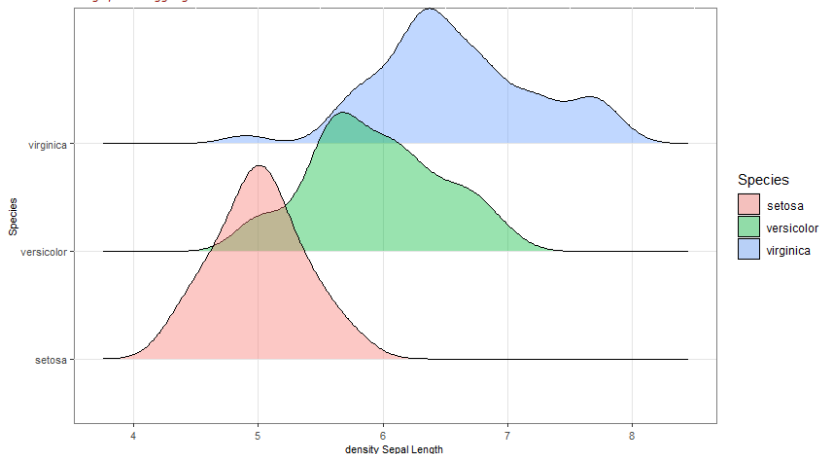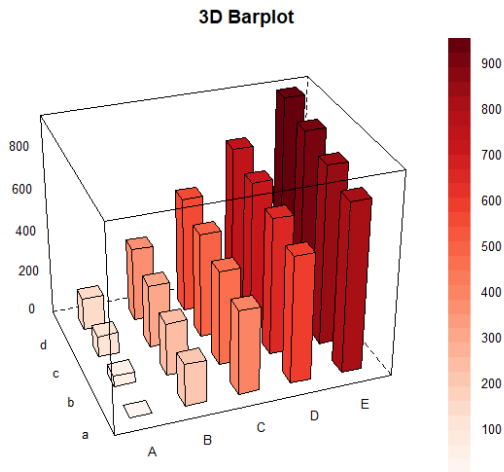# Overlaying histograms
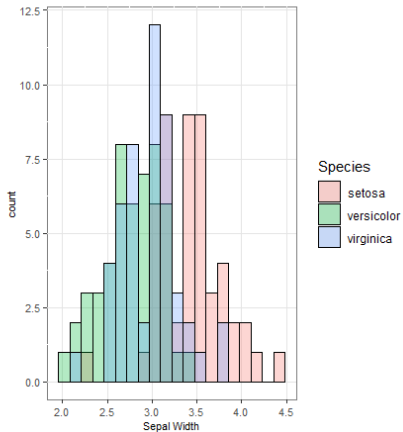
# Ridge plot with 'ggridges'



Multiple densities on different levels
Ridge plot with ggridges on iris dataset

# 3D bar plot
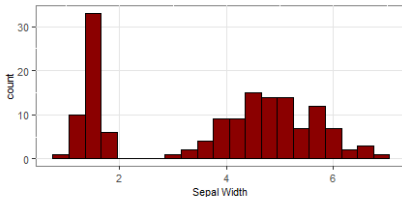
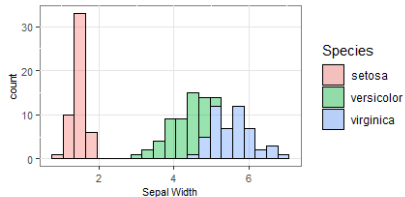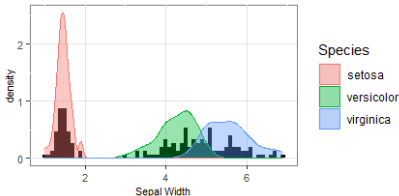# Histograms and Kernel Density Estimators (KDE)
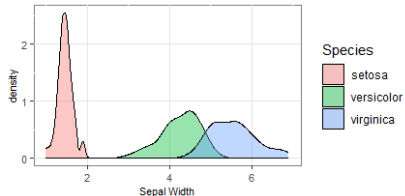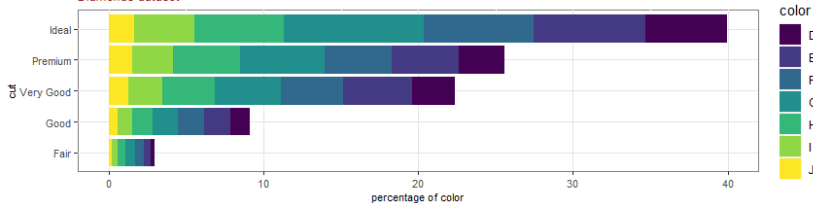
# Stacked bar plot
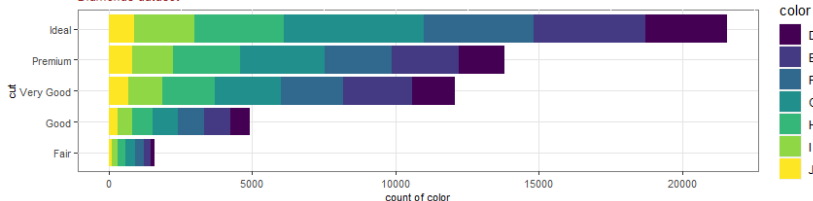
# Boxplots and violin plots with mean color gradient



Box plots for Sepal Length x Species, for each Species group
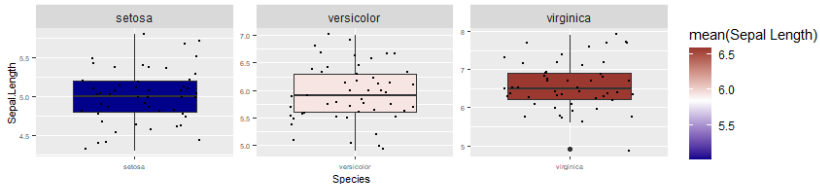
Violin plots for Sepal Length x Species, for each Species group

# Example of dashboard 1:
# multiple densities using 'ggpairs'
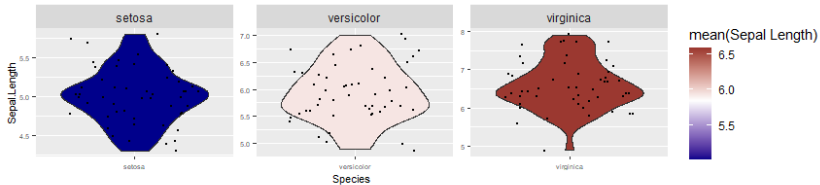


Summary of distributions with ggpairs
all variables x all variables, by group, iris dataset

# Example of dashboard 2: several plots in one window

# Mosaic plot



Mosaic plot of frequency for two nomial or categorical variables
Diamonds dataset

# Parallel coordinates plot

# Pareto plot



Pareto plot (frequency and percentage by group)
artificial dataset
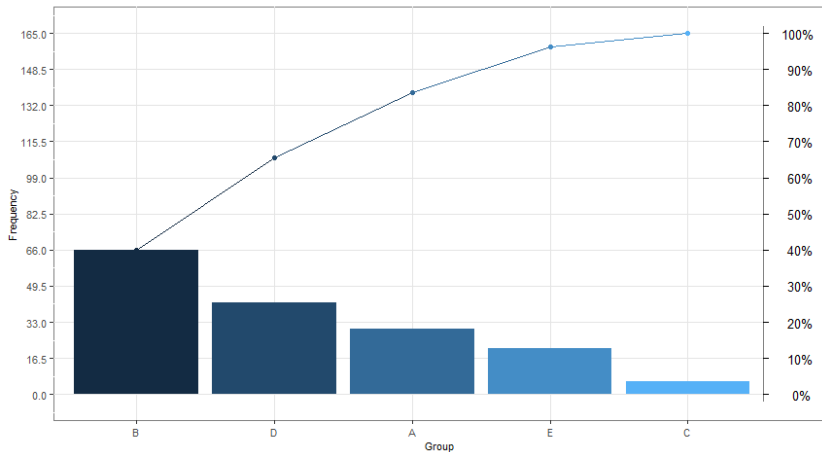
# Likert items plot



**Plotting likert scales**

*pisaitems dataset*

ST24Q01
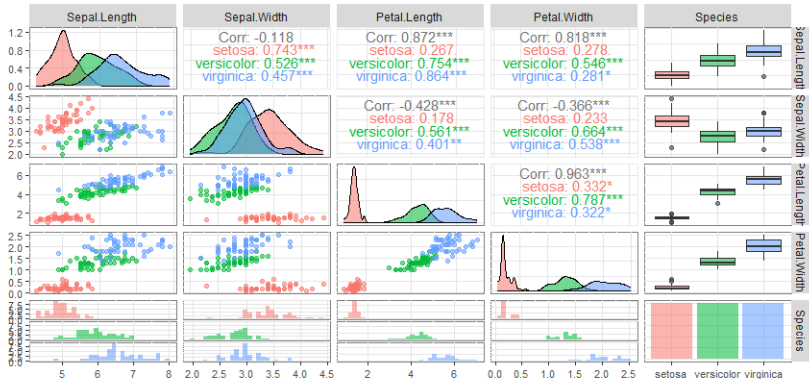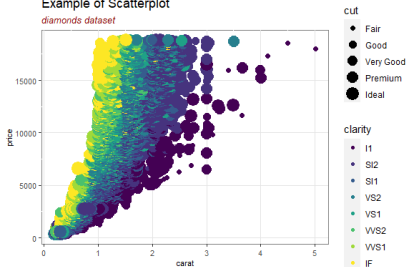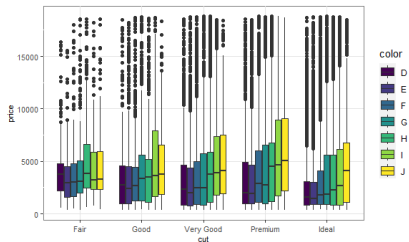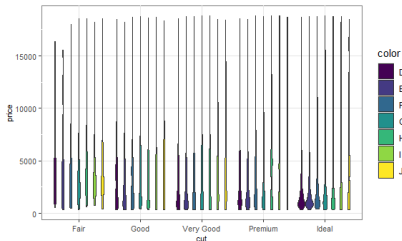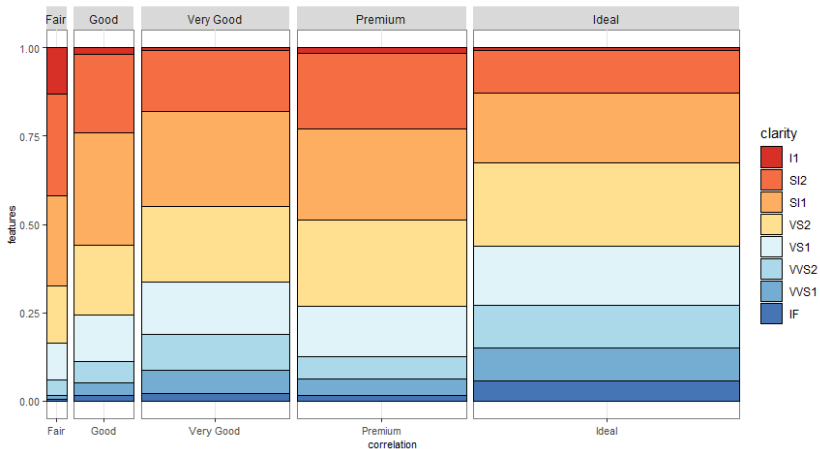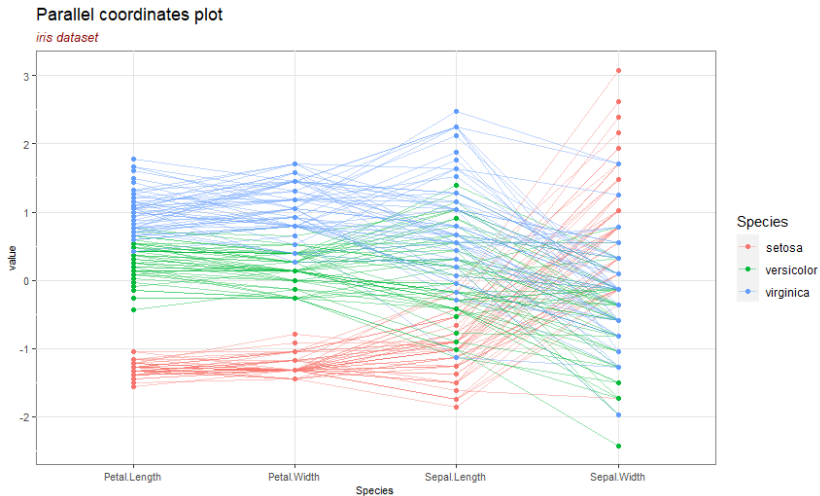
| | | |
|---|---|---|
| United States | 50% | 50% |
| Mexico | 59% | 41% |
| Canada | 61% | 39% |

ST24Q02

| | | |
|---|---|---|
| United States | 70% | 30% |
| Mexico | 52% | 48% |
| Canada | 62% | 38% |

ST24Q03

| | | |
|---|---|---|
| United States | 59% | 41% |
| Mexico | 53% | 47% |
| Canada | 57% | 43% |

ST24Q04

| | | |
|---|---|---|
| United States | 69% | 31% |
| Mexico | 61% | 39% |
| Canada | 72% | 28% |

ST24Q05

| | | |
|---|---|---|
| United States | 62% | 38% |
| Mexico | 43% | 57% |
| Canada | 50% | 50% |

percentage

100      50      0      50      100

group

Response    Strongly disagree    Disagree    Agree    Strongly agree
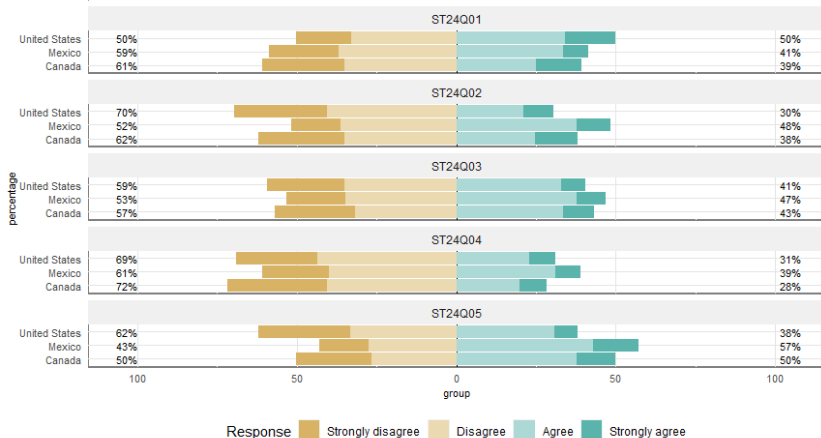
# Visualizing correlations among features to a response


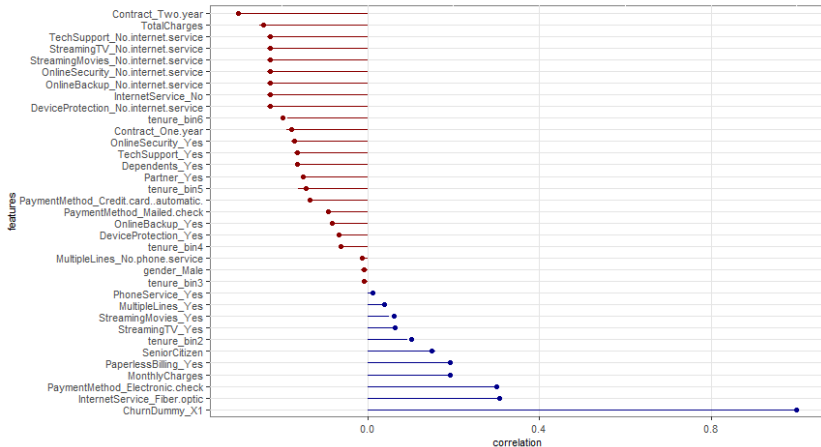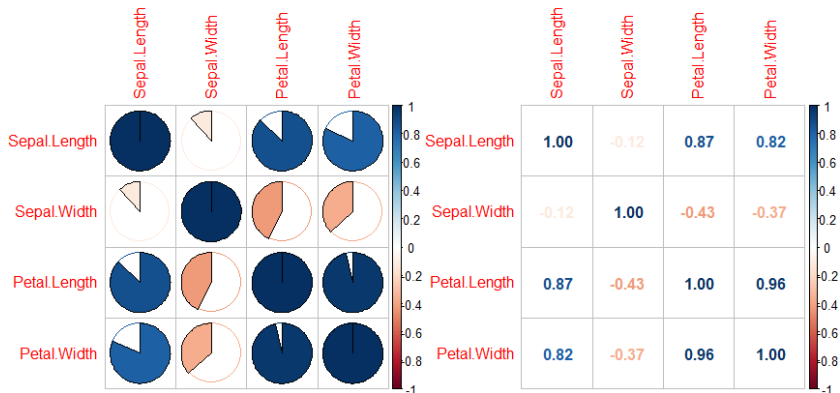
Plotting correlations of features to a response (even nominal)
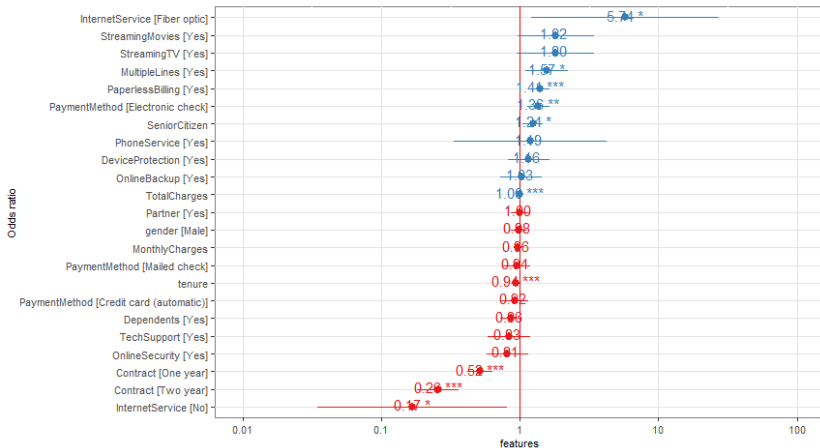
*Telco dataset*

# Correlogram

# Plotting odds ratios



Plotting odds ratios - Binary Logistic regression
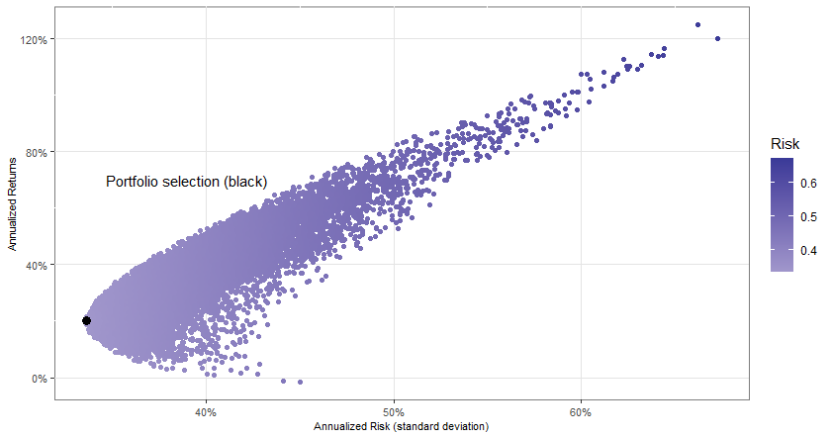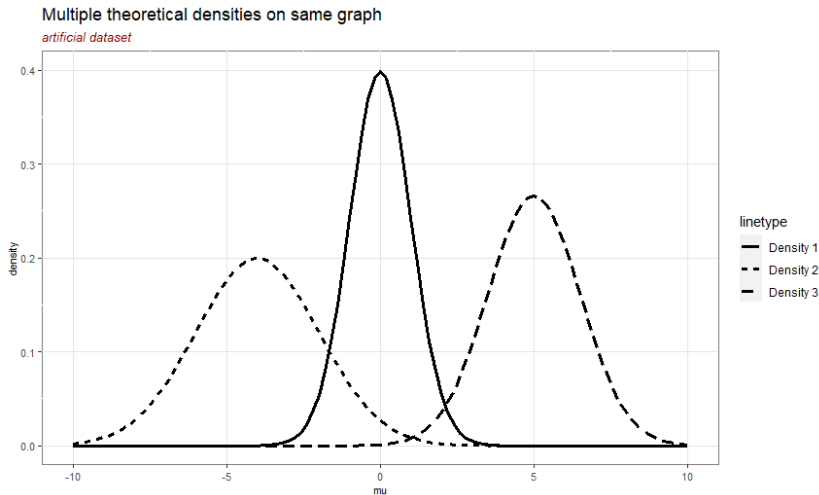
Telco dataset

# Plot of Markowitz Mean-Variance portfolio



Tangent Portfolio - Maximizing the Sharpe ratio
*Portfolio of 4 stocks retrieved from Yahoo finance*

Portfolio selection (black)

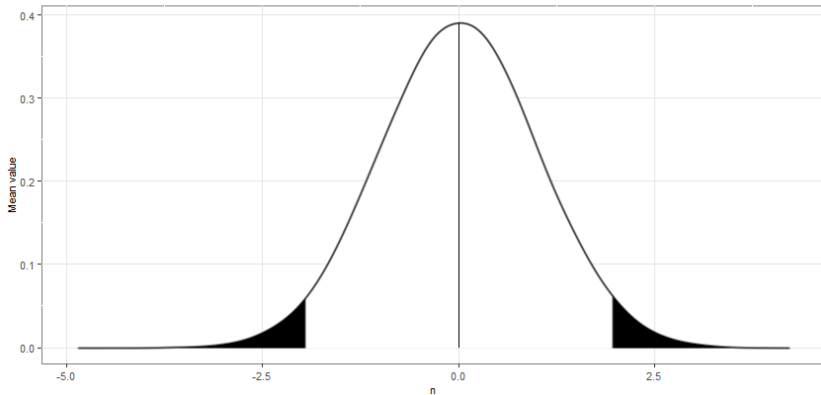# Plot multiple theoretical densities



Multiple theoretical densities on same graph
*artificial dataset*

# Plot multiple densities with different colors



Multiple densities with different colors
*artificial data*
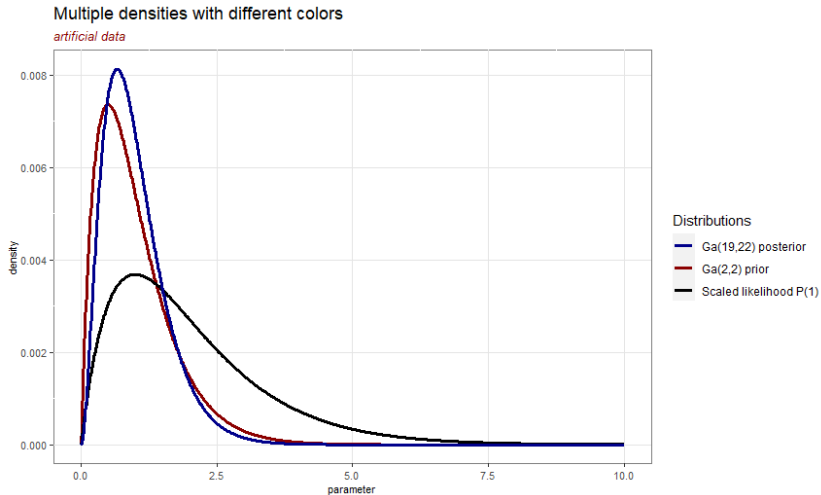
# Plot density with colored areas



Distribution with colored or shaded areas and segments
*Standard Normal artificial dataset*

# Plot of convergence of estimates



Plot of the convergence of MC estimates
*artificial dataset*