Sample Plots

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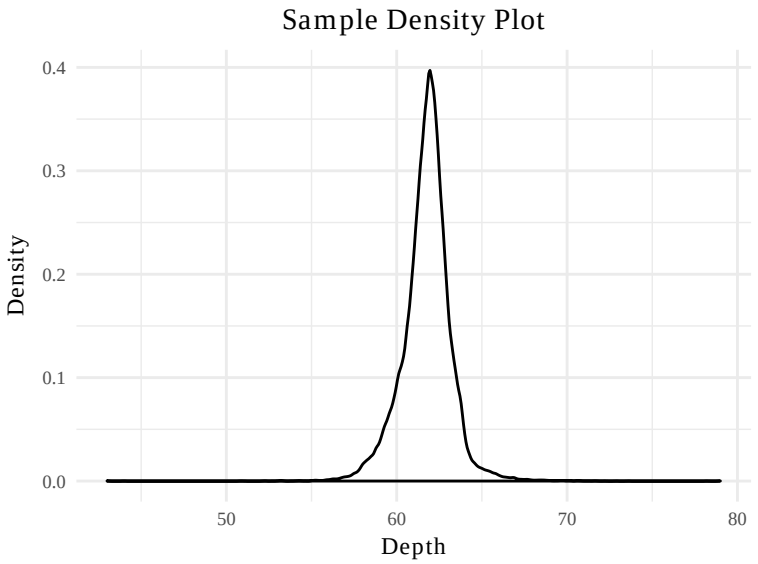
Introduction

Examples of how to create basic plots using the `ggplot2` package.

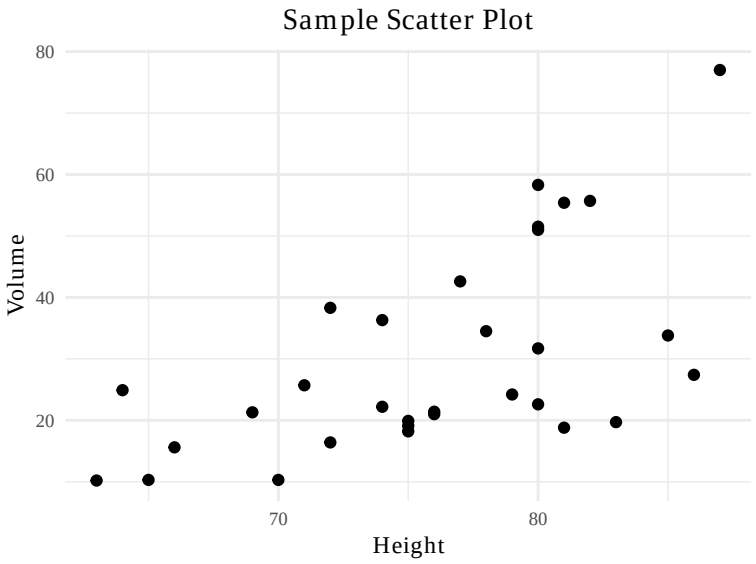
Density Plot

```
# Diamonds samples dataset has prices and other attributes of ~54,000 diamonds.

data(diamonds)

# Setting options for plot formatting, including font type + size, and title
# alignment, using `minimal` theme

theme_bcg <- theme_minimal(base_size = 9, base_family = "Palatino") +
  theme(plot.title = element_text(hjust = 0.5))

# Generating density plot

ggplot(data = diamonds, aes(x = depth)) + geom_density() +
  labs(title = "Sample Density Plot",
       y = "Density",
       x = "Depth") +
  theme_bcg
```



Scatter Plot

```
# Trees sample dataset has measurements of the height, weight, and length of
# 31 observations.

data(trees)

# Setting options for plot formatting, including font type + size, and title
# alignment, using `minimal` theme

theme_bcg <- theme_minimal(base_size = 9, base_family = "Palatino") +
  theme(plot.title = element_text(hjust = 0.5))

# Scatter Plot

ggplot(data = trees) + geom_point(aes(x = Height, y = Volume)) +
  labs(title = "Sample Scatter Plot",
       y = "Volume",
       x = "Height") +
  theme_bcg
```



Line Plot with Outcome Grouped by Factor Variable

```
# Orange sample data set has 7 measurements of age and circumference for 5
# different oranges (total of 35 observations)

data(Orange)

# Setting options for plot formatting, including font type + size, and title
# alignment, using `minimal` theme

theme_bcg <- theme_minimal(base_size = 9, base_family = "Palatino") +
  theme(plot.title = element_text(hjust = 0.5))

# Start by creating a observation count by ID variable using `dplyr`. Note that
# data needs to be in *long* form.

library(dplyr)

df <- group_by(Orange, Tree) %>%
  mutate(count = row_number())

# Creating re-ordered `tree` factor variable

df$Tree <- factor(df$Tree, levels = c(1,2,3,4,5))

# Line Plot-- notice options for setting x-axis ticks + legend label

ggplot(data = df) + geom_line(aes(x = count, y = circumference,
                                  color = Tree)) +
  labs(title = "Sample Line Plot with Factor Groupings",
       y = "Circumference (mm)", x = "Observation",
       color = "Tree") +
  scale_x_continuous(breaks=seq(1, 7, 1)) +
  theme_bcg
```