Reading sheets

INTRODUCTION TO IMPORTING DATA IN R



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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)</pre>
```

```
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	row
Madrid	2938723	row
Stockholm	1942362	
year_2000	col 2	-

```
Col1
1 3382169
2 2938723
```



Let's practice!

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Adapting sheets

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New data!

```
Capital Population

1 New York 8191900

2 Berlin 3460725

3 Madrid 3273000

4 Stockholm 1372565
```



createSheet()

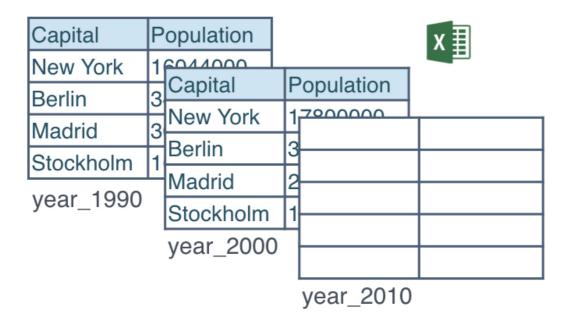
```
pop_2010 <- ... # truncated
library(XLConnect)
book <- loadWorkbook("cities.xlsx")</pre>
```

Capital	Population			Χ
New York	1	6044000		
Berlin	3	Capital	Population	
	⊢	New York	17800000	
Madrid	3	Berlin	3382169	
Stockholm	1			
year_1990		Madrid	2938723	
		Stockholm	1942362	
		year_2000		



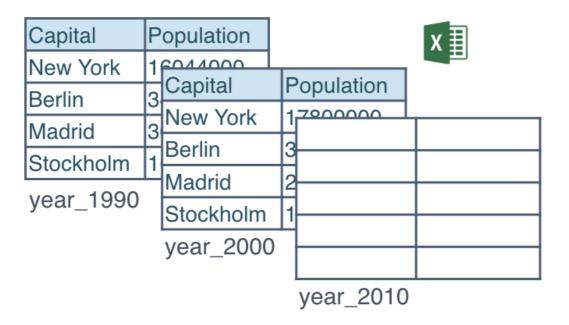
createSheet()

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



writeWorksheet()

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



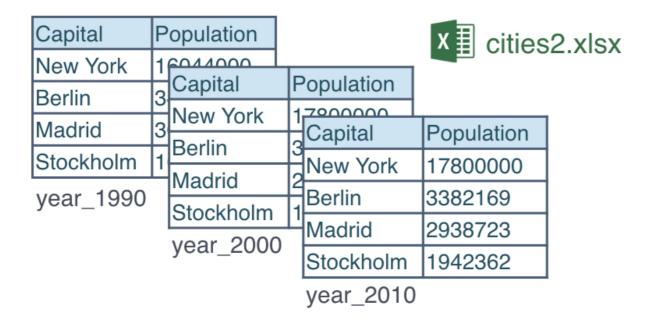
saveWorkbook()

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

Capital	Population				x ■	
New York	1	6044000				
Berlin	3		ᆙ	Population		
Madrid	3	New York		700000	D 1 11	
	10	Berlin		Capital	Population	
Stockholm	1	Madrid	5	New York	17800000	
year_1990		Stockholm		Berlin	3382169	
				Madrid	2938723	
	year_2000			Stockholm	1942362	
				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")</pre>
```



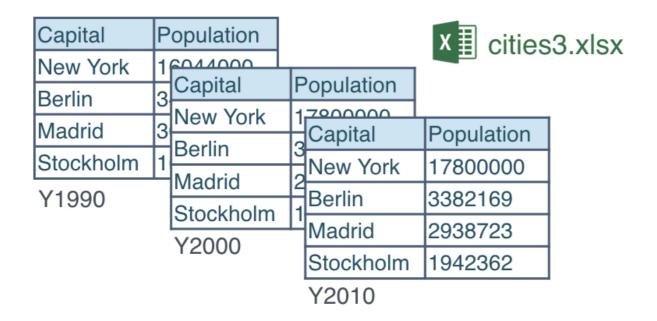
renameSheet()

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

Capital	Population				Χ
New York	1	6044000	Ι_		
Berlin	3	New York		Population	
Madrid	3			700000	Danielation
	<u>ا</u>			Capital	Population
Stockholm	1	1 Madrid	2	New York	17800000
year_1990 Stockholm year_2000		Stockholm		Berlin	3382169
				Madrid	2938723
			Stockholm	1942362	
				year_2010	

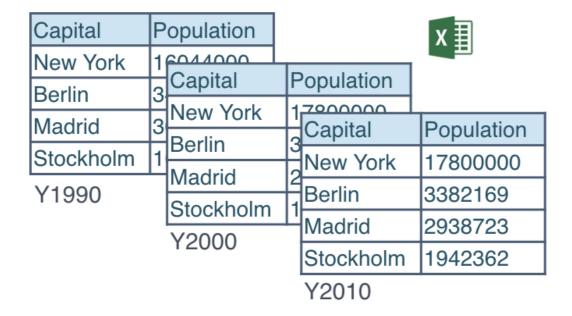
renameSheet()

```
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")
```



removeSheet()

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

Capital	P	opulation		x cities4.xlsx
New York	1	6044000		E ORIGO HAROX
Berlin	3	Capital	Population	
	Н	New York	17800000	
Madrid	3	Berlin	3382169	
Stockholm	1			
Y1990		Madrid	2938723	
11990		Stockholm	1942362	
		Y2000		



Wrap-up

- Basic operations
- Reproducibility is the key!
- More functionality
 - Styling cells
 - Working with formulas
 - Arranging cells
 - 0

Let's practice!

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