

# Code snippets in RStudio

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# Tricks to improve your workflow in RStudio

- ▶ RStudio is an IDE: Integrated Development Environment
- ▶ Interface to R

Lots of useful features

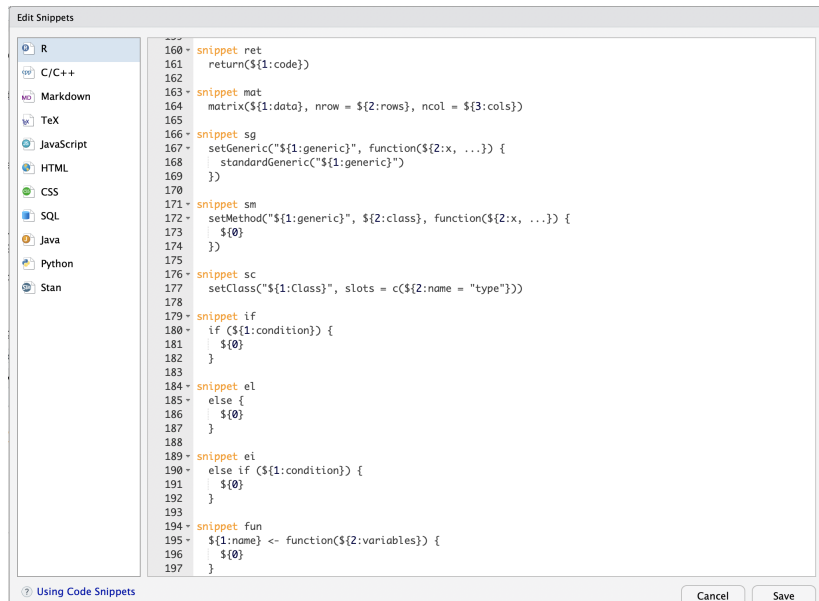
- ▶ Reformat Code
- ▶ Keyboard Bindings
  - ▶ <https://support.rstudio.com/hc/en-us/articles/206382178>
- ▶ Code Snippets
  - ▶ <https://support.rstudio.com/hc/en-us/articles/204463668-Code-Snippets>

# Snippets

- ▶ A snippet is a programming term for a small region of re-usable source code, machine code, or text. (Wikipedia, 2019)
- ▶ Avoid repetitive typing in the course of routine edit operations.
- ▶ Snippet programming

# Snippet programming in R

## ► Tools > Global Options > Code > Snippets



The screenshot shows the 'Edit Snippets' dialog box in RStudio. On the left, a sidebar lists various programming languages: R, C/C++, Markdown, TeX, JavaScript, HTML, CSS, SQL, Java, Python, and Stan. The 'R' language is selected. The main area displays a list of snippets, each with a line number and a name in orange. The snippets are:

- 160 - **snippet** ret  
161     return(\${1:code})  
162
- 163 - **snippet** mat  
164     matrix(\${1:data}, nrow = \${2:rows}, ncol = \${3:cols})  
165
- 166 - **snippet** sg  
167     setGeneric("\${1:generic}", function(\${2:x, ...}) {  
168         standardGeneric("\${1:generic}")  
169     })  
170
- 171 - **snippet** sm  
172     setMethod("\${1:generic}", \${2:class}, function(\${2:x, ...}) {  
173         \${0}  
174     })  
175
- 176 - **snippet** sc  
177     setClass("\${1:Class}", slots = c(\${2:name = "type"}))  
178
- 179 - **snippet** if  
180     if (\${1:condition}) {  
181         \${0}  
182     }  
183
- 184 - **snippet** el  
185     else {  
186         \${0}  
187     }  
188
- 189 - **snippet** ei  
190     else if (\${1:condition}) {  
191         \${0}  
192     }  
193
- 194 - **snippet** fun  
195     \${1:name} <- function(\${2:variables}) {  
196         \${0}  
197     }

At the bottom left, there is a question mark icon and the text 'Using Code Snippets'. At the bottom right, there are 'Cancel' and 'Save' buttons.

# Snippet programming in R: The syntax (1)

## ► Static snippets

```
snippet libs "My default libraries"
```

```
library(tidyverse)
```

```
library(survival)
```

```
library(parallel)
```

## Snippet programming in R: The syntax (2)

### ► Dynamic snippets

```
snippet def "Simple function with print"  
  ${1:name} <- function(${2:variables}) {  
  
    print(${2:variables})  
  
    ${0}  
  }
```

## Snippet programming in R: The syntax (3)

### ► Scriptable snippets

```
snippet libtidy "Load tidyverse library"  
  # Tested with tidverse v`r packageVersion("tidyverse")`  
  library(tidyverse)  
  ${0}
```

## Examples: Headers and Sections

snippet header

```
# `r rstudioapi::getActiveDocumentContext()[["path"]`  
#  
# Author: Jonathan de Bruin  
# Project: ${1:project_name}  
# Creation date: `r Sys.Date()`  
# Modification date: `r Sys.Date()`  
#  
# Description: ${2:description}  
#  
${0}
```



## Examples: Headers and Sections (results)

```
# mysnippets.R  
#  
# Author: Jonathan de Bruin  
# Project: Snippets presentation  
# Creation date: 2019-03-25  
# Modification date: 2019-03-25  
#  
# Description: This is the header of my file  
#               on snippets in R.  
#
```

## Examples: Data transformation

```
snippet agg
  ${1:data} %>%
    group_by(${2:vars}) %>%
    summarise(
      ${3:summarise}
    )

${0}
```

## Examples: Data transformation (result)

```
iris %>%  
  group_by(Species) %>%  
  summarise(  
    max_petal_length = max(Petal.Length),  
    min_petal_length = min(Petal.Length)  
  )
```

```
## # A tibble: 3 x 3  
##   Species      max_petal_length min_petal_length  
##   <fct>          <dbl>          <dbl>  
## 1 setosa          1.9              1  
## 2 versicolor      5.1              3  
## 3 virginica       6.9              4.5
```

## Examples: Statistics

```
snippet anova "anova"  
  data.aov <- aov(${1:formula}, data=${2:data})  
  summary(data.aov)  
  
  ${0}
```

## Examples: Statistics (results)

```
data.aov <- aov(Petal.Length ~ Species, data=iris)
summary(data.aov)
```

```
##              Df Sum Sq Mean Sq F value Pr(>F)
## Species         2  437.1   218.55    1180 <2e-16 ***
## Residuals    147    27.2     0.19
## ---
## Signif. codes:  0 '***' 0.001 '**' 0.01 '*' 0.05 '.' 0.1
```

# Snippet management

## Location

- ▶ R Snippets are stored under `~/.R/snippets/r.snippets`

## Share

- ▶ Share your snippets with colleagues
- ▶ Download useful snippets from Github

## Management

- ▶ `snippr`: publish, install, and share RStudio code snippets