# Reading sheets

INTRODUCTION TO IMPORTING DATA IN R

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datacamp

# XLConnect

- Martin Studer
- Work with Excel through R
- Bridge between Excel and R
- XLS and XLSX
- Easy-to-use functionality

# Installation

```
install.packages("XLConnect")
```

```
also installing the dependencies 'XLConnectJars', 'rJava'
...
```

- Problems?
  - Install Oracle's Java Development Kit (JDK)
  - Google your error!

# loadWorkbook()

```
library("XLConnect")
book <- loadWorkbook("cities.xlsx")
str(book)
```

```
Formal class 'workbook' [package "XLConnect"] with 2 slots
  ..@ filename: chr "cities.xlsx"
  ..@ jobj    : ...
```

# getSheets()

```
getSheets(book)
```

```
"year_1990" "year_2000"
```

```
library(readxl)
excel_sheets("cities.xlsx")
```

```
"year_1990" "year_2000"
```

# readWorksheet()

```
readWorksheet(book, sheet = "year_2000")
```

```
    Capital Population
1  New York   17800000
2    Berlin    3382169
3    Madrid    2938723
4 Stockholm    1942362
```

# readWorksheet()

| Capital | Population |
|---|---|
| New York | 17800000 |
| Berlin | 3382169 |
| Madrid | 2938723 |
| Stockholm | 1942362 |

row 3

row 4

year_2000

col 2

```
readWorksheet(book, sheet = "year_2000",
              startRow = 3,
              endRow = 4,
              startCol = 2,
              header = FALSE)
```

```
     Col1
1 3382169
2 2938723
```

# Let's practice!

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# Adapting sheets

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# New data!

```
pop_2010 <- data.frame(Capital = c("New York", "Berlin", "Madrid", "Stockholm"),
    Population = c(8191900, 3460725, 3273000, 1372565))

pop_2010
```

```
    Capital Population
1  New York    8191900
2    Berlin    3460725
3    Madrid    3273000
4 Stockholm    1372565
```

# createSheet()

```
pop_2010 <- ... # truncated
library(XLConnect)
book <- loadWorkbook("cities.xlsx")
```

| Capital | Population |
|---|---|
| New York | 16044000 |
| Berlin | 3 |
| Madrid | 3 |
| Stockholm | 1 |

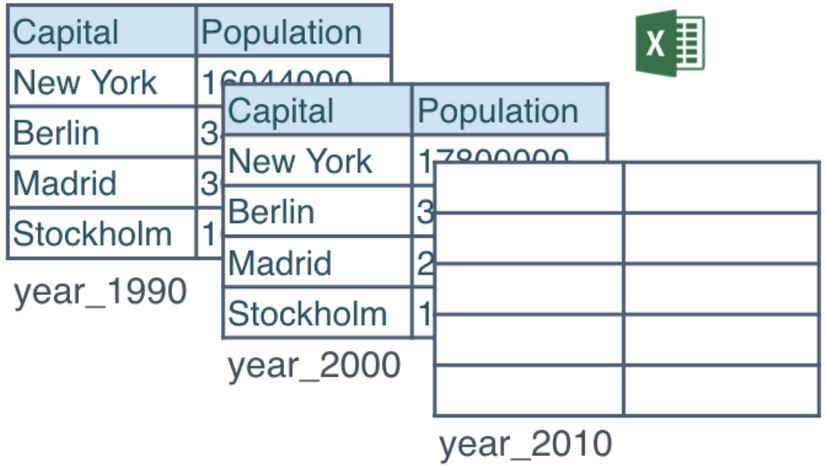
year_1990

| Capital | Population |
|---|---|
| New York | 17800000 |
| Berlin | 3382169 |
| Madrid | 2938723 |
| Stockholm | 1942362 |

year_2000

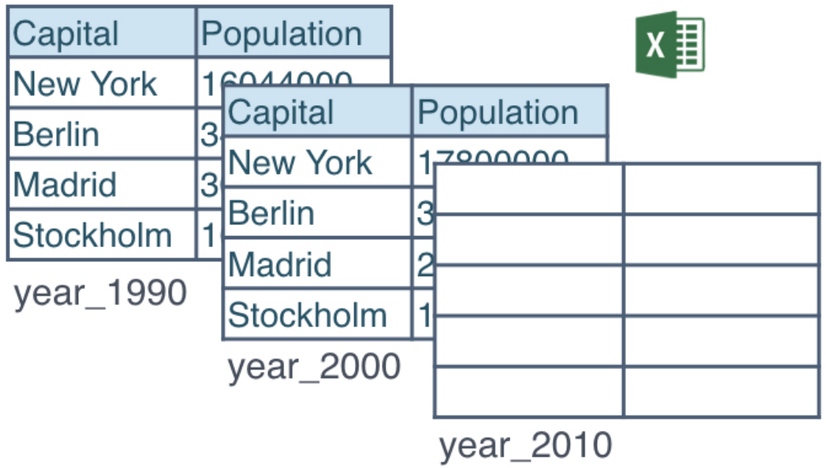
# createSheet()

```
pop_2010 <- ... # truncated
library(XLConnect)
book <- loadWorkbook("cities.xlsx")
createSheet(book, name = "year_2010")
```



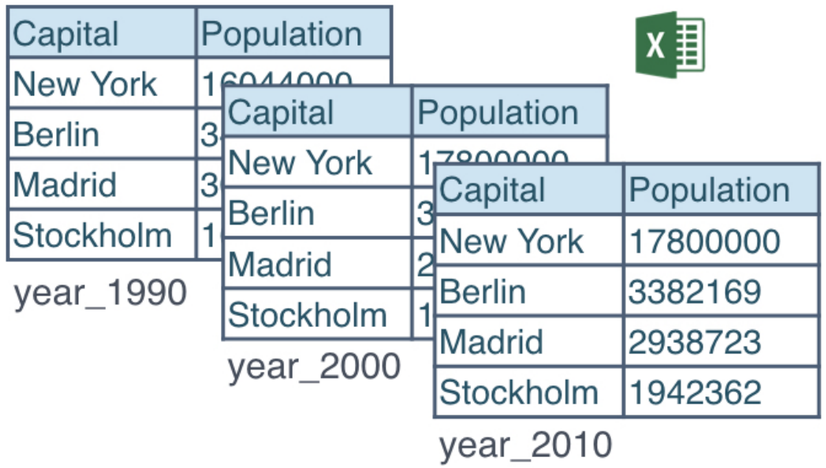
# writeWorksheet()

```
pop_2010 <- ... # truncated
library(XLConnect)
book <- loadWorkbook("cities.xlsx")
createSheet(book, name = "year_2010")
writeWorksheet(book, pop_2010, sheet = "year_2010")
```



# saveWorkbook()

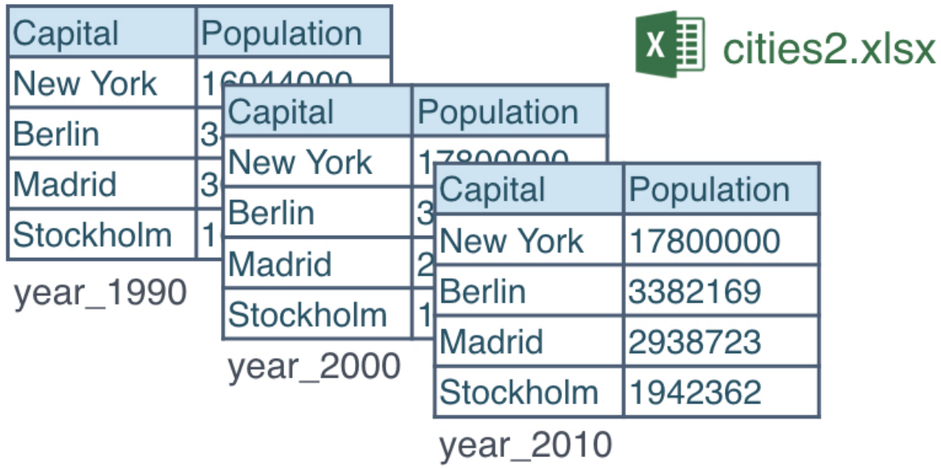
```
pop_2010 <- ... # truncated
library(XLConnect)
book <- loadWorkbook("cities.xlsx")
createSheet(book, name = "year_2010")
writeWorksheet(book, pop_2010, sheet = "year_2010")
```



# saveWorkbook()

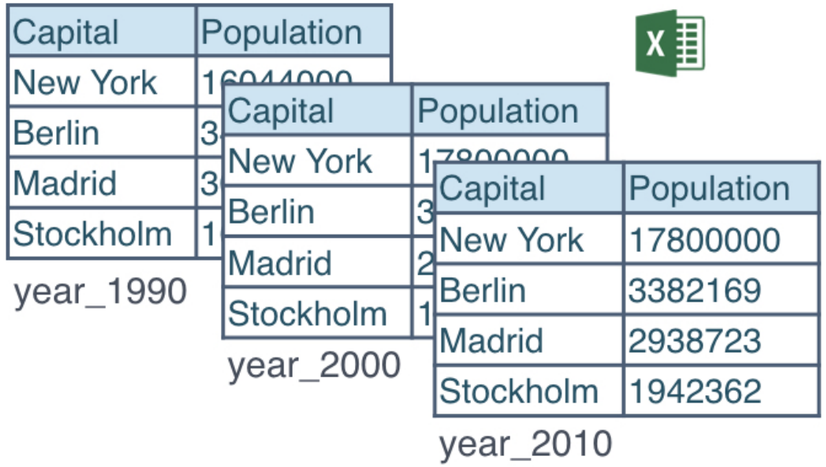
```
pop_2010 <- ... # truncated
library(XLConnect)
book <- loadWorkbook("cities.xlsx")
createSheet(book, name = "year_2010")
writeWorksheet(book, pop_2010, sheet = "year_2010")

saveWorkbook(book, file = "cities2.xlsx")
```



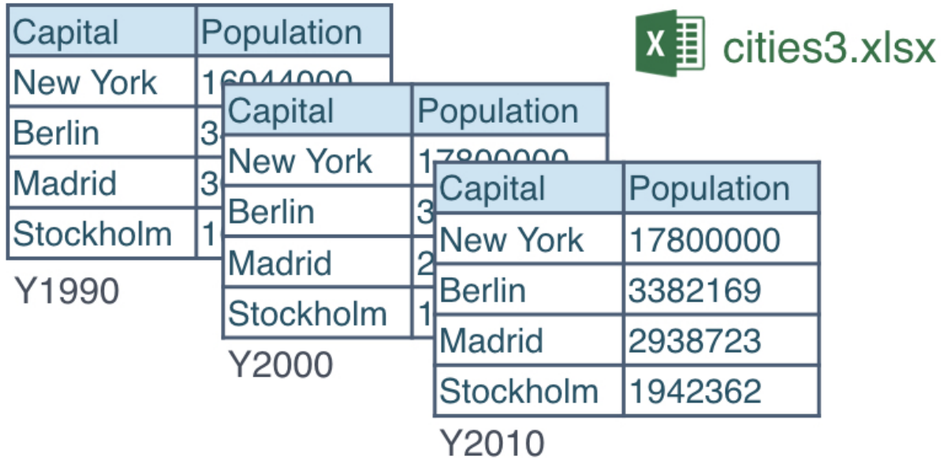
# renameSheet()

```
renameSheet(book, "year_1990", "Y1990")
renameSheet(book, "year_2000", "Y2000")
renameSheet(book, "year_2010", "Y2010")
```



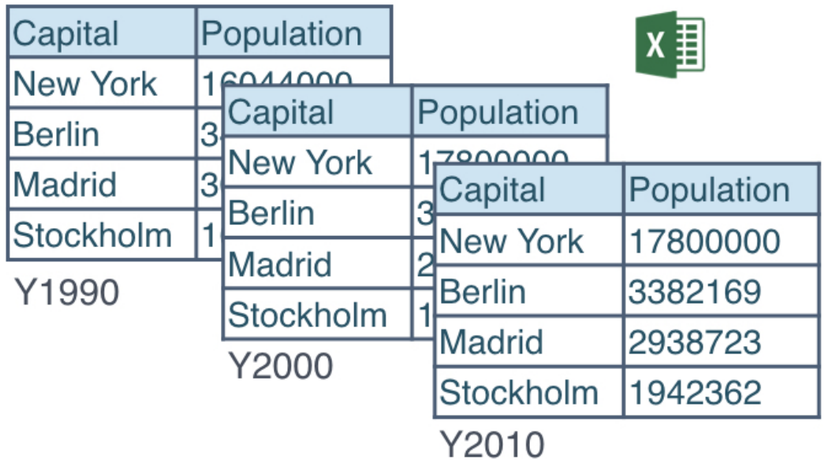
# renameSheet()

```
renameSheet(book, "year_1990", "Y1990")
renameSheet(book, "year_2000", "Y2000")
renameSheet(book, "year_2010", "Y2010")
saveWorkbook(book, file = "cities3.xlsx")
```



# removeSheet()

```
removeSheet(book, sheet = "Y2010")
```



# removeSheet()

```
removeSheet(book, sheet = "Y2010")
saveWorkbook(book, file = "cities4.xlsx")
```

| Capital | Population |
|---|---|
| New York | 16044000 |
| Berlin | 3 |
| Madrid | 3 |
| Stockholm | 1 |

Y1990

| Capital | Population |
|---|---|
| New York | 17800000 |
| Berlin | 3382169 |
| Madrid | 2938723 |
| Stockholm | 1942362 |

Y2000

# Wrap-up

- Basic operations
- Reproducibility is the key!
- More functionality
  - Styling cells
  - Working with formulas
  - Arranging cells
  - ...

# Let's practice!

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