

# Tutorial 2

## Data Analytics



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# Writing data

- **R base functions for writing data**

- `write.table(x, file, append = FALSE, sep = " ",  
dec = ".", row.names = TRUE, col.names = TRUE)`

**x:** a [matrix or a data frame](#) to be written.

**file:** a character specifying the name of the result file.

**sep:** the field separator string, e.g., `sep = "\t"` (for tab-separated value).

**dec:** the string to be used as decimal separator. Default is "."

**row.names:** either a logical value indicating whether the row names of `x` are to be written along with `x`, or a character vector of row names to be written.

**col.names:** either a logical value indicating whether the column names of `x` are to be written along with `x`, or a character vector of column names to be written. If `col.names = NA` and `row.names = TRUE` a blank column name is added, which is the convention used for CSV files to be read by spreadsheets.

# Writing data

- **write.csv()** uses "." for the decimal point and a comma (",") for the separator.
- **write.csv2()** uses a comma (",") for the decimal point and a semicolon (";") for the separator.

The syntax is as follow:

```
write.csv(my_data, file = "my_data.csv")
```

```
write.csv2(my_data, file = "my_data.csv")
```

# Writing data

- `# Loading mtcars data`
- `data("mtcars")`
- `# Writing mtcars data`
- `write.table(mtcars, file = "mtcars.txt", sep =  
"\t", row.names = TRUE, col.names = NA)`

# Using readr

## Installing and loading readr

```
install.packages("readr") # Installing
```

```
library("readr") # Loading
```

```
# General function
```

```
write_delim(x, path, delim = " ")
```

```
# Write comma (",") separated value files
```

```
write_csv(file, path)
```

```
# Write tab ("\t") separated value files
```

```
write_tsv(file, path)
```

**x:** a data frame to be written

**path:** path to the result file

**delim:** Delimiter used to separate values. Must be single character.

# Using readr

```
# Loading mtcars data
data("mtcars")
library("readr")

# Writing mtcars data to a tsv file
write_tsv(mtcars, path = "mtcars.tsv")

# Writing mtcars data to a csv file
write_csv(mtcars, path = "mtcars.csv")
```

# Writing Data From R to Excel Files

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

There are two main functions in **xlsx** package for writing both xls and xlsx Excel files: **write.xlsx()** and **write.xlsx2()** [faster on big files compared to write.xlsx function].

```
write.xlsx(x, file, sheetName = "Sheet1", col.names =  
TRUE, row.names = TRUE, append = FALSE)
```

```
write.xlsx2(x, file, sheetName = "Sheet1", col.names =  
TRUE, row.names = TRUE, append = FALSE)
```

# Writing Data From R to Excel Files

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

There are two main functions in **xlsx** package for writing both xls and xlsx Excel files: **write.xlsx()** and **write.xlsx2()** [faster on big files compared to write.xlsx function].

```
write.xlsx(x, file, sheetName = "Sheet1", col.names =  
TRUE, row.names = TRUE, append = FALSE)
```

```
write.xlsx2(x, file, sheetName = "Sheet1", col.names =  
TRUE, row.names = TRUE, append = FALSE)
```

**x**: a data.frame to be written into the workbook

**file**: the path to the output file

**sheetName**: a character string to use for the sheet name.

**col.names, row.names**: a logical value specifying whether the column names/row names of x are to be written to the file

**append**: a logical value indicating if x should be appended to an existing file.



# Writing Data From R to Excel Files

**Example of usage:** the following R code will write the [R built-in data sets](#) - USArrests, mtcars and iris - into the same Excel file:

```
library("xlsx")

# Write the first data set in a new workbook
write.xlsx(USArrests, file = "myworkbook.xlsx", sheetName
= "USA-ARRESTS", append = FALSE)

# Add a second data set in a new worksheet
write.xlsx(mtcars, file = "myworkbook.xlsx",
sheetName="MTCARS", append=TRUE)

# Add a third data set
write.xlsx(iris, file = "myworkbook.xlsx",
sheetName="IRIS", append=TRUE)
```