```
data("iris")     # Loading
head(iris, n = 3)   # Print the first n = 3 rows


## ----r-base-graphics-examples, echo = -1, fig.width=3.3------------------
par(mar = c(4, 4, 1, 1))
# (1) Create a scatter lot
plot(
   x = iris$Sepal.Length, y = iris$Sepal.Width,
   pch = 19, cex = 0.8, frame = FALSE,
   xlab = "Sepal Length",ylab = "Sepal Width"
   )

# (2) Create a box plot
boxplot(Sepal.Length ~ Species, data = iris,
            ylab = "Sepal.Length",
            frame = FALSE, col = "lightgray")



library("lattice")
xyplot(
   Sepal.Length ~ Petal.Length, group = Species,
   data = iris, auto.key = TRUE, pch = 19, cex = 0.5
   )

## ----lattice-scatter-plot-multiple-panels, fig.width=6, fig.height=2.7----
xyplot(
```

```
  Sepal.Length ~ Petal.Length | Species,
  layout = c(3, 1),                    # panel with ncol = 3 and nrow = 1
  group = Species, data = iris,
  type = c("p", "smooth"),             # Show points and smoothed line
  scales = "free"                      # Make panels axis scales independent
  )


library(ggplot2)
ggplot(iris, aes(x = Sepal.Length, y = Sepal.Width))+
  geom_point()

# Change point size, color and shape
ggplot(iris, aes(x = Sepal.Length, y = Sepal.Width))+
  geom_point(size = 1.2, color = "steelblue", shape = 21)

## ----plotting-symbol, fig.width=2.3, fig.height=2.3, eval = FALSE--------
## ggpubr::show_point_shapes()

## ----ggplot-aesthetic-mapping-control-points-color-shape-and-size, fig.width=3.3, fig.height=2.7----
# Control points color by groups
ggplot(iris, aes(x = Sepal.Length, y = Sepal.Width))+
  geom_point(aes(color = Species, shape = Species))

# Change the default color manually.
```

```
## ----ggplot-scatter-plot-with-regression-line, fig.width=6.5, fig.height=2.7----
ggplot(iris, aes(x = Sepal.Length, y = Sepal.Width))+
  geom_point(aes(color = Species))+
  geom_smooth(aes(color = Species, fill = Species))+
  facet_wrap(~Species, ncol = 3, nrow = 1)+
  scale_color_manual(values = c("#00AFBB", "#E7B800", "#FC4E07"))+
  scale_fill_manual(values = c("#00AFBB", "#E7B800", "#FC4E07"))



## ----ggplot-examples-of-plots, fig.width=3, fig.height=2.5----------------
ggplot(iris, aes(x = Sepal.Length, y = Sepal.Width))+
  geom_point()


## ----ggpubr-density-plot, fig.width=3, fig.height=3, warning=FALSE, fig.show="asis"----
library(ggpubr)
# Density plot with mean lines and marginal rug
ggdensity(iris, x = "Sepal.Length",
    add = "mean", rug = TRUE,                  # Add mean line and marginal rugs
    color = "Species", fill = "Species",   # Color by groups
    palette = "jco")                              # use jco journal color palette



## ----ggpubr-box-plot-with-strip-charts-and-p-values, fig.width=4, fig.height=4, fig.show="asis"--
--
# Groups that we want to compare
my_comparisons <- list(
```

```
    c("setosa", "versicolor"), c("versicolor", "virginica"),
    c("setosa", "virginica")
)
```