Untitled

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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.

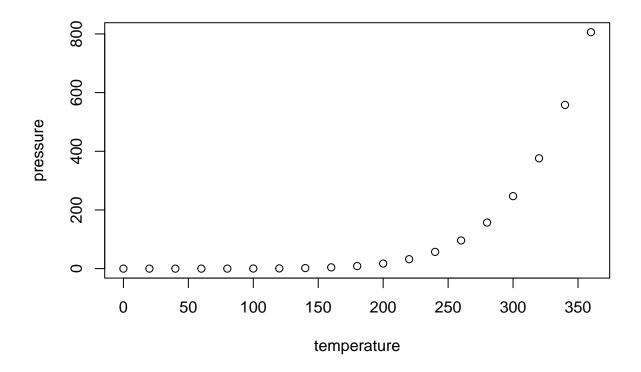
When you click the **Knit** button a document will be generated that includes both content as well as the output of any embedded R code chunks within the document. You can embed an R code chunk like this:

summary(cars)

```
##
         speed
                          dist
##
            : 4.0
                     {\tt Min.}
                             : 2.00
    Min.
    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.
```

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.

R Markown commands

 $Italic\ text$

 ${\bf Bold\ text}$

Haeder one

Header two

Header three

 ${\bf R}$ Markdown

- "A quote"
- List item 1
- \bullet List item 2
- 1. Ordered list item 1

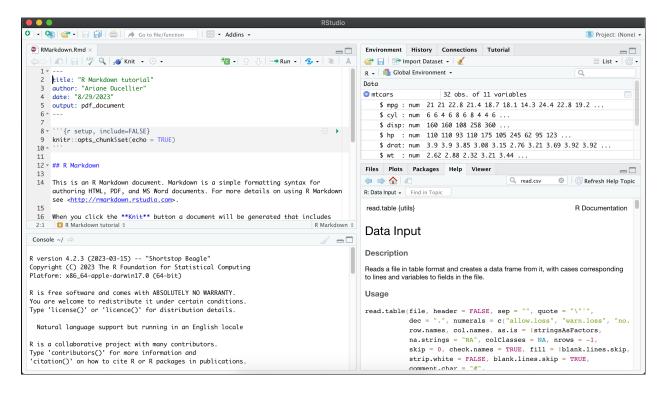


Figure 1: RStudio interface

2. Ordered list item 2

Line followed by two spaces

Line 2

 $x = \frac{y}{\tilde{z}}$

x < -2 + 4

The results is x = 6.

 ${\tt mtcars}$

```
##
                        mpg cyl disp hp drat
                                                  wt qsec vs am gear carb
## Mazda RX4
                       21.0
                              6 160.0 110 3.90 2.620 16.46
                                                             0
                                                                          4
                                                                          4
## Mazda RX4 Wag
                       21.0
                              6 160.0 110 3.90 2.875 17.02
## Datsun 710
                       22.8
                              4 108.0 93 3.85 2.320 18.61
                                                             1
                                                                          1
## Hornet 4 Drive
                       21.4
                              6 258.0 110 3.08 3.215 19.44
                                                             1
                                                                     3
                                                                          1
                       18.7
                              8 360.0 175 3.15 3.440 17.02
                                                                     3
                                                                          2
## Hornet Sportabout
                                                             0
                                                                0
## Valiant
                       18.1
                              6 225.0 105 2.76 3.460 20.22
                                                                          1
## Duster 360
                       14.3
                              8 360.0 245 3.21 3.570 15.84
                                                             0
                                                                     3
                                                                          4
                                                                Ω
                                                                          2
## Merc 240D
                       24.4
                              4 146.7 62 3.69 3.190 20.00
                                                             1
                                                                     4
                       22.8
                              4 140.8 95 3.92 3.150 22.90
                                                                     4
                                                                          2
## Merc 230
                                                             1
                                                                0
## Merc 280
                       19.2
                              6 167.6 123 3.92 3.440 18.30
                                                                          4
## Merc 280C
                       17.8
                              6 167.6 123 3.92 3.440 18.90
                                                                          4
                                                             1
                                                                0
                                                                     4
## Merc 450SE
                       16.4
                              8 275.8 180 3.07 4.070 17.40
                                                             0
                                                                     3
                                                                          3
                                                                     3
                                                                          3
## Merc 450SL
                       17.3
                              8 275.8 180 3.07 3.730 17.60 0
```

```
8 275.8 180 3.07 3.780 18.00
## Merc 450SLC
                      15.2
## Cadillac Fleetwood 10.4
                            8 472.0 205 2.93 5.250 17.98
                                                         0
                                                                 3
                                                                      4
                                                            0
## Lincoln Continental 10.4
                            8 460.0 215 3.00 5.424 17.82
## Chrysler Imperial
                            8 440.0 230 3.23 5.345 17.42 0 0
                     14.7
                                                                      4
## Fiat 128
                      32.4
                            4 78.7 66 4.08 2.200 19.47
                                                                 4
                                                                      1
                      30.4
## Honda Civic
                            4 75.7 52 4.93 1.615 18.52 1 1
                                                                 4
                                                                      2
## Toyota Corolla
                      33.9
                            4 71.1 65 4.22 1.835 19.90
                                                                      1
## Toyota Corona
                            4 120.1 97 3.70 2.465 20.01
                                                                 3
                      21.5
                                                         1
                                                            0
                                                                      1
## Dodge Challenger
                     15.5
                            8 318.0 150 2.76 3.520 16.87
                                                         0
                                                            0
                                                                 3
                                                                      2
## AMC Javelin
                                                                 3
                                                                      2
                     15.2
                            8 304.0 150 3.15 3.435 17.30
                                                            0
## Camaro Z28
                     13.3
                            8 350.0 245 3.73 3.840 15.41
                                                                      4
## Pontiac Firebird
                            8 400.0 175 3.08 3.845 17.05
                                                                 3
                                                                      2
                     19.2
                                                         0 0
## Fiat X1-9
                     27.3
                            4 79.0 66 4.08 1.935 18.90
                                                                 4
                                                        1
                                                            1
                                                                      1
                                                                 5
## Porsche 914-2
                     26.0
                            4 120.3 91 4.43 2.140 16.70
                                                                      2
                                                        0 1
## Lotus Europa
                     30.4
                            4 95.1 113 3.77 1.513 16.90 1 1
                                                                 5
                                                                      2
## Ford Pantera L
                      15.8
                            8 351.0 264 4.22 3.170 14.50
                                                         0 1
                                                                 5
                                                                      4
## Ferrari Dino
                     19.7
                            6 145.0 175 3.62 2.770 15.50 0 1
                                                                 5
                                                                      6
                            8 301.0 335 3.54 3.570 14.60 0 1
                                                                 5
## Maserati Bora
                      15.0
                                                                      8
## Volvo 142E
                      21.4
                            4 121.0 109 4.11 2.780 18.60 1 1
                                                                      2
```

```
library(knitr)
kable(mtcars[1:5], caption="A knitr table")
```

Table 1: A knitr table

			1.	,	1 .
	mpg	cyl	disp	hp	drat
Mazda RX4	21.0	6	160.0	110	3.90
Mazda RX4 Wag	21.0	6	160.0	110	3.90
Datsun 710	22.8	4	108.0	93	3.85
Hornet 4 Drive	21.4	6	258.0	110	3.08
Hornet Sportabout	18.7	8	360.0	175	3.15
Valiant	18.1	6	225.0	105	2.76
Duster 360	14.3	8	360.0	245	3.21
Merc 240D	24.4	4	146.7	62	3.69
Merc 230	22.8	4	140.8	95	3.92
Merc 280	19.2	6	167.6	123	3.92
Merc 280C	17.8	6	167.6	123	3.92
Merc 450SE	16.4	8	275.8	180	3.07
Merc 450SL	17.3	8	275.8	180	3.07
Merc 450SLC	15.2	8	275.8	180	3.07
Cadillac Fleetwood	10.4	8	472.0	205	2.93
Lincoln Continental	10.4	8	460.0	215	3.00
Chrysler Imperial	14.7	8	440.0	230	3.23
Fiat 128	32.4	4	78.7	66	4.08
Honda Civic	30.4	4	75.7	52	4.93
Toyota Corolla	33.9	4	71.1	65	4.22
Toyota Corona	21.5	4	120.1	97	3.70
Dodge Challenger	15.5	8	318.0	150	2.76
AMC Javelin	15.2	8	304.0	150	3.15
Camaro Z28	13.3	8	350.0	245	3.73
Pontiac Firebird	19.2	8	400.0	175	3.08
Fiat X1-9	27.3	4	79.0	66	4.08
Porsche 914-2	26.0	4	120.3	91	4.43

	mpg	cyl	disp	hp	drat
Lotus Europa	30.4	4	95.1	113	3.77
Ford Pantera L	15.8	8	351.0	264	4.22
Ferrari Dino	19.7	6	145.0	175	3.62
Maserati Bora	15.0	8	301.0	335	3.54
Volvo 142E	21.4	4	121.0	109	4.11