

Section 1: Introducing plot function

Review of important functions covered in this section:

Arguments of plot function

type	Specifies the type of plot to be drawn.
main	Title
sub	Sub-title
xlab	Horizontal axis title
ylab	Vertical axis title
Supplementary functions:	
legend	adds legend in an existing plot.
par	Helps set graphical parameters.
title	adds title, sub-title or axis titles in an existing plot.
text	adds text in an existing plot.
pdf	saves the graphical output as a pdf file.
dev.off()	shuts down the active graphics device.

Exercise

In R, type `library(help="datasets")` to take a look at the base R dataset. We'll work with Freeny's data on quarterly revenue and explanatory variables.

- Print this data in R console first.
- Take a look at the help file associated with this dataset.
- Check the mode of this data.
- Convert the list as a matrix and name it `freeny.mat`. Then convert the created matrix `freeny.mat` as a data frame and name it `freeny.df`.
- Check the names of the column names of `freeny.df`.
- Save the column "y" as an independent R object in R and name it `Y`. Also, save the column "price.index" as an independent R object in R and name it `price`.
- Plot a scatterplot with `price` in the horizontal axis and `Y` in the vertical axis.
- After plotting the above scatterplot, add a title of the plot "Price index" and a subtitle "Freeny's data"
- Use `data` argument in the `plot` function to get the same scatterplot using the column names directly (not using the created independent objects such as `Y` and `price`).
- Recreate the same plot without using the `data` argument in the `plot` function. This time use `with` function.
- Create a margin such that you have 4cm in all the directions.
- Plot the data with `price.index` in the horizontal axis and `y` in the vertical axis as a line. See `?plot` for details of `type` argument.
- Add a legend in the top right corner with legend "price" and line type as 1.
- Instead of using "topright" in the `legend` function, use co-ordinates (4.6, 9.8) to place the legend.

- o. Find out the working directory of your R session.
- p. In that working directory, save the above plot as a plotfile.PDF file.
- q. In the working directory, again save the above plot as a plotfile2.PDF file, with both height and width as 4cm. Take a look at `?pdf` to find the appropriate arguments.
- r. In the working directory, save the above plot as a plotfile.PS file.