

# Tutorials on R and R Studio (Part VI)

## Introduction to R Markdown

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# What is R Markdown?

According to RStudio,

*“R Markdown is a format that enables easy authoring of reproducible web reports from R. It combines the core syntax of Markdown (an easy-to-write plain text format for web content) with embedded R code chunks that are run so their output can be included in the final document”.*

You can watch the video explaining in more detail what it is [here](#)

# Why is R Markdown useful?

**Traditional way:** Save your analysis from any statistical software, tables or figures. Then copy and paste them into your report.

## **Why is this not good?**

Imagine that your client tell you that they do not want full-sample analysis, instead, they want a sub-sample analysis. Then you have to re-do everything and comb through the whole report to make sure that everything is updated!

1. R Markdown is **dynamic**.
2. Results are **reproducible** with R Markdown. Everyone having your report could see the results as well as the code producing them.

The idea should be simple enough: 1. interweave narratives with code in a document, 2. knit the document to dynamically generate results from the code, 3. and you will get a report.

This idea was not invented by R Markdown, but came from an early programming paradigm called **Literate Programming** (Knuth 1984).

# Where has R Markdown been used?

Xie et al. 2018 R Markdown: The Definitive Guide:

Due to the simplicity of Markdown and the powerful R language for data analysis, R Markdown has been widely used in many areas.

<https://bookdown.org/yihui/rmarkdown/basics-examples.html>

1. Airbnb's knowledge repository
2. 2017 Employer Health Benefits Survey
3. Journal articles
4. My slides!
5. etc. . .

## Example

Now let's look at an example