

Title

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1st January 1901

Introduction to R Markdown: Writing a paper or report

This is crude example. For further details, first check the associate documents:

- Rmd_resources.Rmd;
- RMarkdown_slides.Rmd;

R Markdown

This is an R Markdown document. Markdown is a simple formatting syntax for authoring HTML, PDF, and MS Word documents. For more details on using R Markdown see <http://rmarkdown.rstudio.com>.

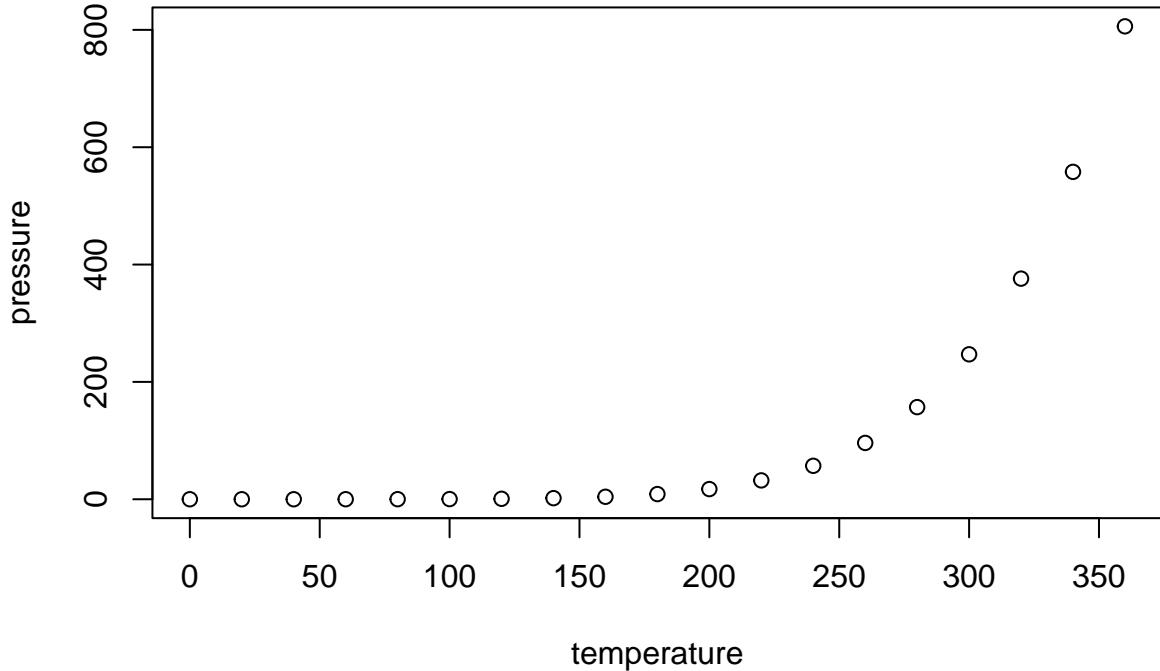
When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

```
summary(cars)
```

```
##      speed          dist
## Min.   : 4.0   Min.   :  2.00
## 1st Qu.:12.0   1st Qu.: 26.00
## Median :15.0   Median : 36.00
## Mean   :15.4   Mean   : 42.98
## 3rd Qu.:19.0   3rd Qu.: 56.00
## Max.   :25.0   Max.   :120.00
```

Including Plots

You can also embed plots, for example:



Note that the `echo = FALSE` parameter was added to the code chunk to prevent printing of the R code that generated the plot.

Project: Fuel Demand

We will work with part of the fuel data used in Huse (2018), which estimates the demand for gasoline (g) and ethanol (e) in the Swedish market. Our aim is to estimate demand equations of the following form:

$$\ln(q_{et}) = \alpha_{1e} + \sum_{k=e,g} \gamma_{ek} \ln(p_{kt}) + \theta_e Z_{et} + \varepsilon_t^e$$

$$\ln(q_{gt}) = \alpha_{1g} + \sum_{k=e,g} \gamma_{gk} \ln(p_{kt}) + \theta_g Z_{gt} + \varepsilon_t^g$$

Here, t denotes months, q_{ft} the sales of fuel $f = e, g$ at period t , p_{ft} the price of fuel f at period t , Z_{ft} are demographics, controls, and fixed-effects, ε_{ft} are error terms

OLS

The basic command for regression models is `lm()`. The optional argument `data` exists because several `data.frame`'s can co-exist in R.

```
lm(y ~ x1 + x2 + x3 + ..., data = df)
```

The traditional way to extract regression output is via **summary()**, but nicer versions are also available

```
ols1 <- lm(y ~ x, data=df)
summary(ols1)

library(broom)
tidy(ols1, conf.int = TRUE)
glance(ols1)
```