The basic R plotting

Step 1:

Load the R01_3_1_plot().R

Step 2:

Run the script

Result:

```
In file(file, "rt") :
  cannot open file 'heights.csv': No such file or directory
> library(datasets)  # Load/unload base packages manually
> head(iris)
  Sepal.Length Sepal.Width Petal.Length Petal.Width Species
1          5.1         3.5          1.4         0.2  setosa
2          4.9         3.0          1.4         0.2  setosa
3          4.7         3.2          1.3         0.2  setosa
4          4.6         3.1          1.5         0.2  setosa
5          5.0         3.6          1.4         0.2  setosa
6          5.4         3.9          1.7         0.4  setosa
>
```

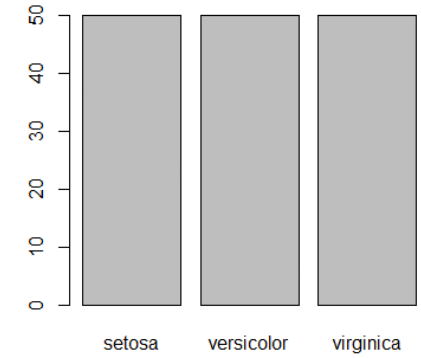
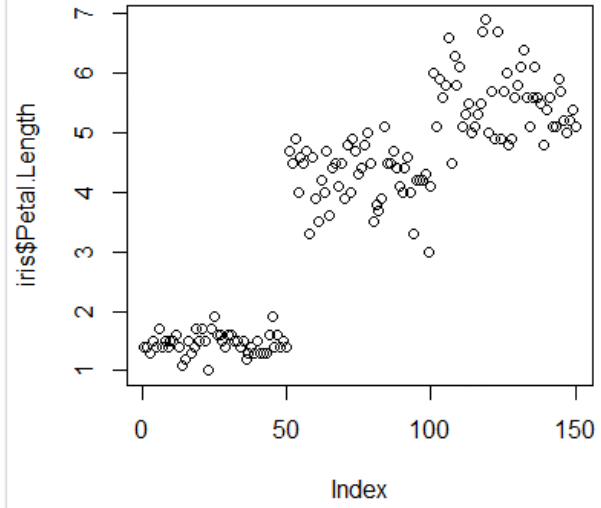
Step 3:

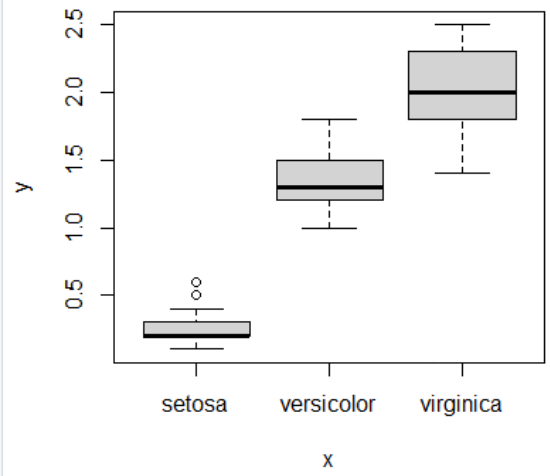
Try run the lines:

- Click the line you want to run
- Press the run
- R studio run it line by line

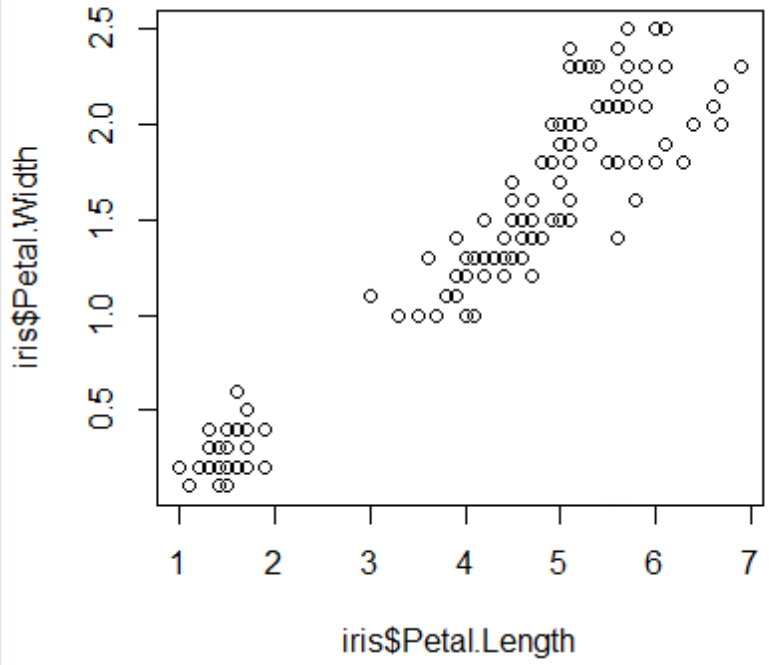
```
# File:   Plot.R
# Course: R: An Introduction (with RStudio)

# LOAD DATASETS PACKAGES ###################################

print("Loading the 'datasets' package")
library(datasets)  # Load/unload base packages manually
print("Done loading")


print("Using head function to display the first few rows of iris dataset")
head(iris)
print("Done the display")
```

```
?plot  # Help for plot()

plot(iris$Species)  # Categorical variable

plot(iris$Petal.Length)  # Quantitative variable
plot(iris$Species, iris$Petal.Width)  # Cat x quant
plot(iris$Petal.Length, iris$Petal.Width)  # Quant pair
plot(iris)  # Entire data frame

# Plot with options
plot(iris$Petal.Length, iris$Petal.Width,
  col = "#cc0000",  # Hex code for datalab.cc red
  pch = 19,         # Use solid circles for points
  main = "Iris: Petal Length vs. Petal Width",
  xlab = "Petal Length",
  ylab = "Petal Width")

# PLOT FORMULAS WITH PLOT() ###################################

plot(cos, 0, 2*pi)
plot(exp, 1, 5)
plot(dnorm, -3, +3)

# Formula plot with options
plot(dnorm, -3, +3,
  col = "#cc0000",
  lwd = 5,
  main = "Standard Normal Distribution",
  xlab = "z-scores",
  ylab = "Density")

# CLEAN UP ####################################################

# Clear packages
detach("package:datasets", unload = TRUE)

# Clear plots
dev.off()  # But only if there IS a plot

# Clear console
cat("\014")  # ctrl+L

# Clear mind :)
```

`` ?plot # Help for plot() ```	Get help for plot function
`` plot(iris$Species) # Categorical variable ``` 	Visualize in histogram if categorical passed
`` plot(iris$Petal.Length) # Quantitative variable ``` 	Visualize the length in term of scatter plot
`` plot(iris$Species, iris$Petal.Width) # Cat x quant ```	If plot x = quantity If plot y = continuous Then will result in box plot.

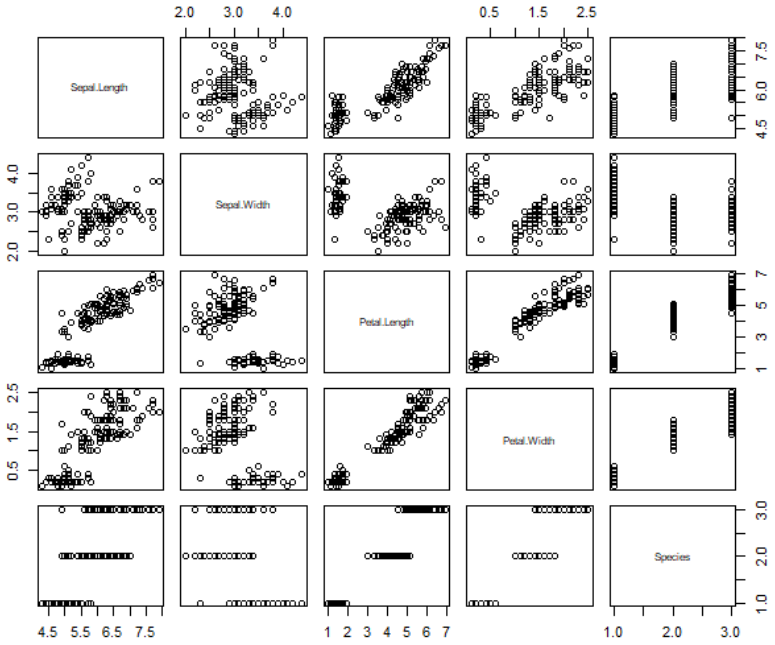



```
plot(iris$Petal.Length, iris$Petal.Width)  # Quant pair
```



If plot x = quant
Y = quant then
Scatter plot

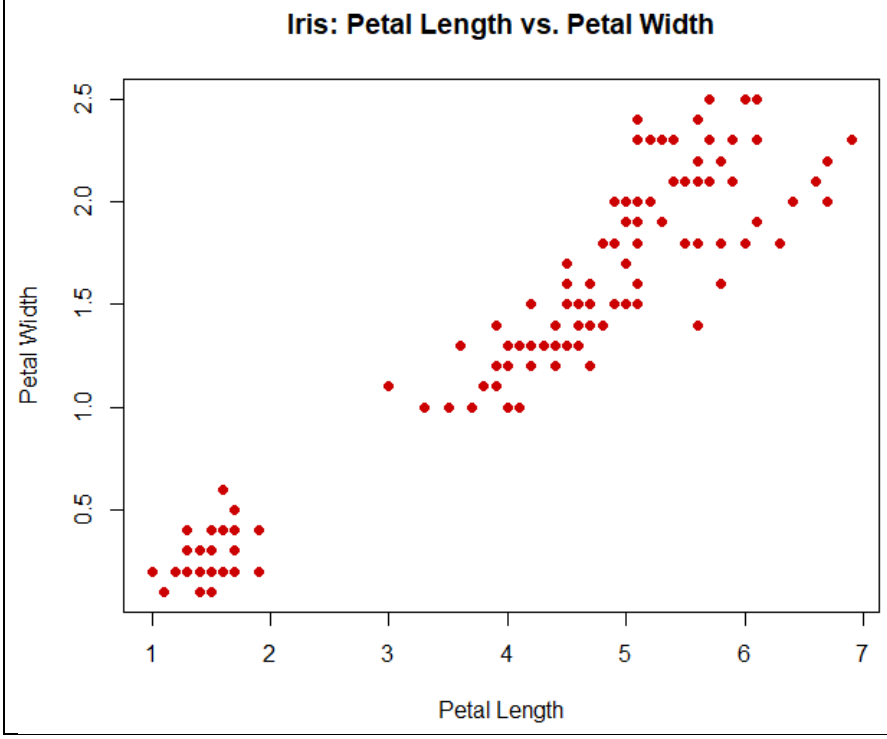
```
plot(iris)  # Entire data frame
```



If plot whole data frame then result in many scatter plot

Usually var of continuous against continuous

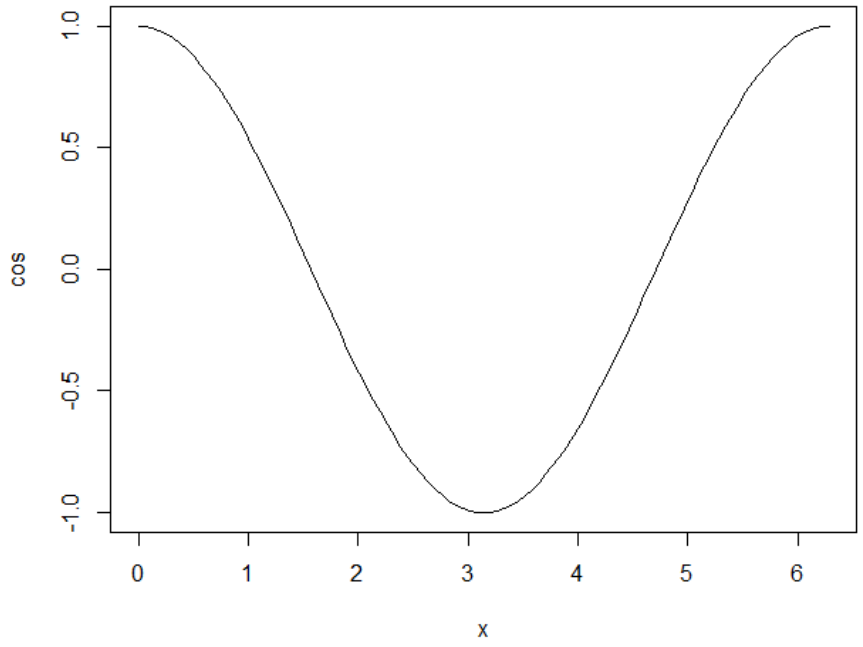
```
# Plot with options
plot(iris$Petal.Length, iris$Petal.Width,
  col = "#cc0000",  # Hex code for datalab.cc red
  pch = 19,         # Use solid circles for points
  main = "Iris: Petal Length vs. Petal Width",
  xlab = "Petal Length",
  ylab = "Petal Width")
```



Plot two continuous = scatter … but with formatting.

Pch = plotting character.

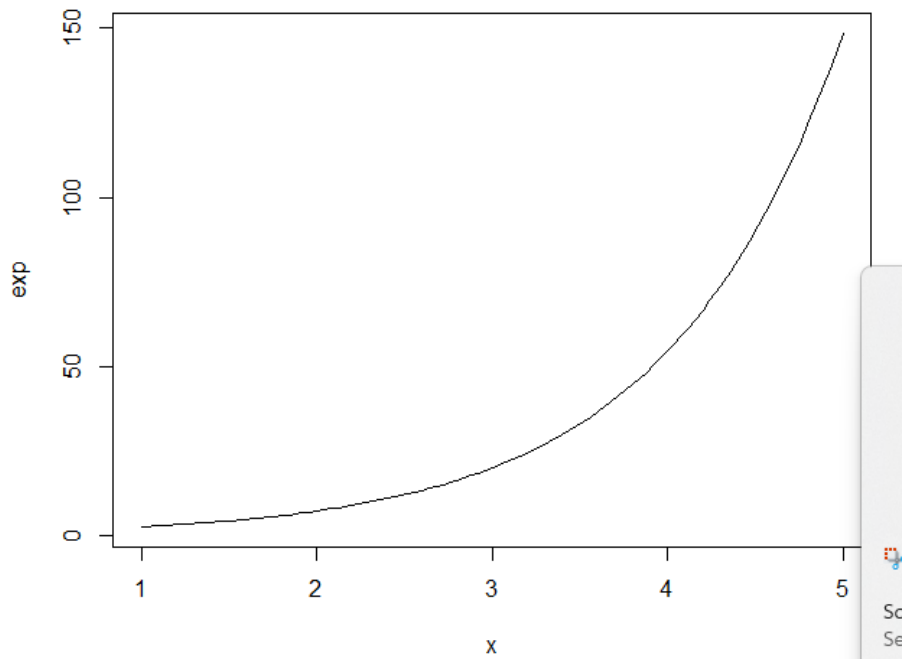
```
plot(cos, 0, 2*pi)
```



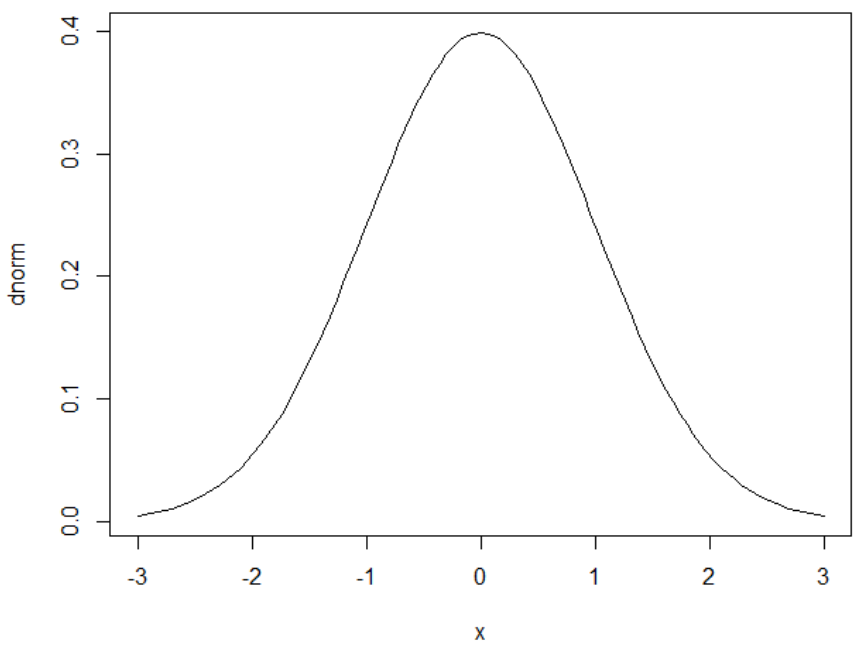
Also can plot cos function with cycle

Lwd = line width

```
plot(exp, 1, 5)
```



```r
plot(dnorm, -3, +3)
```




```r
# Formula plot with options
plot(dnorm, -3, +3,
  col = "#cc0000",
  lwd = 5,
  main = "Standard Normal Distribution",
  xlab = "z-scores",
  ylab = "Density")
```

Col = colour

```
# CLEAN UP ############################################################

# Clear packages
detach("package:datasets", unload = TRUE)

# Clear plots
dev.off()  # But only if there IS a plot

# Clear console
cat("\014")  # ctrl+L

# Clear mind :)
```