Chapter 3: Importing and exporting data

Contents

1 Importing an *Excel* file using *Workspace* window **1**

2 Importing an *Excel* file using R function **2**

3 Export a data frame to a *xlsx* file **3**

4 Importing a *txt* file using the `read.table()` function **3**

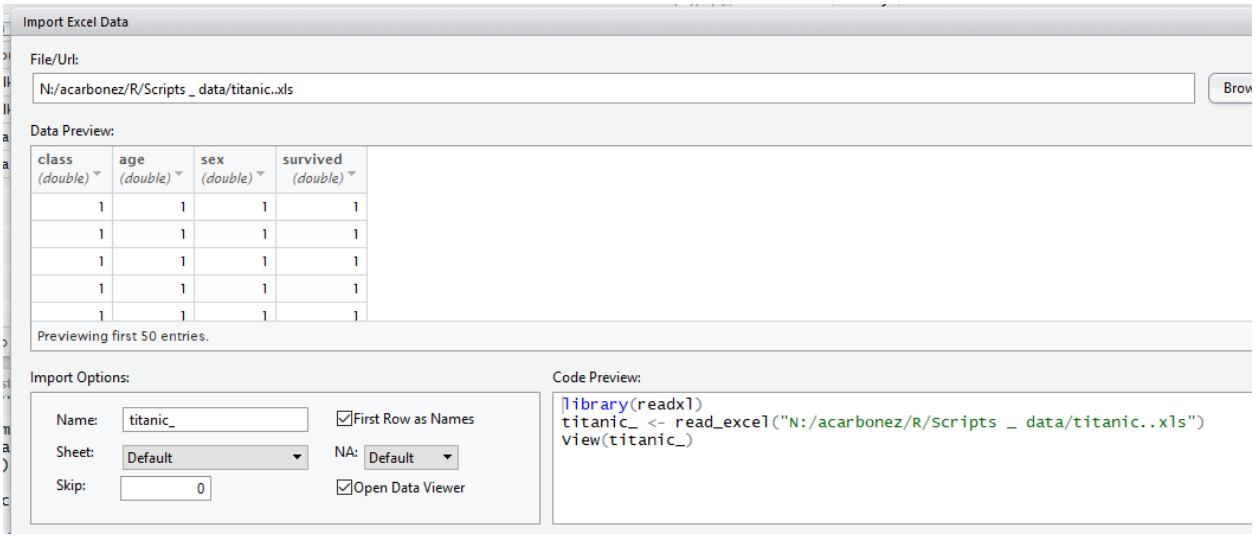
5 Export a data frame to a *.txt* file **4**

1 Importing an *Excel* file using *Workspace* window

Example: *Titanic*
Import data *titanic.xlsx*.
This *Excel* file contains information about the passengers of the Titanic. The class (1^{st}, 2^{nd},...), the age group, gender and whether the passenger survived. We want to import the worksheet *titanic*.

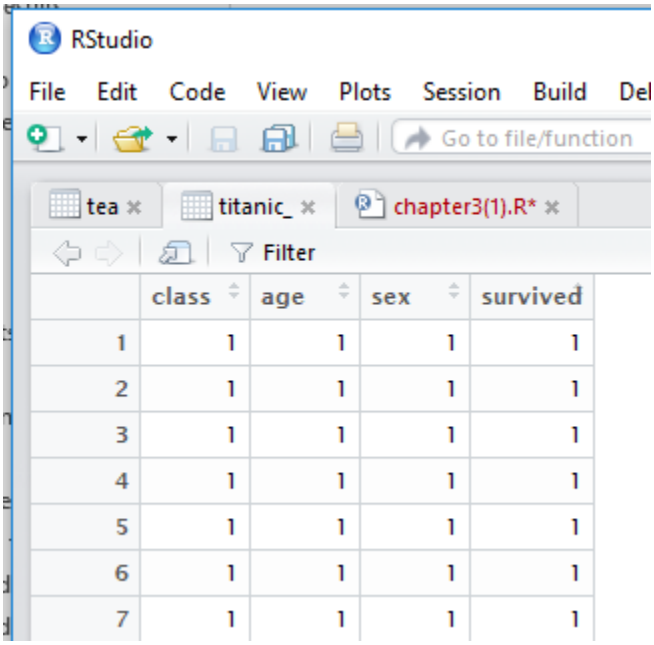
	A	B	C	D
1	class	age	sex	survived
2	1	1	1	1
3	1	1	1	1
4	1	1	1	1
5	1	1	1	1
6	1	1	1	1
7	1	1	1	1

→ **Environment** → **Import Dataset** → **From Excel ...**



Do not forget to click the 'First row as Names' check box.

There is now an R data frame titanic_ created



2 Importing an *Excel* file using R function

```
install.packages("readxl")
library(readxl)
```

Import the *Excel* file *titanic.xlsx* with the function `read_excel`.

```
titanic2 <- read_excel("C:/Users/.../titanic.xlsx") # Note that '/' needs to be used (not '\')
```

```
head(titanic2, n = 6)
```

```
## # A tibble: 6 x 4
##   class   age   sex survived
```

```
##   <dbl> <dbl> <dbl>    <dbl>
## 1     1     1     1        1
## 2     1     1     1        1
## 3     1     1     1        1
## 4     1     1     1        1
## 5     1     1     1        1
## 6     1     1     1        1
```

3 Export a data frame to a *xlsx* file

We want to export the R data frame `airquality` (package `datasets`) to a *xlsx* file.

```
head(airquality, n = 6)
```

```
##   Ozone Solar.R Wind Temp Month Day
## 1    41     190  7.4   67     5   1
## 2    36     118  8.0   72     5   2
## 3    12     149 12.6   74     5   3
## 4    18     313 11.5   62     5   4
## 5    NA      NA 14.3   56     5   5
## 6    28      NA 14.9   66     5   6
```

```
install.packages("openxlsx")
library(openxlsx)
write.xlsx(airquality, file = "AirData.xlsx")
```

	A	B	C	D	E	F
1	Ozone	Solar.R	Wind	Temp	Month	Day
2	41	190	7,4	67	5	1
3	36	118	8	72	5	2
4	12	149	12,6	74	5	3
5	18	313	11,5	62	5	4
6			14,3	56	5	5
7	28		14,9	66	5	6
8	23	299	8,6	65	5	7
9	19	99	13,8	59	5	8
10	8	19	20,1	61	5	9
11		194	8,6	69	5	10
12	7		6,9	74	5	11

4 Importing a *txt* file using the `read.table()` function

Example: To import the data *chol_R.txt* using the `read.table()` function:

```
chol <- read.table(file = file.choose(), header = TRUE)
```

Note:

- The function `file.choose()` allows us to choose the file interactively, rather than typing it.
- The argument `header = TRUE` says that the first line is a line of headings (column names).

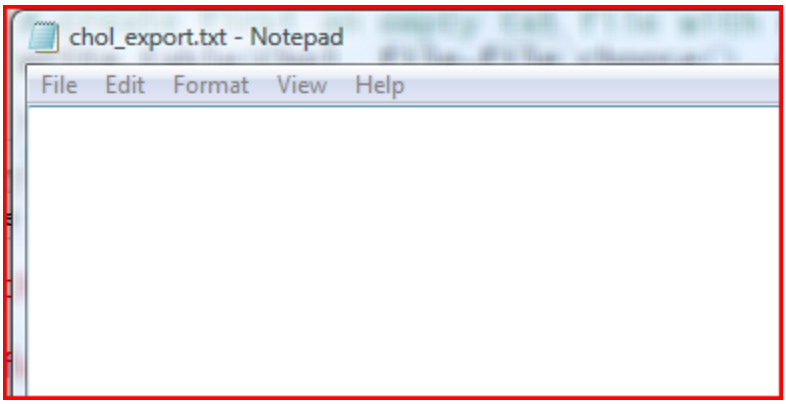
Other possibility:

```
chol2 <- read.table(file = "C:/Users/.../chol_R.txt", header = TRUE)
```

5 Export a data frame to a *.txt* file

Option 1:

1. Create an empty *.txt* file (for example, in *Notepad*). Save it with the name *chol_export.txt* in your directory.

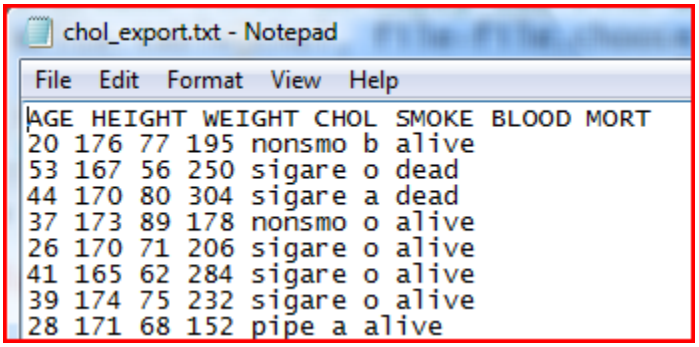


2. Use the function `write.table` to write the data to this file

```
write.table(chol, file = file.choose(), quote = FALSE,
            sep = " ", row.names = FALSE, col.names = TRUE)
```

Click on *chol_export.txt* in the file selection dialog window when R asks for it.

3. When you open *chol_export.txt*, you obtain the following result:



Option 2:

Use the name and location of your *txt* file

```
write.table(chol,
            file = "C:/Users/.../chol_out.txt",
            quote = FALSE,
            sep = " ",
            row.names = FALSE,
            col.names = TRUE)
```

On your chosen location (C:/Users/...), the text file *chol_out.txt* will appear which contains the data of the data frame `chol`.