



# Réalisation du projet de package dans Rstudio

100

CTRL+L : short cut pour réinitialier l'écran de console

```
rm(list=ls())
```

The screenshot shows the RStudio application window. The top menu bar includes File, Edit, Code, View, Plots, Session, Build, Debug, Profile, Tools, and Help. Below the menu is a toolbar with icons for file operations and a search box labeled "Go to file/function". The main workspace area has two tabs: "Console" and "Terminal x". The "Terminal" tab is active, displaying a command prompt session. The user enters the command "# netoyer le cach de Rstudio", followed by "rm(list())", which results in an error: "Error in rm(list()) : ... doit contenir des noms ou des chaînes de caractères". The user then enters "rm(list=ls())", followed by "ls()", which returns "character(0)". The prompt "> |" indicates the next input position.

RStudio

File Edit Code View Plots Session Build Debug Profile Tools Help

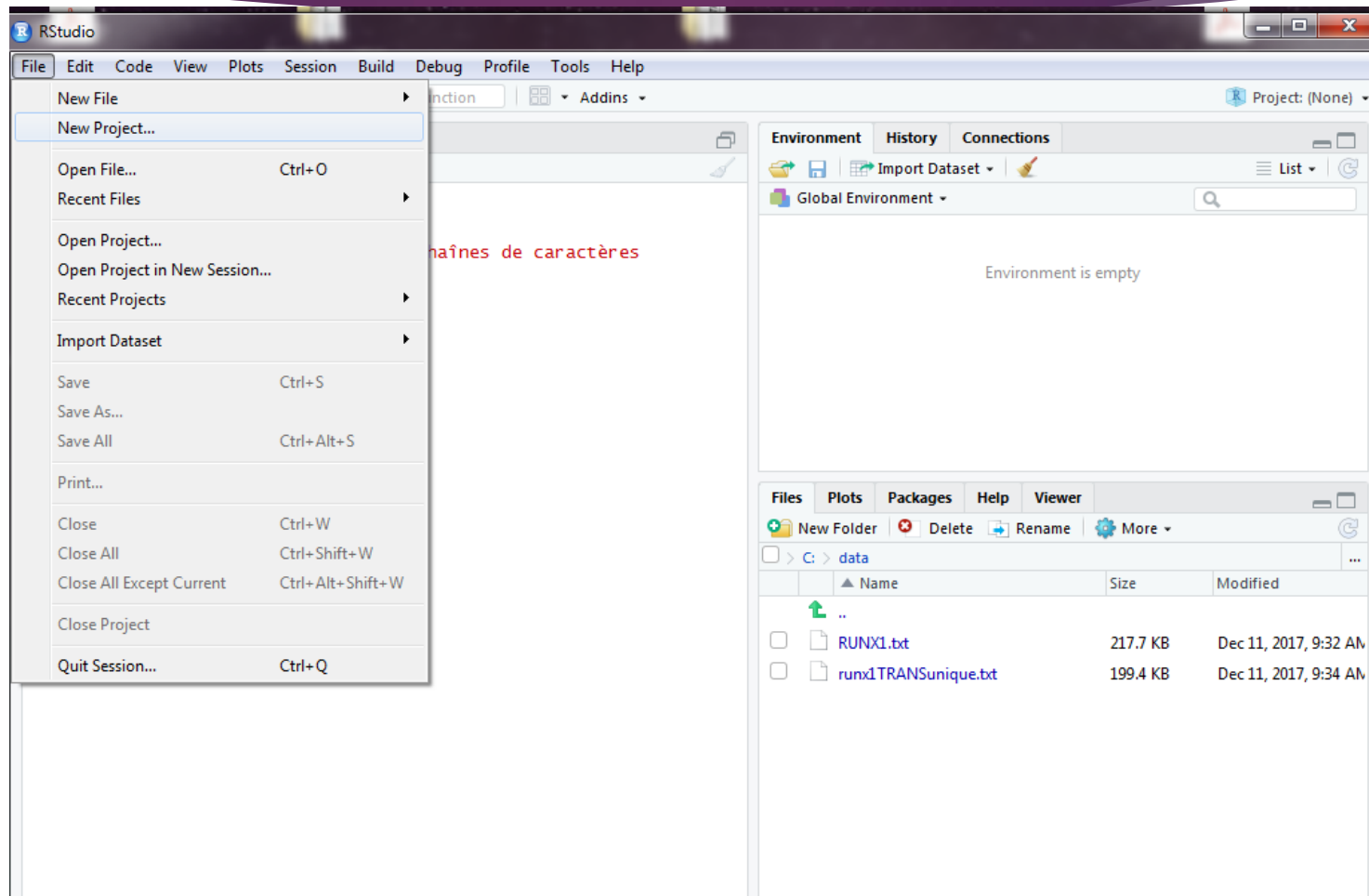
+ ▾ +🔍 📁 ▾ 💾 📄 🔍 Go to file/function | 🗪 ▾ Addins ▾

Console Terminal x

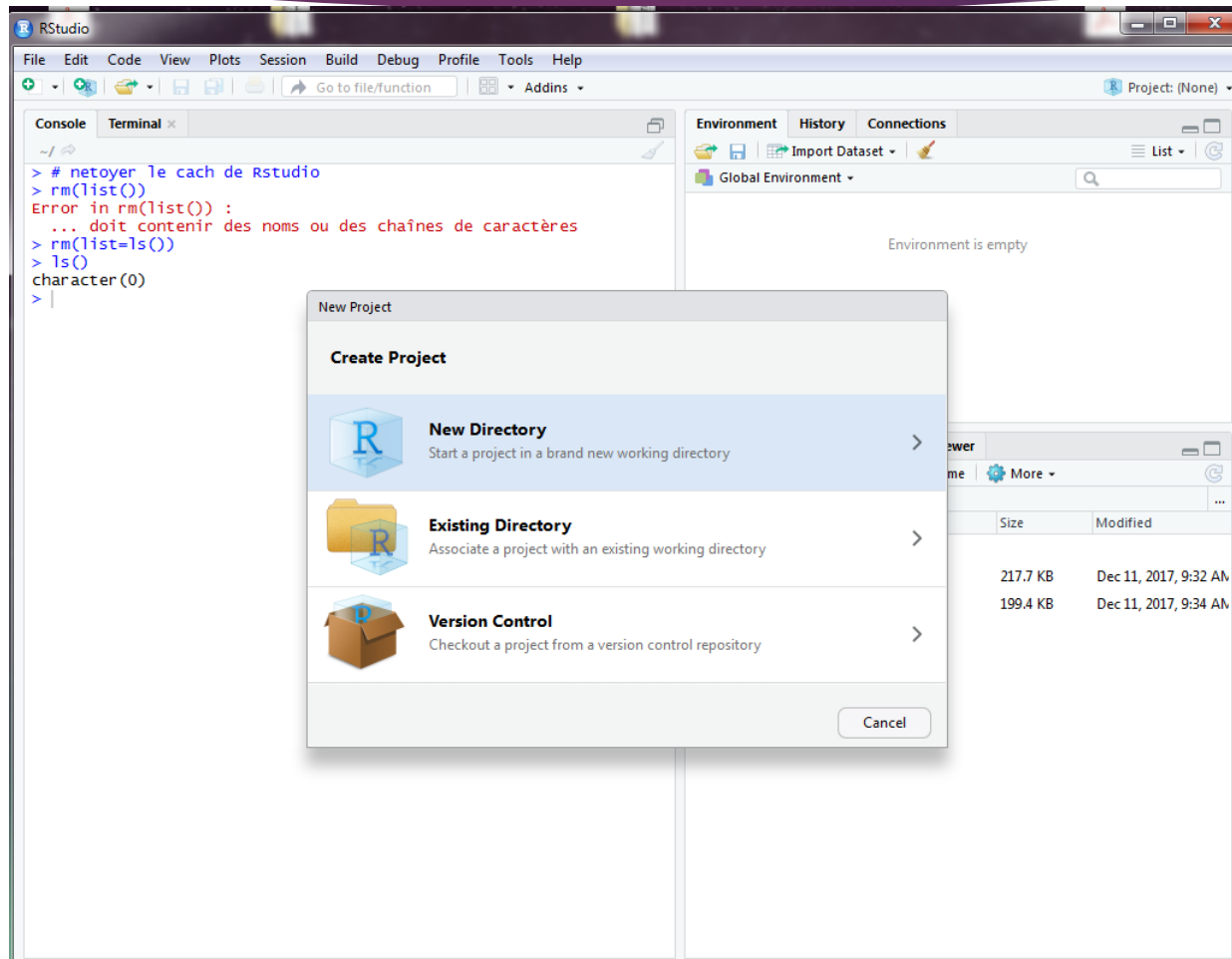
~/ ↶

```
> # netoyer le cach de Rstudio  
> rm(list())  
Error in rm(list()) :  
... doit contenir des noms ou des chaînes de caractères  
> rm(list=ls())  
> ls()  
character(0)  
> |
```

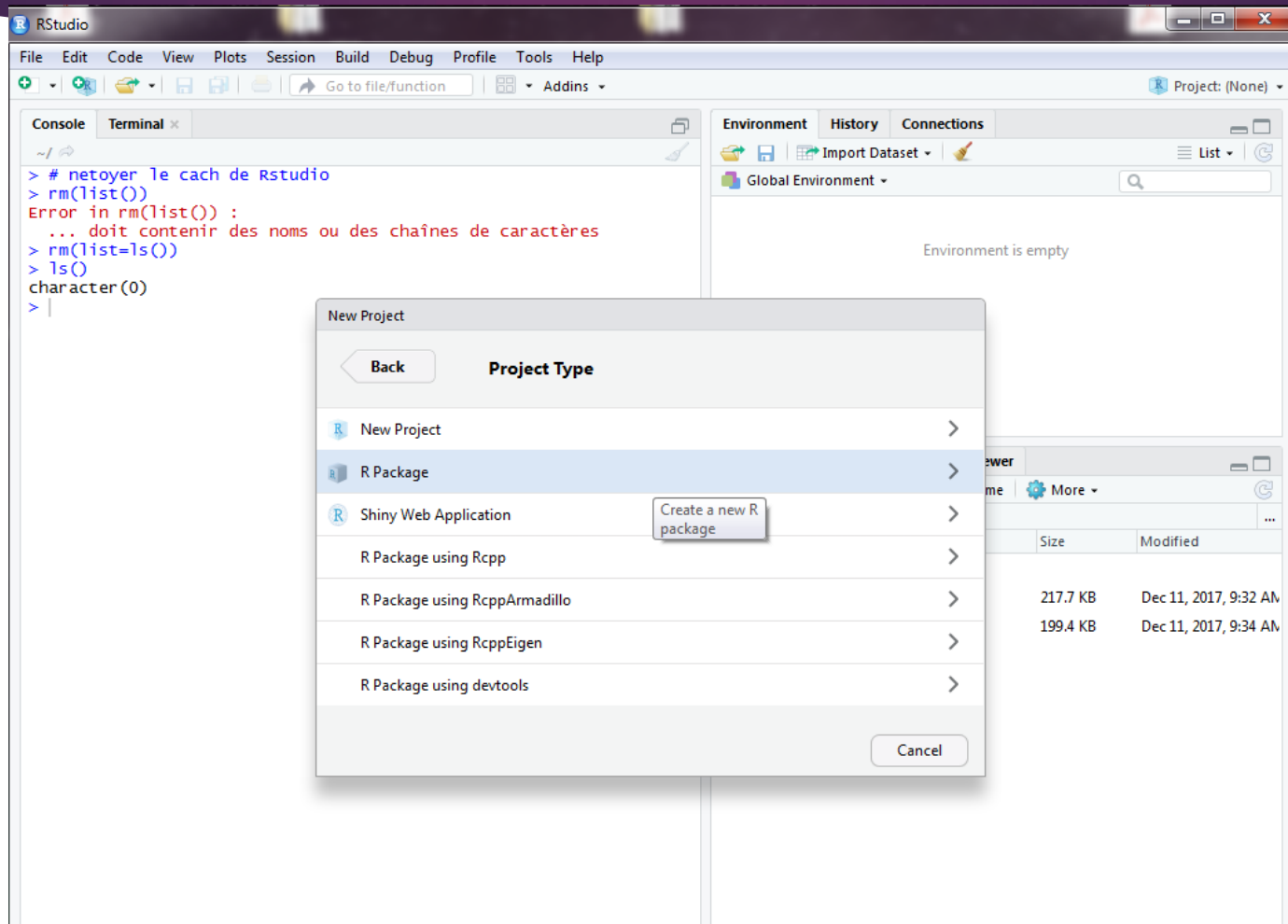
# Créer un nouveau projet



# New directory



# Choisir R package

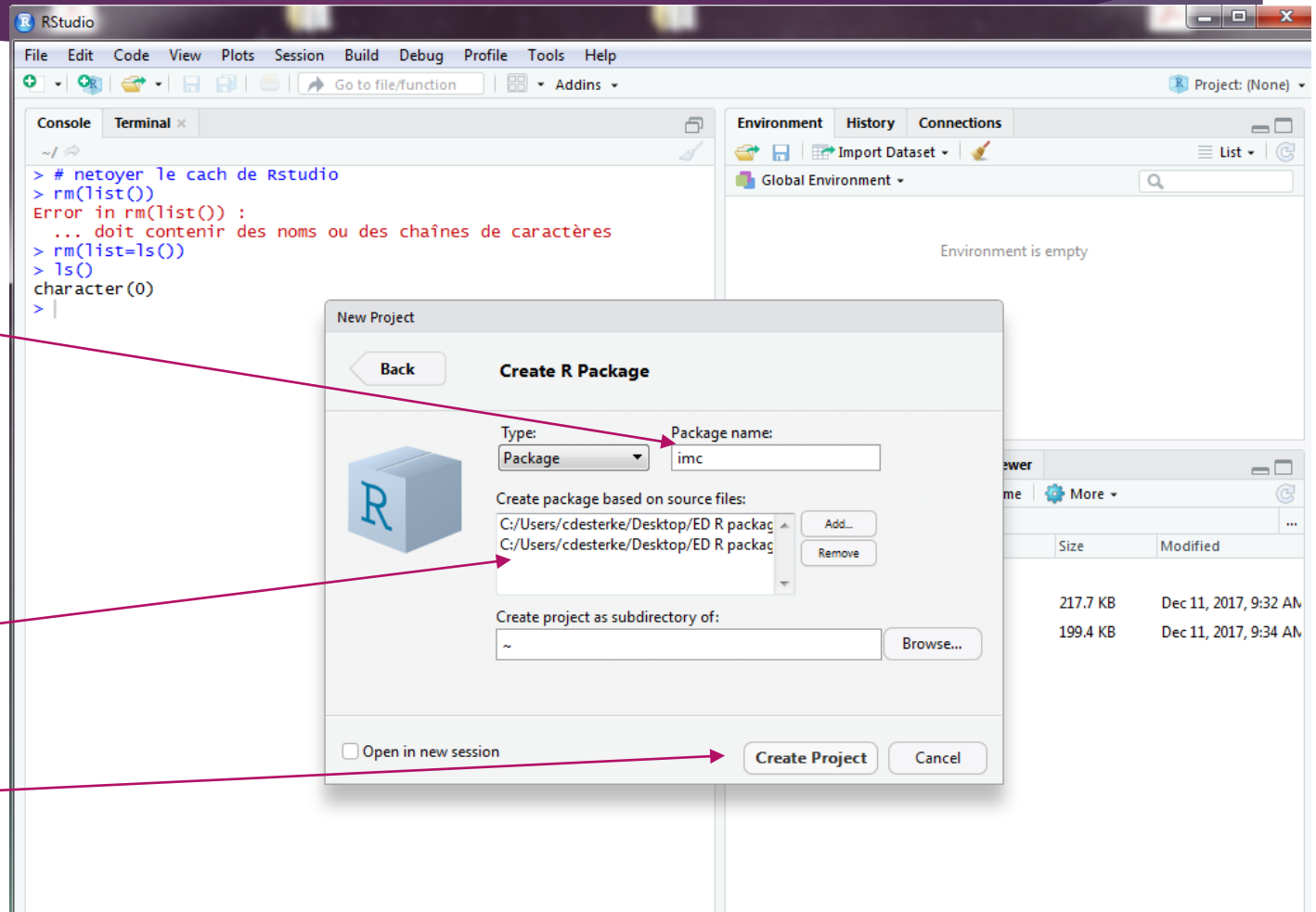


# Creation du projet de package

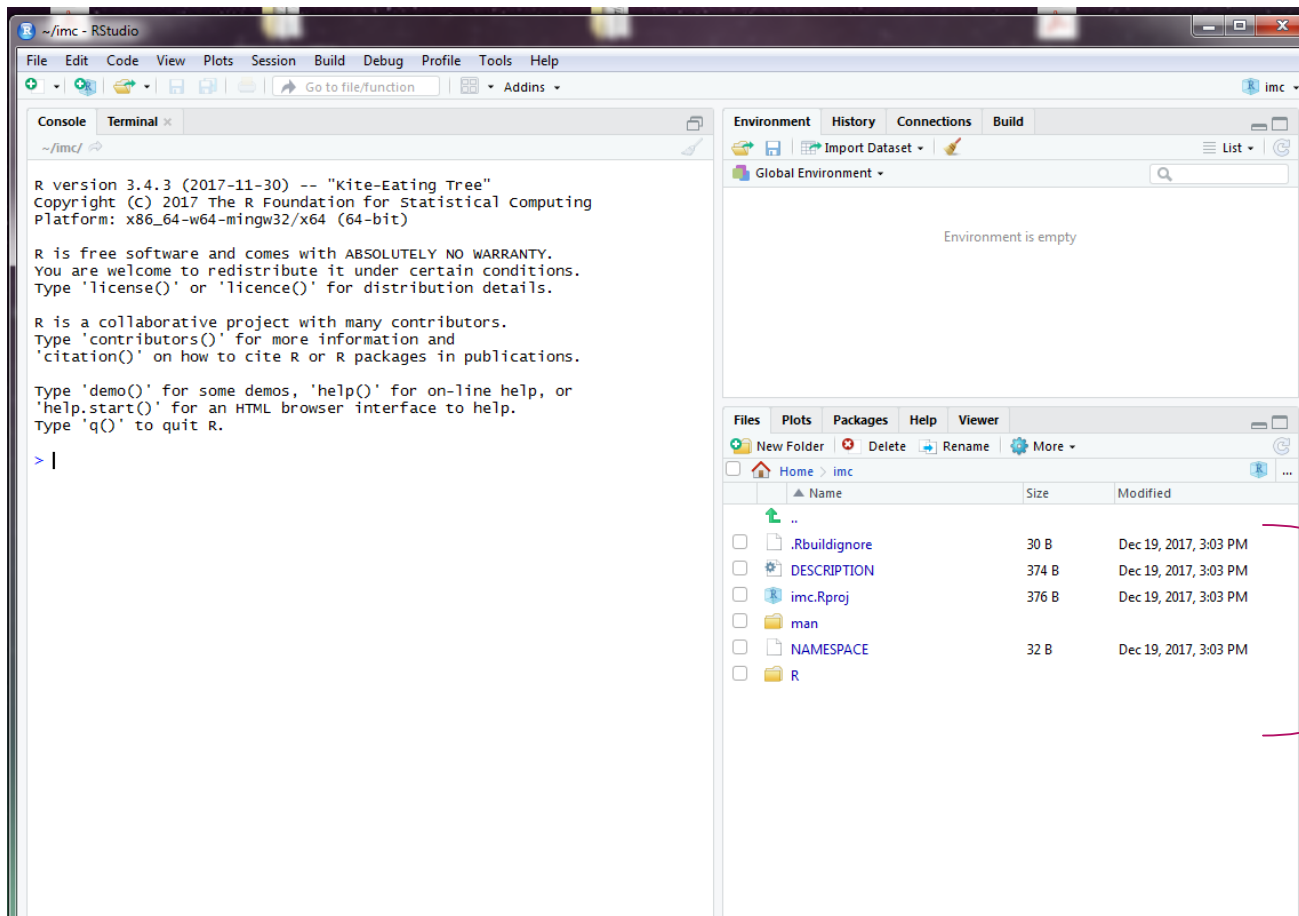
1 donner un nom

2 renseigner  
La direction des  
Scripts R à inclure

3 créer

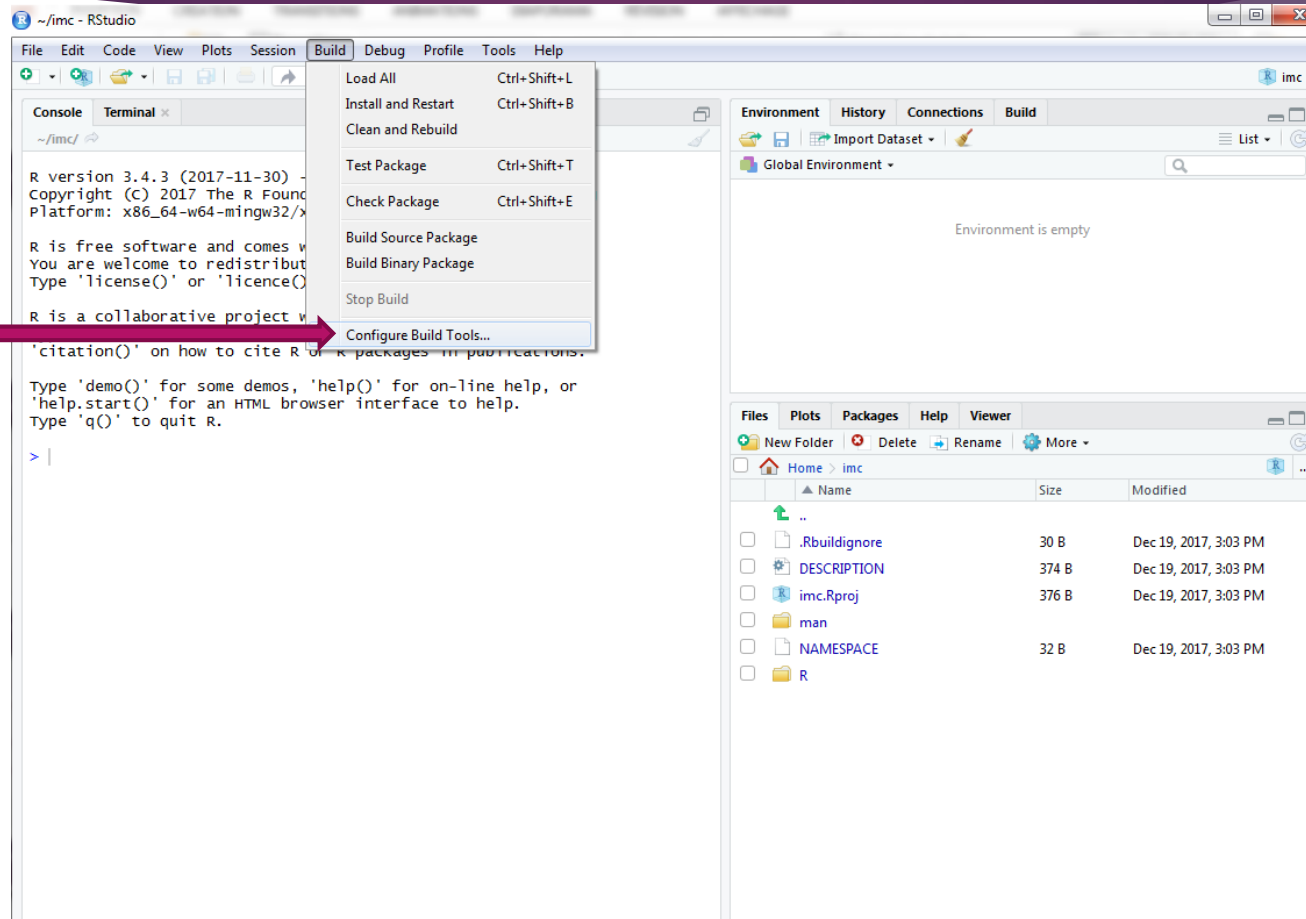


# Projet créer dans le répertoire home



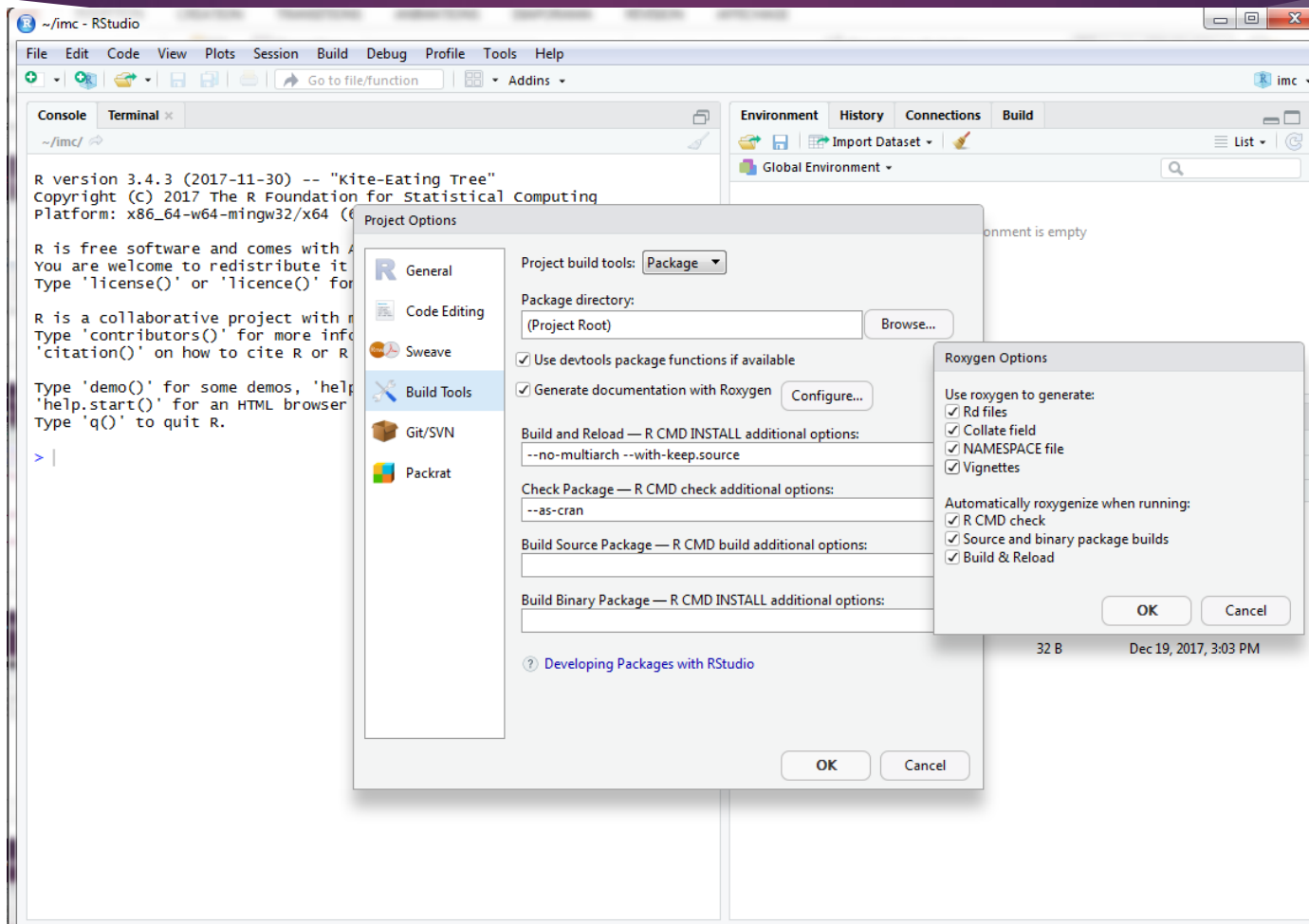
Fichiers sources

# Configurer le Builder

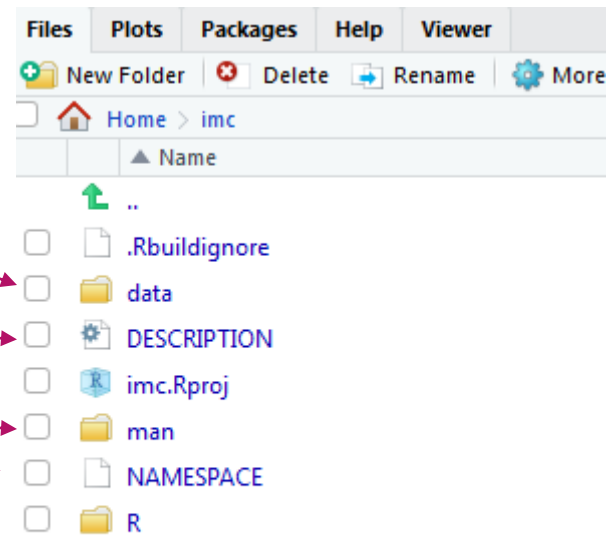
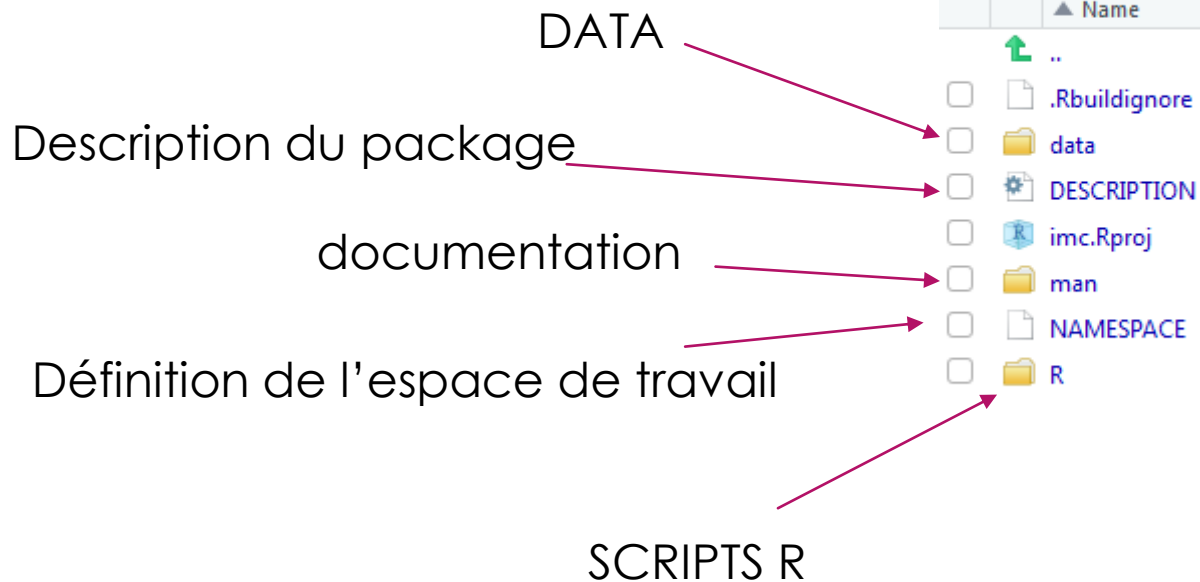




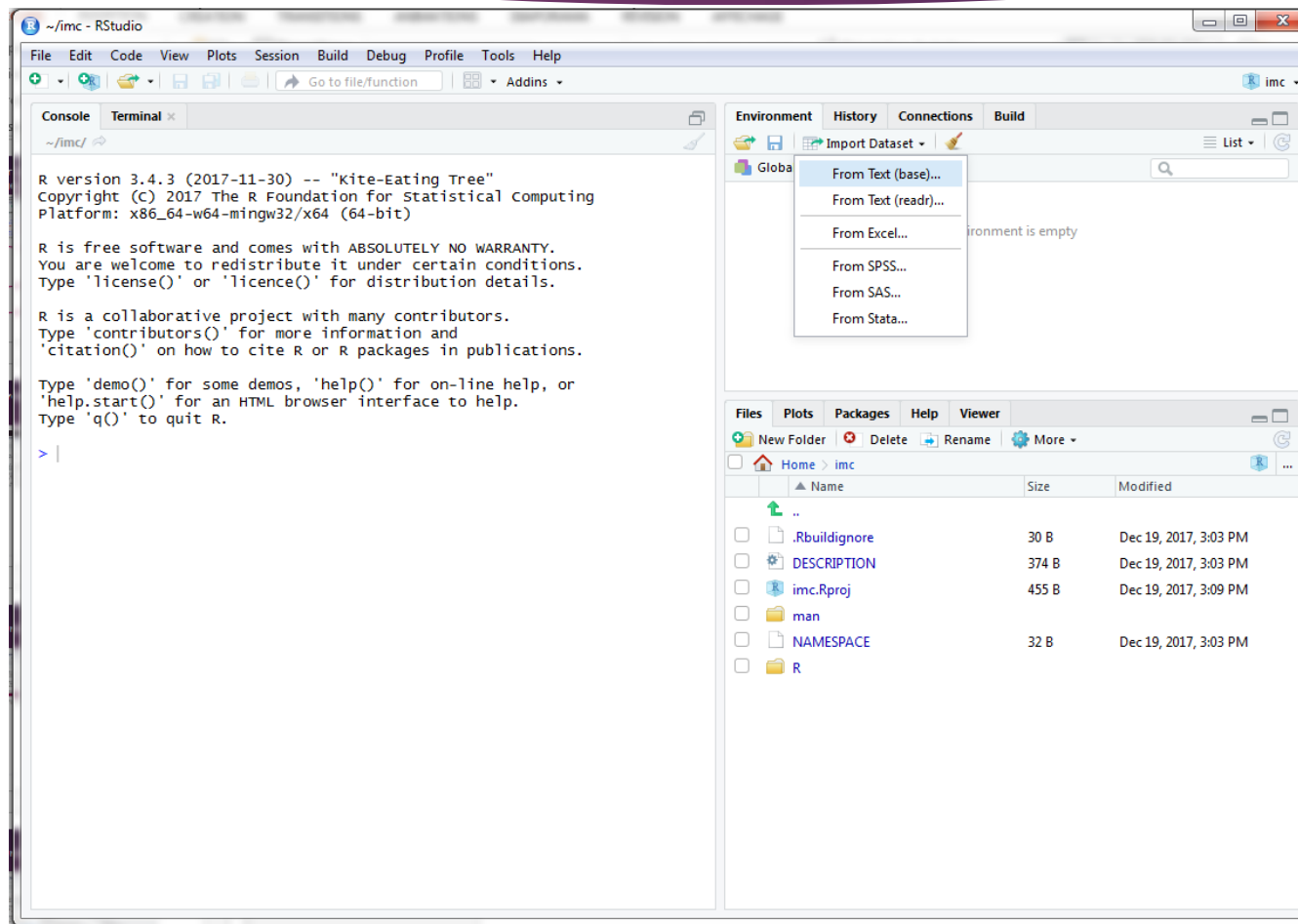
# Configuration du builder (suite)



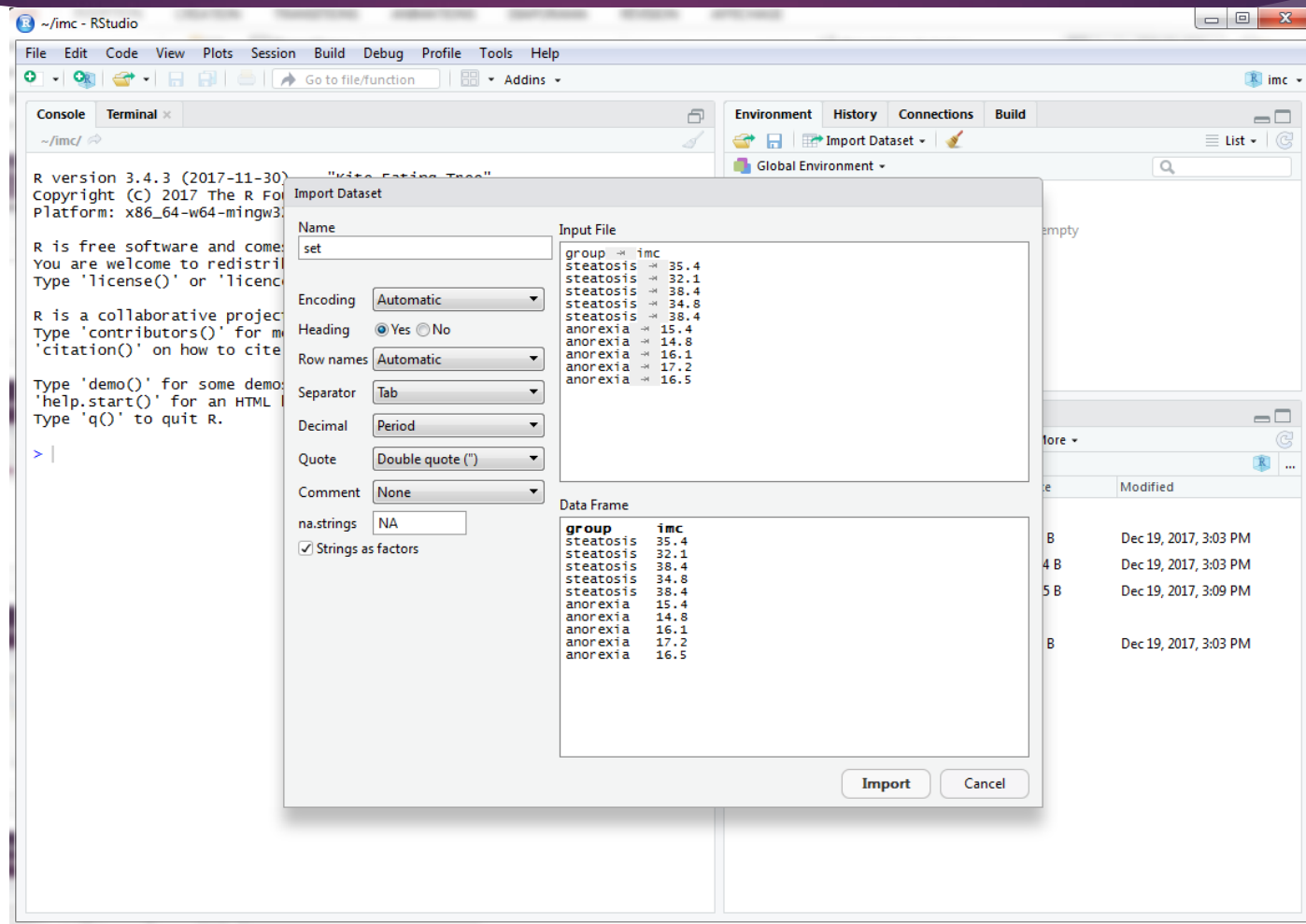
# Repertoire source



# Importation des datas dans l'environnement



# Importation des datas dans l'environnement



# Importation des données dans l'environnement

The screenshot displays the RStudio interface with the following components:

- Environment Panel:** Shows the 'Global Environment' with a dataset named 'set' containing 10 observations and 2 variables.
- Files Panel:** Shows the file explorer for the 'imc' directory, listing files such as '.Rbuildignore', 'DESCRIPTION', 'imc.Rproj', 'man', 'NAMESPACE', and 'R'.
- Console:** Contains the R command prompt with the following text:

```
> set <- read.delim("C:/Users/cdesterke/Desktop/ED R package/set.txt")
> view(set)
> attach(set)
> |
```
- Data Viewer:** Displays a table with 10 rows and 2 columns: 'group' and 'imc'. The data is as follows:

	group	imc
1	steatosis	35.4
2	steatosis	32.1
3	steatosis	38.4
4	steatosis	34.8
5	steatosis	38.4
6	anorexia	15.4
7	anorexia	14.8
8	anorexia	16.1
9	anorexia	17.2
10	anorexia	16.5

# Création du new folder « data »

The screenshot displays the RStudio interface with the following components:

- Environment Panel:** Shows a data frame named 'set' with 10 observations and 2 variables.
- Files Panel:** Shows the file explorer for the directory '~/.imc'. A 'New Folder' dialog box is open, prompting for a folder name, with 'data' entered in the text field.
- Console:** Contains the R session output and commands.

**Data Frame 'set' (10 obs. of 2 variables):**

	group	imc
1	steatosis	35.4
2	steatosis	32.1
3	steatosis	38.4
4	steatosis	34.8
5	steatosis	38.4
6	anorexia	15.4
7	anorexia	14.8
8		
9		
10		

**Console Output:**

```
R version 3.4.3 (2017-11-30) -- "Kite-Eating Tree"  
Copyright (C) 2017 The R Foundation for Statistical Computing  
Platform: x86_64-w64-mingw32/x64 (64-bit)  
  
R is free software and comes with ABSOLUTELY NO WARRANTY.  
You are welcome to redistribute it under certain conditions.  
Type 'license()' or 'licence()' for distribution details.  
  
R is a collaborative project with many contributors.  
Type 'contributors()' for more information and  
'citation()' on how to cite R or R packages in publications.  
  
Type 'demo()' for some demos, 'help()' for on-line help, or  
'help.start()' for an HTML browser interface to help.  
Type 'q()' to quit R.  
  
> set <- read.delim("C:/Users/cdesterke/Desktop/ED R package/set.txt")  
> View(set)  
> attach(set)  
> ls()  
[1] "set"  
>
```

# Save set dans le folder « data »

Besoin de set dans le graph

Save(set, file = « data/set.rda »)

```
6  
7 imcplot <- function(indice)  
8 {  
9   attach(set)  
10  set <- data.frame(set)  
11  plot(set,ylim=c(0,60),main=paste(Sys.time()))  
12  abline(h=indice,col="red",lwd=1,ltty=2)  
13  text(1.5,indice+2,col="red",label="This is the value of my IMC")  
14 }  
15
```

The screenshot displays the RStudio interface with the following components:

- Environment pane:** Shows the 'set' object with 10 observations and 2 variables.
- Files pane:** Shows the 'data' folder and the 'set.rda' file, which is circled in red.
- Console:** Displays the R session output, including the command to save the 'set' object to 'data/set.rda'.

Console output:

```
R version 3.4.3 (2017-11-30) -- "Kite-Eating Tree"  
Copyright (C) 2017 The R Foundation for Statistical Computing  
Platform: x86_64-w64-mingw32/x64 (64-bit)  
  
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'citation()' on how to cite R or R packages in publications.  
  
Type 'demo()' for some demos, 'help()' for on-line help, or  
'help.start()' for an HTML browser interface to help.  
Type 'q()' to quit R.  
  
> set <- read.delim("C:/Users/cdesterke/Desktop/ED R package/set.txt")  
> View(set)  
> attach(set)  
> ls()  
[1] "set"  
> save(set,file="data/set.rda")  
>
```

# Compléter le fichier DESCRIPTION

DESCRIPTION

```
1 Package: imc
2 Type: Package
3 Title: ce package permet de calculer l'indice de masse corporelle
4 Version: 0.1.0
5 Author: Machin Bidule
6 Maintainer: The package maintainer <machin.bidule@somewhere.com>
7 Description: le package calcul l'indice de masse corporelle à partir du poids et de la taille
8             puis un peut faire une représentation graphique du résultat par rapport à
9             un échantillon de 10 sujets compris dans les data associées |
10 License: GPL2
11 Encoding: UTF-8
12 LazyData: true
```

TRUE pour inclusion de data

Description du package

Environment History Connections Build

Global Environment

Data

set 10 obs. of 2 variables

Files Plots Packages Help Viewer

New Folder Delete Rename More

Home > imc

Name	Size
..	
.Rbuildignore	30 B
data	
DESCRIPTION	374 B
imc.Rproj	455 B
man	
NAMESPACE	32 B
R	

Console Terminal

~/imc/

type 'license()' or 'licence()' for distribution details.

R is a collaborative project with many contributors.  
Type 'contributors()' for more information and  
'citation()' on how to cite R or R packages in publications.

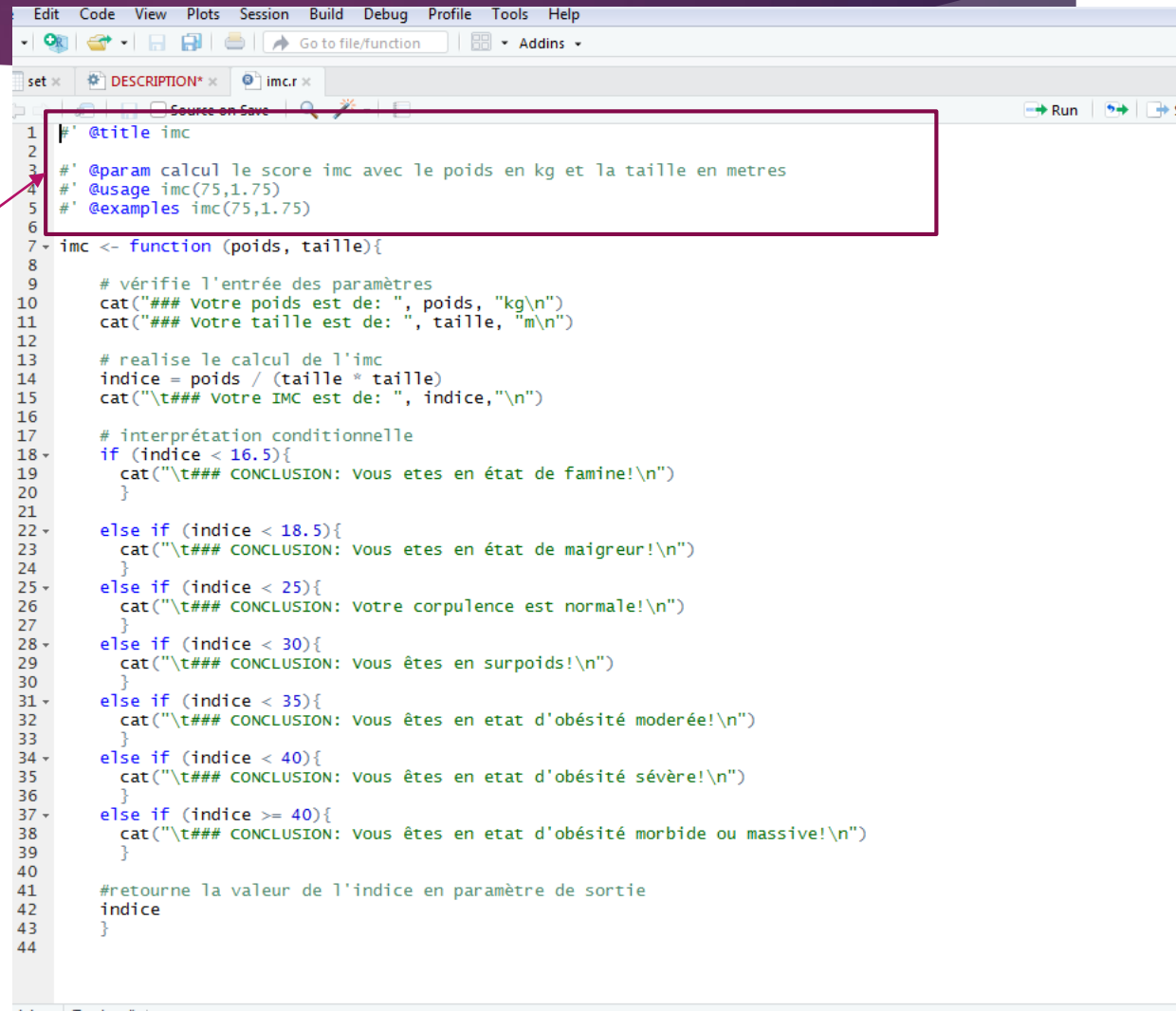
Type 'demo()' for some demos, 'help()' for on-line help, or  
'help.start()' for an HTML browser interface to help.  
Type 'q()' to quit R.

```
> set <- read.delim("C:/Users/cdesterke/Desktop/ED R package/set.txt")
> view(set)
> attach(set)
> ls()
[1] "set"
> save(set,file="data/set.rda")
>
```



# Scripts dans le folder \R

Nomenclature  
Roxygen2 pour la  
Création automatique  
Des documentations



```
1 #' @title imc
2
3 #' @param calcul le score imc avec le poids en kg et la taille en metres
4 #' @usage imc(75,1.75)
5 #' @examples imc(75,1.75)
6
7 imc <- function (poids, taille){
8
9   # vérifie l'entrée des paramètres
10   cat("### Votre poids est de: ", poids, "kg\n")
11   cat("### Votre taille est de: ", taille, "m\n")
12
13   # réalise le calcul de l'imc
14   indice = poids / (taille * taille)
15   cat("\t### Votre IMC est de: ", indice, "\n")
16
17   # interprétation conditionnelle
18   if (indice < 16.5){
19     cat("\t### CONCLUSION: vous etes en état de famine!\n")
20   }
21
22   else if (indice < 18.5){
23     cat("\t### CONCLUSION: vous etes en état de maigreur!\n")
24   }
25   else if (indice < 25){
26     cat("\t### CONCLUSION: votre corpulence est normale!\n")
27   }
28   else if (indice < 30){
29     cat("\t### CONCLUSION: vous êtes en surpoids!\n")
30   }
31   else if (indice < 35){
32     cat("\t### CONCLUSION: vous êtes en etat d'obésité modérée!\n")
33   }
34   else if (indice < 40){
35     cat("\t### CONCLUSION: vous êtes en etat d'obésité sévère!\n")
36   }
37   else if (indice >= 40){
38     cat("\t### CONCLUSION: vous êtes en etat d'obésité morbide ou massive!\n")
39   }
40
41   #retourne la valeur de l'indice en paramètre de sortie
42   indice
43 }
44
```

# Charger les package de developpement

```
> save(set,file="data/set.rda")  
> library(devtools)  
> library(roxygen2)  
> library(testthat)
```

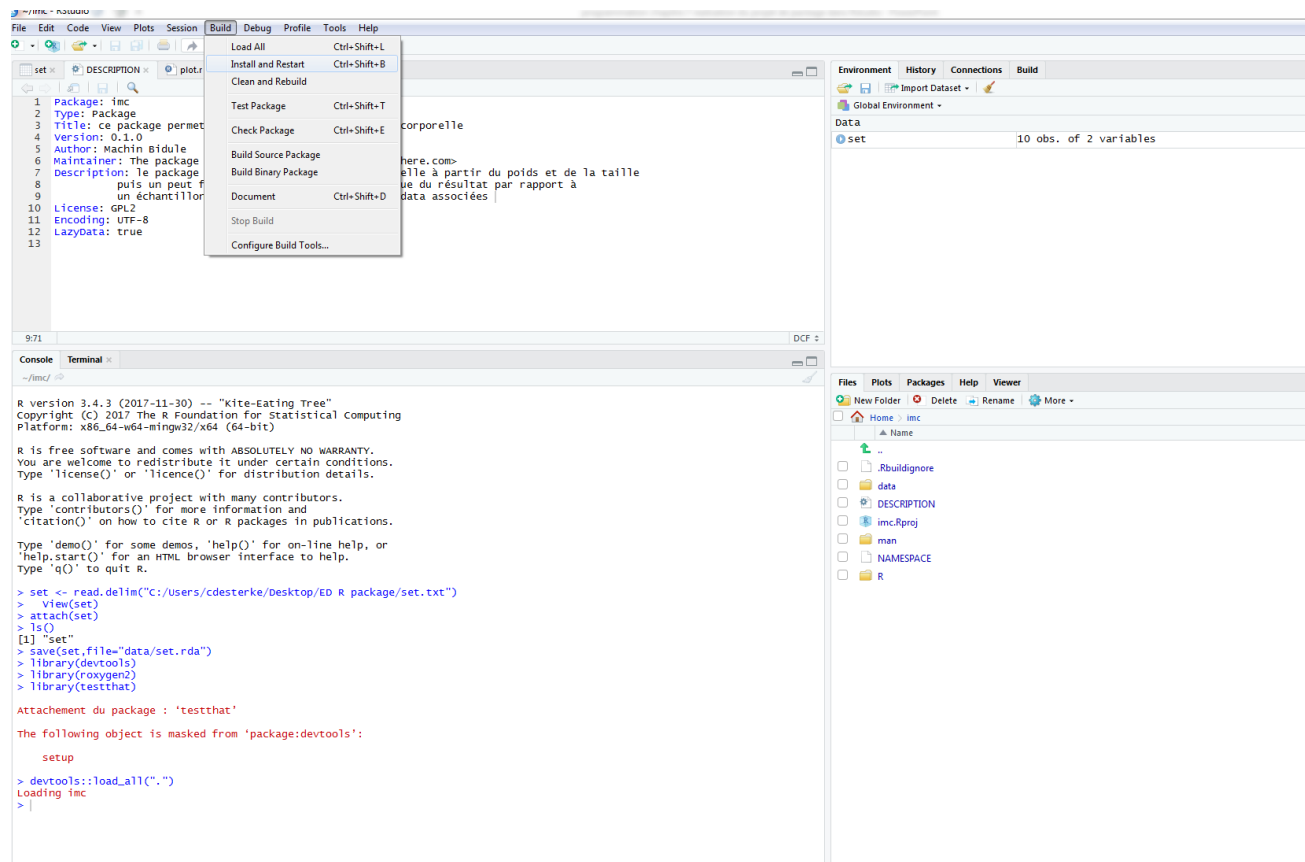
Attachement du package : 'testthat'

The following object is masked from 'package:devtools':

setup

```
> |
```

# Faire un « load all » puis « Install and Restart » après avoir sauver les modifs



# Compilation IMC

```
1 Package: imc
2 Type: Package
3 Title: ce package permet de calculer l'indice de masse corporelle
4 Version: 0.1.0
5 Author: Machin Bidule
6 Maintainer: The package maintainer <machin.bidule@somewhere.com>
7 Description: le package calcul l'indice de masse corporelle à partir du poids et de la taille
8 puis un peut faire une représentation graphique du résultat par rapport à
9 un échantillon de 10 sujets compris dans les data associées
10 License: GPL2
11 Encoding: UTF-8
12 LazyData: true
13 RoxygenNote: 6.0.1
14
```

```
R version 3.4.3 (2017-11-30) -- "Kite-Eating Tree"
Copyright (C) 2017 The R Foundation for Statistical Computing
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Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

> set <- read.delim("C:/Users/cdesterke/Desktop/ED R package/set.txt")
> view(set)
> attach(set)
> ls()
[1] "set"
> save(set, file="data/set.rda")
> library(devtools)
> library(roxygen2)
> library(testthat)

Attachement du package : 'testthat'

The following object is masked from 'package:devtools':

  setup

> devtools::load_all(".")
Loading imc

Restarting R session...

> library(imc)
>
```

```
* Installing to library 'C:/Users/cdesterke/Documents/R/win-library/3.4'
* Installing "source" package 'imc' ...
** R
*** data
*** moving datasets to lazyload DB
*** preparing package for lazy loading
*** help
*** installing help indices
converting help for package 'imc'
finding HTML links ... imc      html      html
imcplot
** building package indices
** testing if installed package can be loaded
* DONE (imc)
In R CMD INSTALL
```

File Name	Size	Modified
imc.Rd	267 B	Dec 19, 2017, 3:51 PM
imcplot.Rd	304 B	Dec 19, 2017, 3:51 PM

compilation

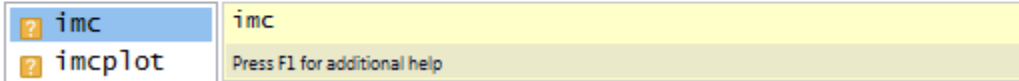
La documentation  
Est créée dans \man

Le package est loadé

# Appel de la documentation dans la console

Restarting R session...

```
> library(imc)  
> ??imc
```



Lecture de la  
Doc associée

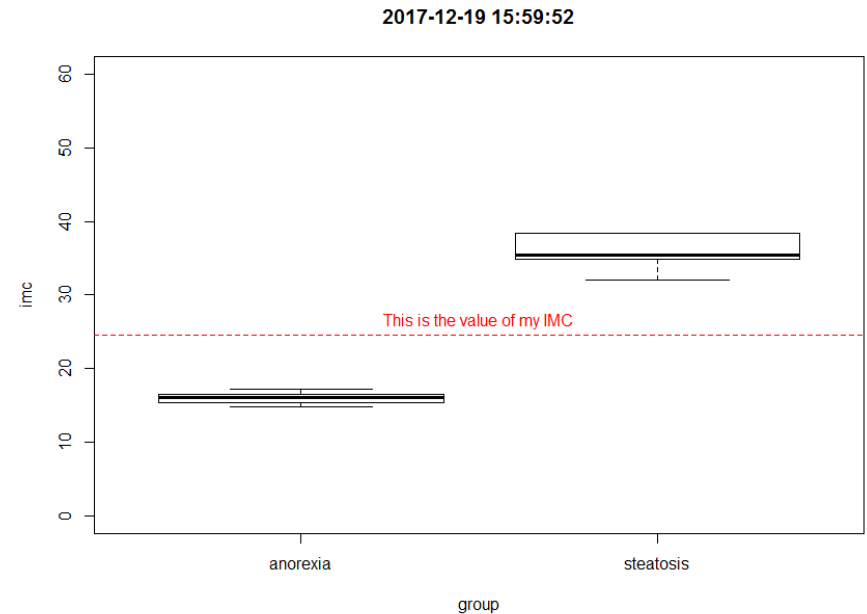
A screenshot of the R Documentation window for the 'imc' package. The window has a menu bar with 'Files', 'Plots', 'Packages', 'Help', and 'Viewer'. Below the menu bar is a search bar and a 'Find in Topic' button. The main content area displays the following information:  

- `imc {imc}`
- imc**
- Usage**
- `imc(75, 1.75)`
- Arguments**
- `calcul` le score imc avec le poids en kg et la taille en metres
- Examples**
- `imc(75, 1.75)`

[Package *imc* version 0.1.0 [Index](#)]

# Vérification de la fonctionnalité du package

```
> indice<-imc(75,1.75)
### Votre poids est de: 75 kg
### Votre taille est de: 1.75 m
      ### Votre IMC est de: 24.4898
      ### CONCLUSION: votre corpulence est normale!
> imcplot(indice)
The following objects are masked from set (pos = 8):
  group, imc
```



# Build du package source

```
File Edit Code View Plots Session Build Debug Profile Tools Help
Load All Ctrl-Shift-L
Install and Restart Ctrl-Shift-B
Clean and Rebuild
Test Package Ctrl-Shift-T
Check Package Ctrl-Shift-E
Build Source Package
Build Binary Package
Document Ctrl-Shift-D
Stop Build
Configure Build Tools...

DESCRIPTION
1 Package: imc
2 Type: Package
3 Title: ce package permet
4 version: 0.1.0
5 Author: machin Bidule
6 Maintainer: The package
7 Description: le package
8 puis un peut f
9 un échantillon
10
11 License: GPL2
12 Encoding: UTF-8
13 Lazydata: true
14 RoxygenNote: 6.0.1

Console Terminal
K is a collaborative project with many contributors.
Type 'contributors()' for more information and
'citation()' on how to cite R or R packages in publications.

Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

> set <- read.delim("c:/Users/cdesterke/Desktop/ED R package/set.txt")
> view(set)
> attach(set)
> ls()
[1] "set"
> save(set, file="data/set.rda")
> library(devtools)
> library(roxygen2)
> library(testthat)

Attachement du package : 'testthat'
The following object is masked from 'package:devtools':
  setup

> devtools::load_all(".")
Loading imc
Restarting R session...

> library(imc)
> ??imc
> indice(75, 1.75)
Error in indice(75, 1.75) : could not find function "indice"
> indice<-imc(75, 1.75)
### Votre poids est de: 75 kg
### Votre taille est de: 1.75 m
### Votre IMC est de: 24.4898
### CONCLUSION: Votre corpulence est normale!
> imcplot(indice)
The following objects are masked from set (pos = 8):
  group, imc

Environment History Connections Build
Install and Restart Check More
Loading imc
First time using roxygen2, upgrading automatically...
Updating roxygen version in c:/Users/cdesterke/Documents/imc/DESCRIPTION
Writing imc.Rd
Writing imcplot.Rd
Warning: The existing 'NAMESPACE' file was not generated by roxygen2, and will not be overwritten.
Documentation completed
==> Rcmdr.exe INSTALL --no-multiarch --with-keep.source imc
* installing to library 'C:/Users/cdesterke/Documents/R/win-library/3.4'
* installing "source" package 'imc' ...
** R
*** moving datasets to lazyload DB
** DONE (source package 'imc')

Environment History Connections Build
Install and Restart Check More
==> devtools::document(roclets=c('rd', 'collate', 'namespace', 'vignette'))
updating imc documentation
Loading imc
Warning: The existing 'NAMESPACE' file was not generated by roxygen2, and will not be overwritten.
Documentation completed
==> devtools::build()
"C:/PROGRA~1/R/R-34~1.3/bin/x64/R" --no-site-file --no-enviro --no-save \
--no-restore --quiet CMD build "c:/Users/cdesterke/Documents/imc" \
--no-resave-data --no-manual
* checking for file 'C:/Users/cdesterke/Documents/imc/DESCRIPTION' ... OK
* preparing 'imc':
* checking DESCRIPTION meta-information ... OK
* checking for LF line-endings in source and make files and shell scripts
* checking for empty or unneeded directories
* looking to see if a 'data/datalist' file should be added
* building 'imc_0.1.0.tar.gz'

[1] "C:/Users/cdesterke/Documents/imc_0.1.0.tar.gz"
Source package written to C:/Users/cdesterke/Documents
```

# Build the binary package

The screenshot shows the RStudio interface. The 'Build' menu is open, highlighting 'Build Binary Package'. The console shows the following output:

```
--help--
x is a collaborative project with many contributors.
Type 'contributors()' for more information and
'citation()' on how to cite R or R packages in publications.

Type 'demo()' for some demos, 'help()' for on-line help, or
'help.start()' for an HTML browser interface to help.
Type 'q()' to quit R.

> set <- read.delim("C:/Users/cdesterke/Desktop/ED R package/set.txt")
> vlm(set)
> attach(set)
> %>%
[1] "set"
> save(set,file="data/set.rda")
> library(devtools)
> library(roxygen2)
> library(testthat)

Attachement du package : 'testthat'
The following object is masked from 'package:devtools':
  setup

> devtools::load_all(".")
Loading imc

Restarting R session...

> library(imc)
> ??imc
> indice(75,1.75)
Error in indice(75, 1.75) : could not find function "indice"
> indice<-imc(75,1.75)
## votre poids est de: 75 kg
## votre taille est de: 1.75 m
## votre IMC est de: 24.4898
## conclusion: votre corpulence est normale!
> imcplot(indice)
The following objects are masked from set (pos = 8):
  group, imc
```

```
Install and Restart Check More ▾

"C:/PROGRA~1/R/R-34~1.3/bin/x64/R" --no-site-file --no-envIRON --no-save \
--no-restore --quiet CMD INSTALL "C:/Users/cdesterke/Documents/imc" --build \
--preclean

* installing to library 'C:/Users/cdesterke/AppData/Local/Temp/Rtmp4ewLe7/temp_libpath236846ae36b2'
* installing *source* package 'imc' ...
** R
** data
*** moving datasets to lazyload DB
*** preparing package for lazy loading
*** help
*** installing help indices
*** converting help for package 'imc'
    finding HTML links ...    imc
    imcplot
    html
fini
** building package indices
** testing if installed package can be loaded
** MD5 sums
packaged installation of 'imc' as imc_0.1.0.zip
* DONE (imc)
In R CMD INSTALL
[1] "C:/Users/cdesterke/Documents/imc_0.1.0.zip"

Binary package written to C:/Users/cdesterke/Documents
```

