R Markdown Example

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R Markdown

Subheadline

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  
```

For example, you can plot code and output when you run a regression

```
regression <- lm(dist ~ speed, data=cars)
summary(regression)
```

```
Call:
lm(formula = dist ~ speed, data = cars)

Residuals:
    Min      1Q  Median      3Q     Max 
-29.069  -9.525  -2.272   9.215  43.201 

Coefficients:
            Estimate Std. Error t value Pr(>|t|)    
(Intercept) -17.5791     6.7584  -2.601   0.0123 *  
speed         3.9324     0.4155   9.464 1.49e-12 ***
---
Signif. codes:  0 ’***’ 0.001 ’**’ 0.01 ’*’ 0.05 ’.’ 0.1 ’ ’ 1
```

```
Residual standard error: 15.38 on 48 degrees of freedom
Multiple R-squared:  0.6511,    Adjusted R-squared:  0.6438
F-statistic: 89.57 on 1 and 48 DF,  p-value: 1.49e-12
```

We can also display regression output in a more presentable format, for instance by using additional packages such as `stargazer`.

```
library(stargazer)
```

```
Please cite as:

 Hlavac, Marek (2022). stargazer: Well-Formatted Regression and Summary Statistics Tables.

 R package version 5.2.3. https://CRAN.R-project.org/package=stargazer
```

```
stargazer(regression, title="Results", align=TRUE, type="text")
```

```
Results
================================================
                        Dependent variable:
                    ----------------------------
                               dist
------------------------------------------------
speed                         3.932***
                               (0.416)

Constant                      -17.579**
                               (6.758)

------------------------------------------------
Observations                    50
R2                              0.651
Adjusted R2                     0.644
Residual Std. Error       15.380 (df = 48)
F Statistic           89.567*** (df = 1; 48)
================================================
Note:               *p<0.1; **p<0.05; ***p<0.01
```

Or - particularly if you want to produce a pdf-file, we can directly print our regression output in Latex format:

```
stargazer(regression, title='Results',
          covariate.labels = c("Speed", "(Intercept)"), dep.var.labels  = "Distance",
          align=TRUE, type="latex")
```

% Table created by stargazer v.5.2.3 by Marek Hlavac, Social Policy Institute. E-mail: marek.hlavac at gmail.com % Date and time: Thu, Apr 24, 2025 - 23:09:36 % Requires LaTeX packages: dcolumn

Table 1: Results

	Dependent variable:
	Distance
Speed	3.932***
	(0.416)
(Intercept)	−17.579**
	(6.758)
Observations	50
R^2	0.651
Adjusted R^2	0.644
Residual Std. Error	15.380 (df = 48)
F Statistic	89.567*** (df = 1; 48)
Note:	*p<0.1; **p<0.05; ***p<0.01

Let's add some more space before this paragraph.

You can also include formulae using math mode the same way as you would do in Latex proper:

You can include it in text $E = mc^2$. Or, specify that your formula is printed in a separate line:

$$Y = X^2$$

You can also include raw Latex code. If you run into problems doing so, you might try to embed Latex code in a Latex environment (see below).

This is
a table

This is
a table

Why R Markdown?

The advantage of R Markdown is that it easily combines text, R code and R output - in the exact same way you would be seeing it in the RStudio console.

We use R Markdown to produce the html files we work with in class. The great thing about Markdown is that you can produce a pdf file, html file or even slides. You can easily specify the output document type using the `output` option in the header.

For example, you can plot code and output

```
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  
```

Or, alternatively, you might just want to plot the code but hide the output if it doesn't add anything to your response.

```
library(stargazer)
```

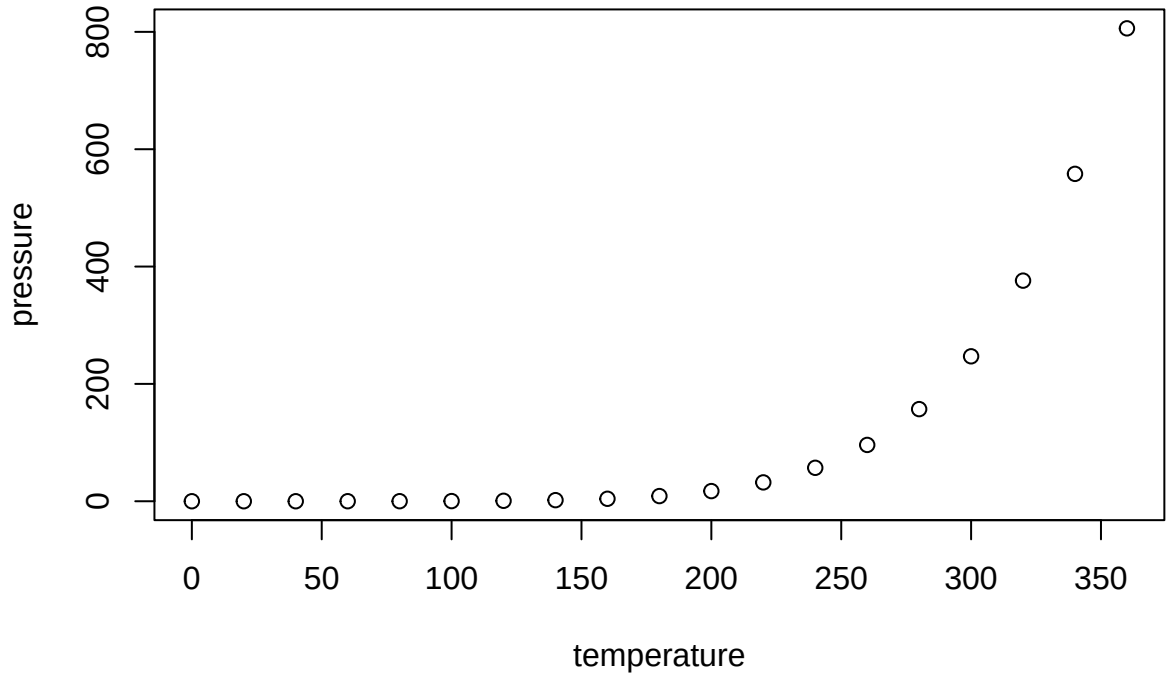
In a similar way, you can hide the code and only show results:

```
     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  
```

Finally, you can also hide results using the *results='hide'* option.

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.

Important: The chunk just below the header (which will disappear in your output file) allows you to specify global options. That means that you can specify options that will be applied to *all* chunks of code in your document. This comes in handy when you want to turn off warning messages or comments. You could, for instance, specify the following options:

```
knitr::opts_chunk$set(     echo = TRUE,     message = FALSE,     warning = FALSE,     comment
= NA )
```

R Markdown Reference Guide and Tutorial

You can find more commands in this R Markdown cheat sheet.

Moreover, there's a great tutorial available on RStudio.Cloud