IMPORTING DATA IN R

Reading sheets

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'
...
```

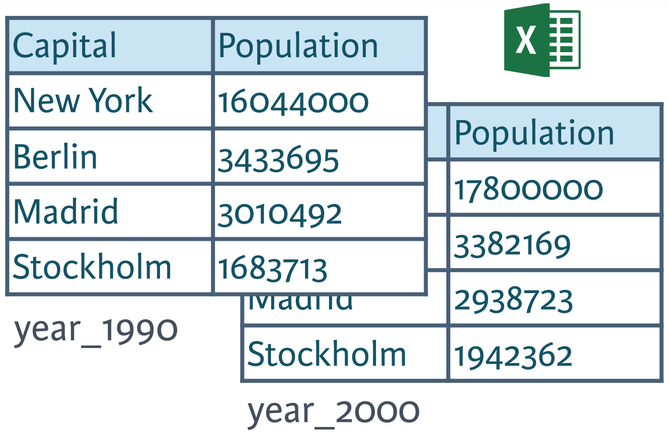
- Problems?
  - Install Oracle's Java Development Kit (JDK)
  - Google your error!

loadWorkbook()

```
> library("XLConnect")

> book <- loadWorkbook("cities.xlsx")

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



Capital	Population
New York	16044000
Berlin	3433695
Madrid	3010492
Stockholm	1683713

year_1990

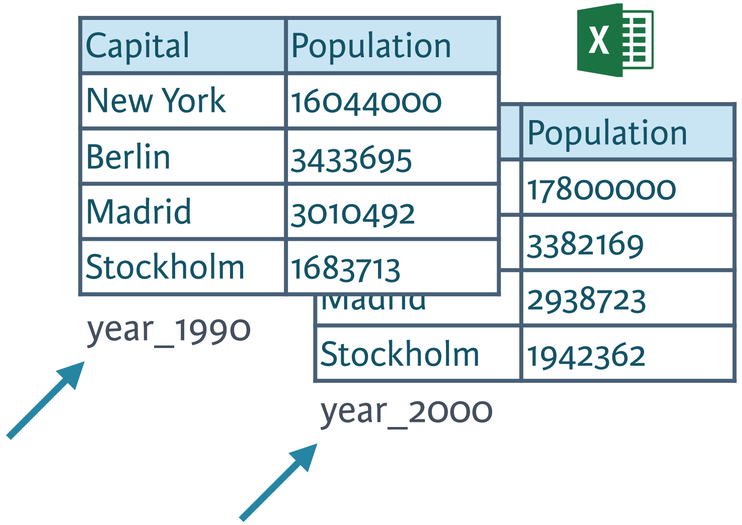
	Population
	17800000
	3382169
Madrid	2938723
Stockholm	1942362

year_2000

getSheets()

```
> getSheets(book)
[1] "year_1990" "year_2000"

> library(readxl)
> excel_sheets("cities.xlsx")
[1] "year_1990" "year_2000"
```



readWorksheet()

Capital	Population
New York	16044000
Berlin	3433695
Madrid	3010492
Stockholm	1683713

year_1990

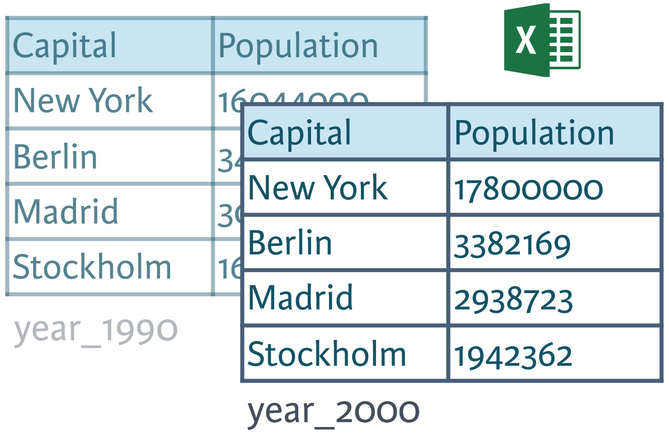
	Population
	17800000
	3382169
Madrid	2938723
Stockholm	1942362

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
```

IMPORTING DATA IN R

Let’s practice!

IMPORTING DATA IN R

Adapting sheets

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")
> createSheet(book, name = "year_2010")
```

Capital	Population
New York	16044000
Berlin	34
Madrid	30
Stockholm	16

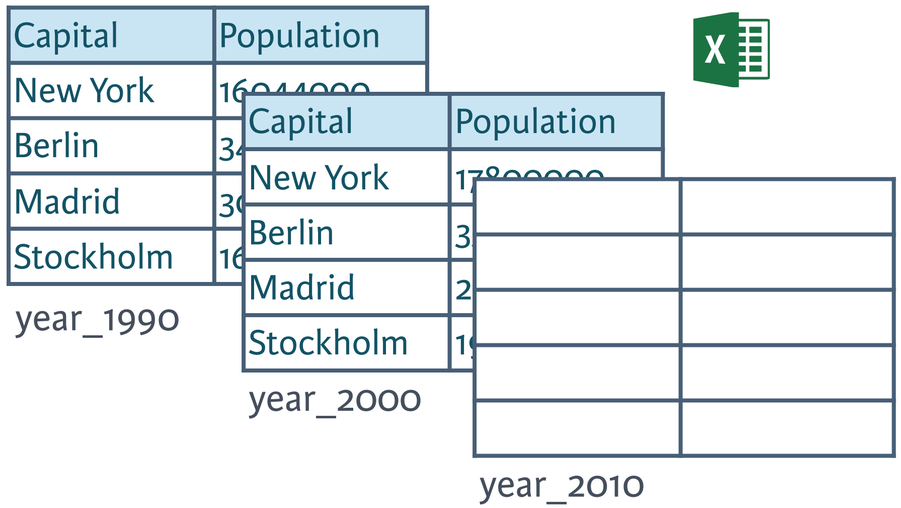
year_1990

Capital	Population
New York	17800000
Berlin	3382169
Madrid	2938723
Stockholm	1942362

year_2000

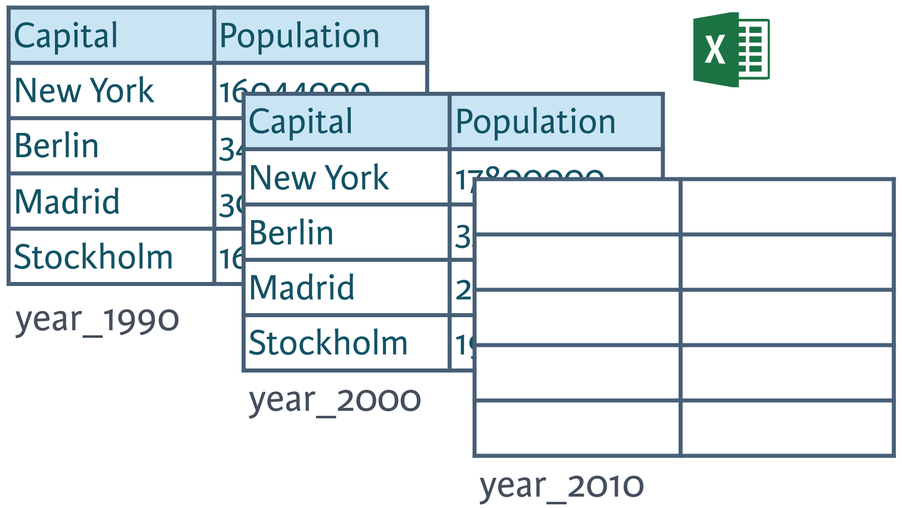
createSheet()

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



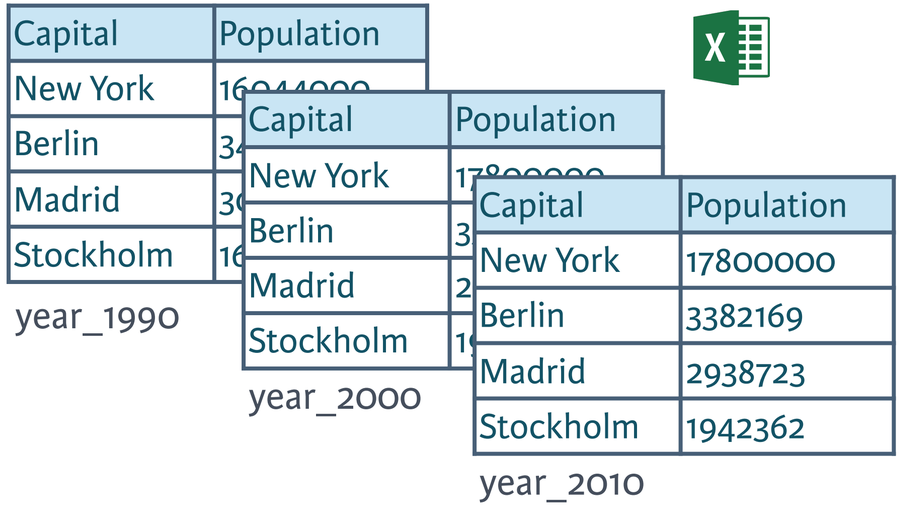
writeWorksheet()

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



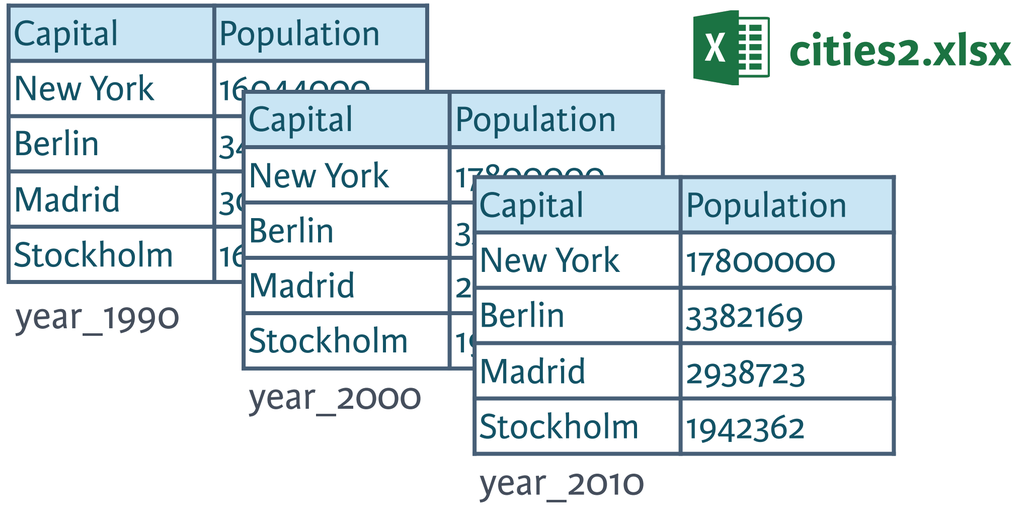
writeWorksheet()

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



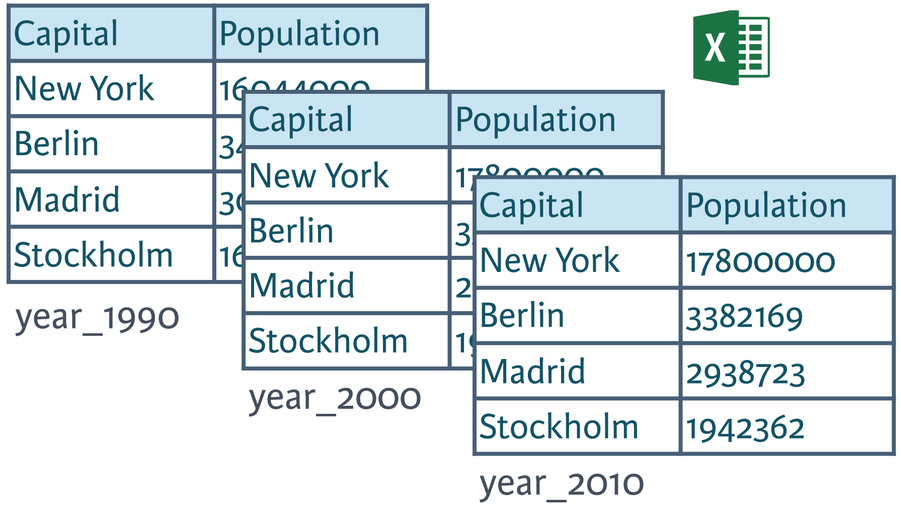
saveWorkbook()

```
> pop_2010 <- ... # truncated
> library(XLConnect)
> book <- loadWorkbook("cities.xlsx")
> createSheet(book, name = "year_2010")
> writeWorksheet(book, pop_2010, sheet = "year_2010")
> saveWorkbook(book, file = "cities2.xlsx")
```



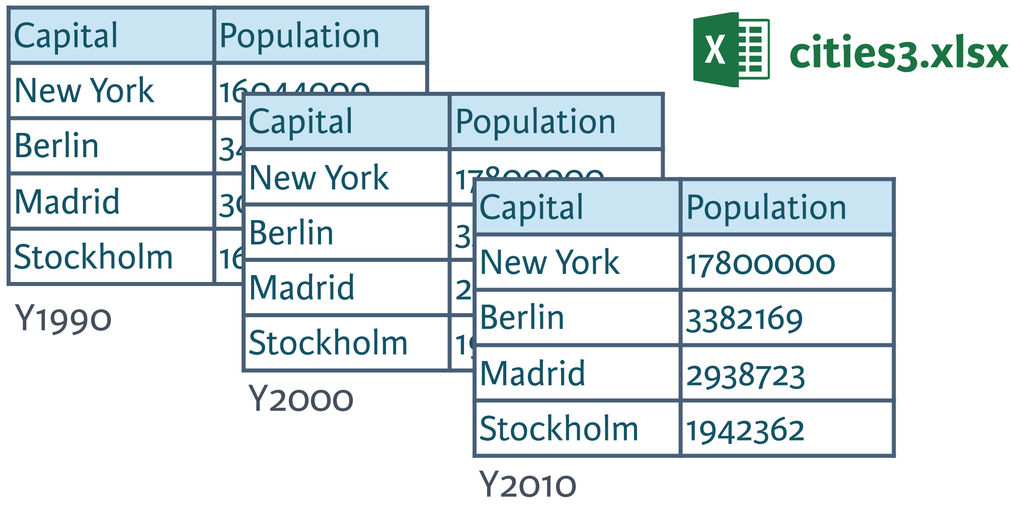
renameSheet()

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



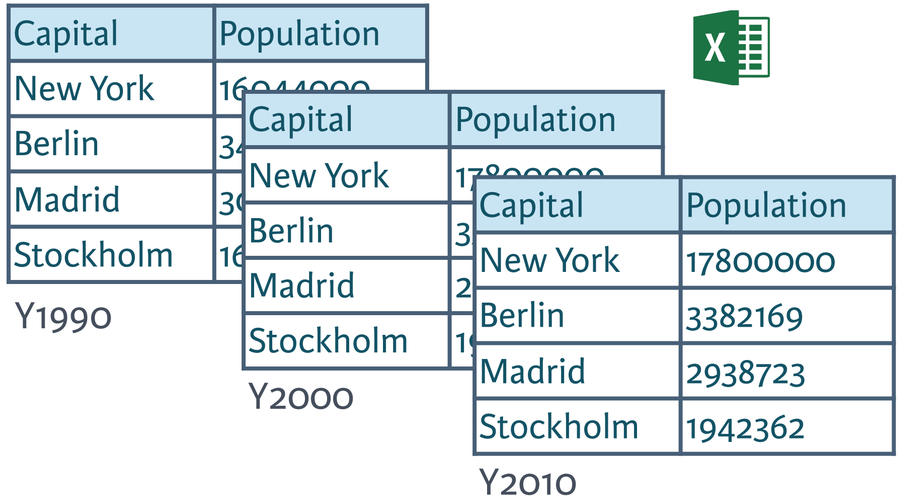
renameSheet()

```
> 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")
> saveWorkbook(book, file = "cities4.xlsx")
```



removeSheet()

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

Capital	Population
New York	16044000
Berlin	34
Madrid	30
Stockholm	16

Y1990

Capital	Population
New York	17800000
Berlin	3382169
Madrid	2938723
Stockholm	1942362

Y2000

cities4.xlsx

Wrap-up

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

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Let’s practice!