Example

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1 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)

```
##
                          dist
         speed
    {\tt 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
##
            :25.0
                             :120.00
##
    Max.
                     Max.
```

2 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.

3 Caching

The GHA workflow maintains cached *knitr* results between subsequent runs to reduce runtime. Caching can be enabled by specifying cache=TRUE in the code chunk header.

Note that this should be used with caution, as caches may become invalid when code is changed, potentially leading to unsuspected results.

```
## Run with caching enabled
Sys.time()
```

[1] "2021-11-09 08:36:41 UTC"

Session info

Session info

[1] "2021-11-24 12:52:34 UTC"

```
hash: eight o'clock, floppy disk, umbrella on ground
##
## setting value
##
   version R version 4.1.2 (2021-11-01)
## os
             macOS Catalina 10.15.7
## system x86_64, darwin17.0
## ui
             X11
##
   language (EN)
## collate en_US.UTF-8
## ctype
           en_US.UTF-8
             UTC
## tz
## date
            2021-11-24
## pandoc 2.7.3 @ /usr/local/bin/ (via rmarkdown)
##
## ! package
                  * version date (UTC) lib source
## P cli
                   3.1.0 2021-10-27 [?] CRAN (R 4.1.0)
## P colorspace 2.0-2 2021-06-24 [?] CRAN (R 4.1.0)
## P crayon 1.4.1 2021-02-08 [?] CRAN (R 4.1.0)
## P digest 0.6.27 2020-10-24 [?] CRAN (R 4.1.0)
## P ellipsis 0.3.2 2021-04-29 [?] CRAN (R 4.1.0)
                  0.14 2019-05-28 [?] CRAN (R 4.1.0)
## P evaluate
                   0.5.0 2021-05-25 [?] CRAN (R 4.1.0)
## P fansi
## P farver
                  2.1.0 2021-02-28 [?] CRAN (R 4.1.0)
## P fastmap
                   1.1.0 2021-01-25 [?] CRAN (R 4.1.0)
## P ggplot2
                  * 3.3.5 2021-06-25 [?] CRAN (R 4.1.0)
                   1.4.2 2020-08-27 [?] CRAN (R 4.1.0)
## P glue
## P gtable
                  0.3.0 2019-03-25 [?] CRAN (R 4.1.0)
## P highr 0.9 2021-04-16 [?] CRAN (R 4.1.0)
## P htmltools 0.5.2 2021-08-25 [?] CRAN (R 4.1.0)
## P knitr 1.33 2021-04-24 [?] CRAN (R 4.1.0)
## P labeling 0.4.2 2020-10-20 [?] CRAN (R 4.1.0)
## P labeling
                  0.4.2 2020-10-20 [?] CRAN (R 4.1.0)
## P lifecycle 1.0.0 2021-02-15 [?] CRAN (R 4.1.0)
## P magrittr 2.0.1 2020-11-17 [?] CRAN (R 4.1.0)
## P munsell 0.5.0 2018-06-12 [?] CRAN (R 4.1.0)
                1.6.2 2021-07-29 [?] CRAN (R 4.1.2)
## P pillar
## P pkgconfig
                 2.0.3 2021-11-09 [?] Github (r-lib/pkgconfig@b81ae03)
                   2.5.1
## P R6
                            2021-08-19 [?] CRAN (R 4.1.0)
##
                  0.14.0 2021-07-21 [1] CRAN (R 4.1.0)
      renv
                  0.4.11 2021-04-30 [?] CRAN (R 4.1.0)
## P rlang
## P rmarkdown 2.10 2021-08-06 [?] CRAN (R 4.1.2) ## P scales 1.1.1 2020-05-11 [?] CRAN (R 4.1.0)
## P sessioninfo 1.2.1 2021-11-02 [?] CRAN (R 4.1.0)
                  1.7.4 2021-08-25 [?] CRAN (R 4.1.2)
## P stringi
                    1.4.0 2019-02-10 [?] CRAN (R 4.1.0)
## P stringr
## P tibble
                    3.1.4 2021-08-25 [?] CRAN (R 4.1.2)
## P utf8
                   1.2.2 2021-07-24 [?] CRAN (R 4.1.0)
## P vctrs
                   0.3.8 2021-04-29 [?] CRAN (R 4.1.0)
## P withr
                   2.4.2 2021-04-18 [?] CRAN (R 4.1.0)
## P xfun
                    0.25
                            2021-08-06 [?] CRAN (R 4.1.2)
                    2.2.1 2020-02-01 [?] CRAN (R 4.1.0)
## P yaml
##
## [1] /Users/runner/work/singleCellCourse/singleCellCourse/renv/library/R-4.1/x86_64-apple-darwin17.0
```