

Data Import

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First of all, set your working directory in the *data* folder, using `setwd()` function, like in this example

```
setwd("C:/Users/Veronica/Documents/rbase/data")
```

We will work inside this folder.

Text Files

Exercise 1

- a. Import text file named *"tuscany.txt"* and save it in the object `tuscany_df`.
Open the text file before importing it to control if the first row contains column names and to control the field and the decimal separator characters. Remember to not import the character columns as factors.
- b. Visualize the first rows of `tuscany_df`

Exercise 2

Import 7 rows of the text file named *"solar.txt"* skipping the first two rows. Save it in the object `solar_df`. Open the text file before importing it to control if the first row contains column names and to control the field and the decimal separator characters. Remember to not import the character columns as factors.

Exercise 3

Save the following data frame in a .txt file named *"exercise-3.txt"* in *data* folder.

```
df <- data.frame(col1=1:4, col2=4:1, col3=c("one", "two", "three", "four"),  
                 stringsAsFactors = FALSE)
```

Excel Files

Exercise 1

- a. Import *xlsx* file *"flowers.xlsx"* using `XLConnect` function `loadWorkbook()` and save it in a R workbook object named `flowers`.

Remember to load `XLConnect` package, supposing it is already installed.

```
require(XLConnect)
```

- b. Read *iris* sheet with `readWorksheet()` function and save it in `flower_df` object. Then, visualize its first rows.

Exercise 2

- Create a new file `xlsx`, named “*exercise-2.xlsx*”, and save it in the R worksheet object, named `ex_2`. Use: `loadWorkbook()` and `saveWorkbook()` functions of `XLConnect`.
- Create a sheet in the R workbook object, named `df`, using `createSheet()` function. Remember to save the changes also in `.xlsx` file (use `saveWorkbook()` function).
- Considering the following data frame, named `numbers_df`:

```
numbers_df <- data.frame(a= 1:4, b=c("one", "two", "three", "four"), stringsAsFactors = FALSE)
numbers_df
```

```
##   a    b
## 1 1  one
## 2 2  two
## 3 3 three
## 4 4  four
```

Add it to `df` sheet of `ex_2` R workbook object, starting from row 3 and from column 2. Use the function `writeWorksheet()`. Remember to save the changes also in `.xlsx` file (use `saveWorkbook()` function).

Databases

Exercise 1

- Connect to “*plant.sqlite*” SQLite database, using `dbConnect()` function of `RSQLite` package. Save the connection in an R object, named `con`.

Remember to load `RSQLite` package, supposing it is already installed.

```
require(RSQLite)
```

- See the list of available tables in “*plant.sqlite*” db, using `dbListTables()` function.
- See list of fields in “*PlantGrowth*” table of “*plant.sqlite*” db, using `dbListFields()` function.
- Send query to “*PlantGrowth*” table of “*plant.sqlite*” which select the records with `weight` greater than 5.5.
- Disconnect from the database, using `dbDisconnect()` function.

R Data Files

Exercise 1

Given the following data frame, named `df_rdata`:

```
df_rdata <- data.frame(a=1:20, b=20:1)
```

Save it in `.Rda` format in the file “*df_rdata.Rda*”, using `save()` function.

Exercise 2

Load “*drug.Rda*” file into the environment, using `load()` function.