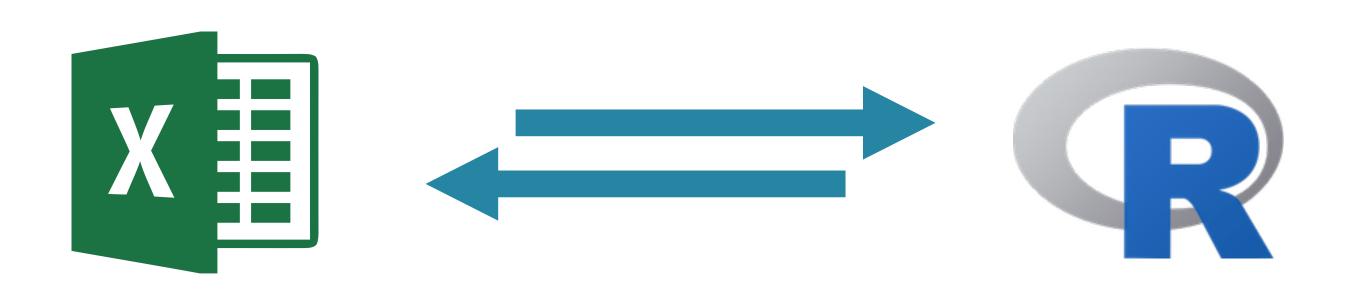




Reading sheets



XLConnect

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



Installation

Java class definitions

```
> install.packages("XLConnect")
also installing the dependencies 'XLConnectJars', 'rJava'
...
```

R to Java interface

- 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	X
New York	16044000	
Berlin	3433695	Population
Madrid	3010492	17800000
		3382169
Stockholm	1683713	2938723
year 1990	Ividaria	2930723
y cai_1990	Stockholm	1942362

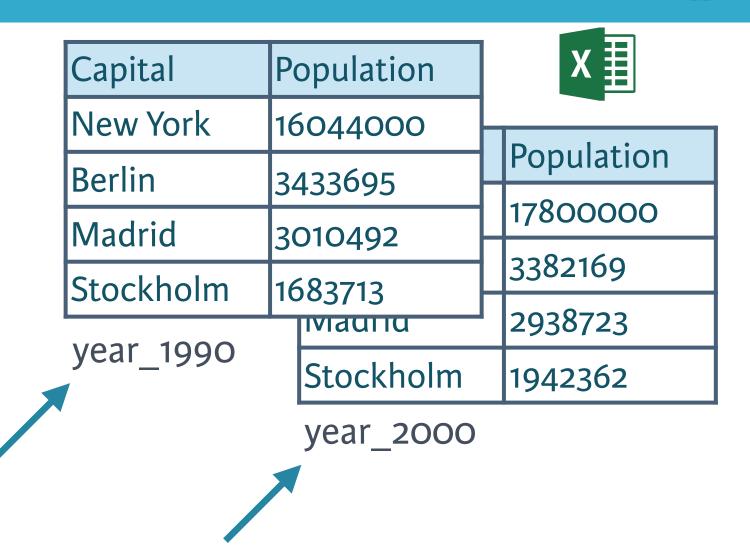
year_2000



getSheets()

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

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





readWorksheet()

Capital	Population	x <u>≣</u>	
New York	16044000		
Berlin	3433695	Population	
		17800000	
Madrid	3010492	H -	
Stockholm	1683713	3382169	
	Iviauriu	2938723	
year_1990	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
```

Capital	Population		x I	
New York	16	044000		
Berlin	2	Capital	Population	
	34	New York	17800000	
Madrid	30	Berlin	3382169	
Stockholm	16	Derilli	3302109	
year_1990		Madrid	2938723	
		Stockholm	1942362	

year_2000



readWorksheet()

year_2000

Capital	Population
New York	17800000
Berlin	3382169
Madrid	2938723
Stockholm	1942362

```
> readWorksheet(book, sheet = "year_2000",
                startRow = 3, endRow = 4,
                startCol = 2, header = FALSE)
     Col1
1 3382169
2 2938723
```

col 2

row 3

row 4





Let's practice!





Adapting sheets



New data!



createSheet()

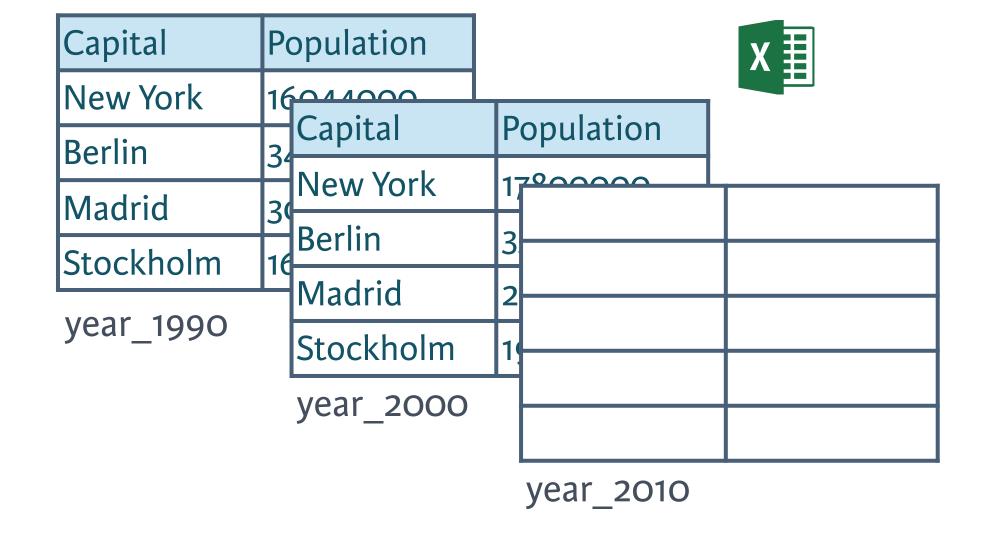
```
> pop_2010 <- ... # truncated
> library(XLConnect)
> book <- loadWorkbook("cities.xlsx")
> createSheet(book, name = "year_2010")
```

Capital	P	opulation		$X \equiv$
New York	16	5044000		
Berlin	3,	Capital	Population	
	╁	New York	17800000	
Madrid	30	Berlin	3382169	
Stockholm	16		,	
year_1990		Madrid	2938723	
		Stockholm	1942362	
		year_2000		-



createSheet()

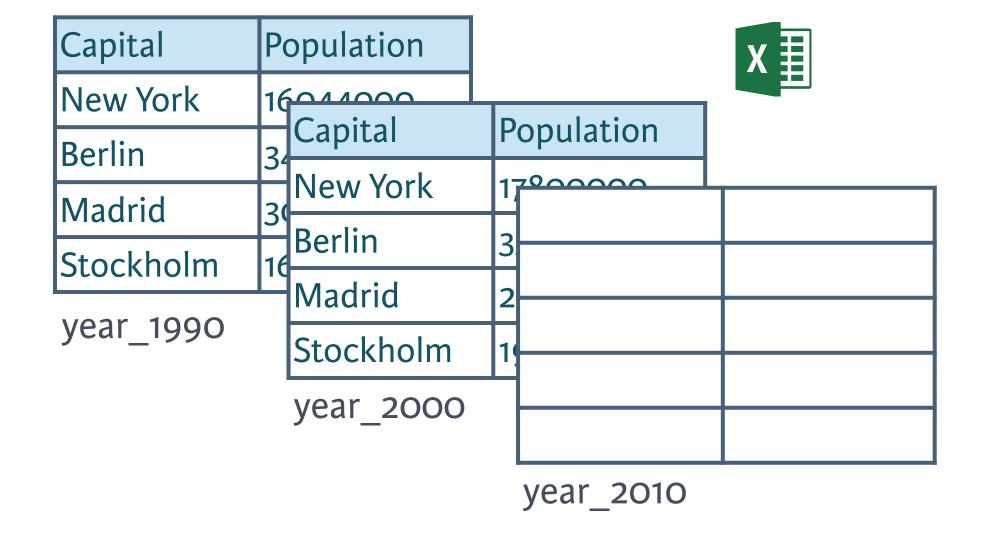
```
> pop_2010 <- ... # truncated
> library(XLConnect)
> book <- loadWorkbook("cities.xlsx")
> createSheet(book, name = "year_2010")
```





writeWorksheet()

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





writeWorksheet()

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

Capital	P	Population			X
New York	16	644000			
Berlin	34	Capital	IP	opulation	
Madrid	30	New York		Capital	Donulation
	╫	Berlin Madrid		Capital	Population 17800000
Stockholm	16			New York	
year_1990		Stockholm year_2000		Berlin	3382169
				Madrid	2938723
				Stockholm	1942362
				year_2010	



saveWorkbook()

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

Capital	Population			X cities	2.xlsx
New York	16044000	ŀ	Daniel attan		
Berlin	Capital 3	4	Population		
Madrid	New York	1	Capital	Population	
Stockholm	Berlin	= 3	New York	17800000	
year_1990	Madrid		Berlin	3382169	
_	Stockholm	1	Madrid	2938723	
	year_2000		Stockholm	1942362	
			year_2010		•



renameSheet()

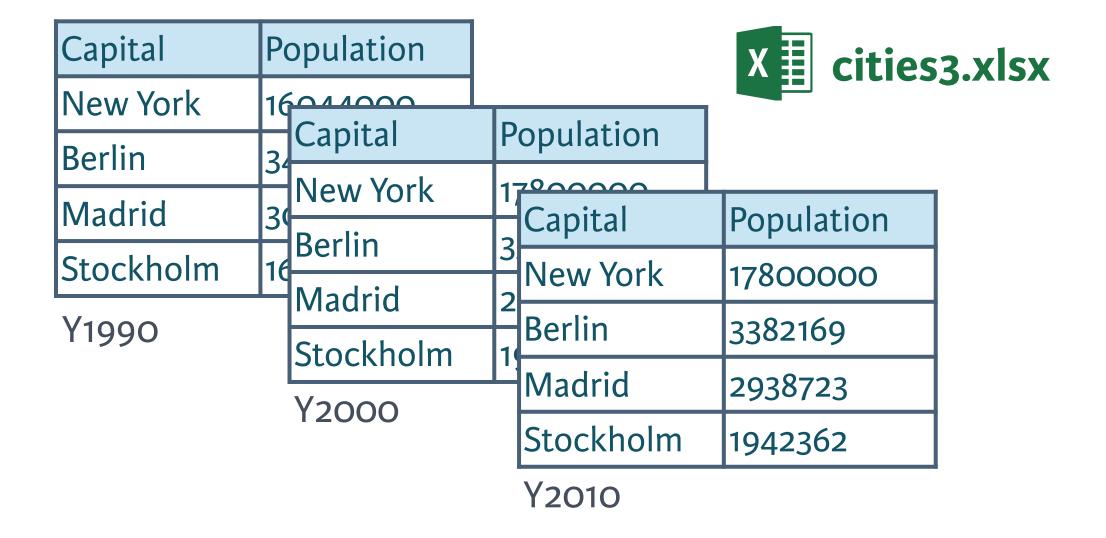
```
> renameSheet(book, "year_1990", "Y1990")
> renameSheet(book, "year_2000", "Y2000")
> renameSheet(book, "year_2010", "Y2010")
> saveWorkbook(book, file = "cities3.xlsx")
```

Capital	Population		X
New York	16044000	D 1	
Berlin	Capital 34	Population	
Madrid	New York	17°00000 Capital	Population
	Berlin	13	17800000
Stockholm	Madrid	New York	
year_1990	Stockholm	Berlin	3382169
		Madrid	2938723
	year_2000	Stockholm	1942362
		year_2010	



renameSheet()

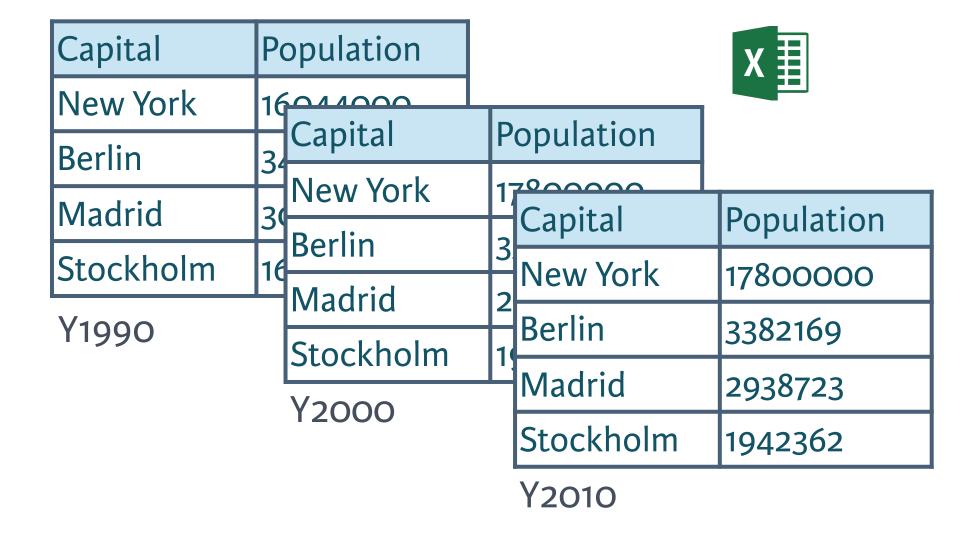
```
> renameSheet(book, "year_1990", "Y1990")
> renameSheet(book, "year_2000", "Y2000")
> renameSheet(book, "year_2010", "Y2010")
> saveWorkbook(book, file = "cities3.xlsx")
```





removeSheet()

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





removeSheet()

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

Capital	Р	opulation		
New York	16	5044000		
Berlin	3	Capital	Population	
Madrid	13	New York	17800000	
	5	Berlin	3382169	
Stockholm	10	Madrid	2938723	
Y1990				
		Stockholm	1942362	
		Y2000		





Wrap-up

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





Let's practice!