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(readx1)
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 3 |
| Madrid | 2938723 | row 4 |
| 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!

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

```
Capital Population

1 New York 8191900

2 Berlin 3460725

3 Madrid 3273000

4 Stockholm 1372565
```

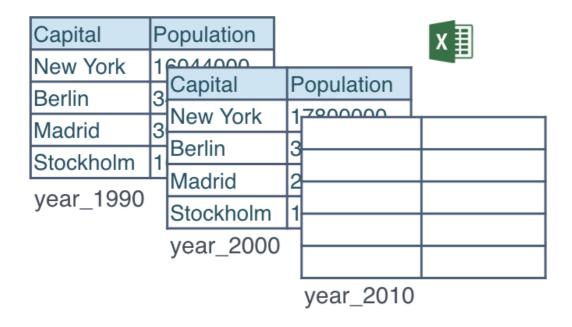
createSheet()

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

| Capital | Р | opulation | | χ |
|-----------|---|-----------|------------|---|
| New York | 1 | 6044000 | <u> </u> | |
| Berlin | 3 | Capital | Population | |
| Madrid | 3 | New York | 17800000 | |
| | | Berlin | 3382169 | |
| Stockholm | 1 | Madrid | 2938723 | |
| year_1990 | | | | |
| | | Stockholm | 1942362 | |
| | | year_2000 | | |

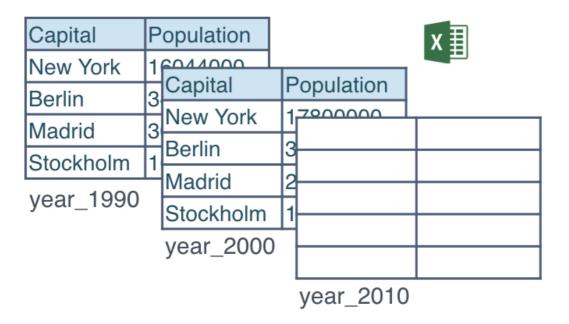
createSheet()

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



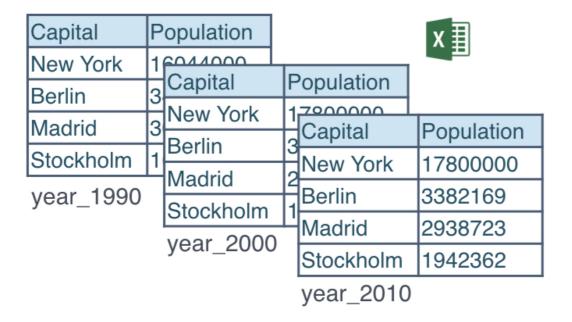
writeWorksheet()

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



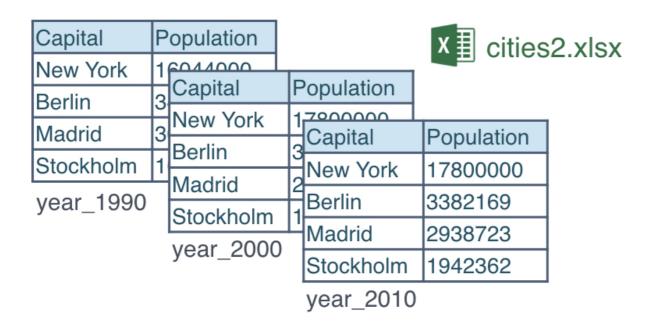
saveWorkbook()

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



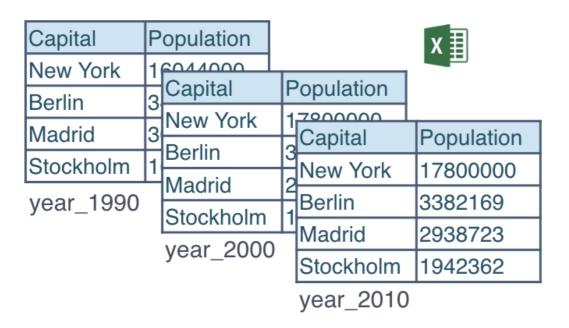
saveWorkbook()

```
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>
```



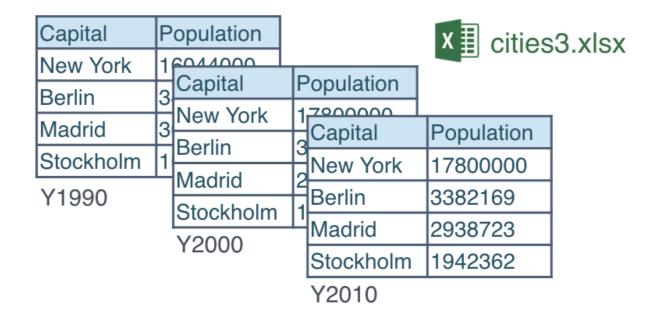
renameSheet()

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



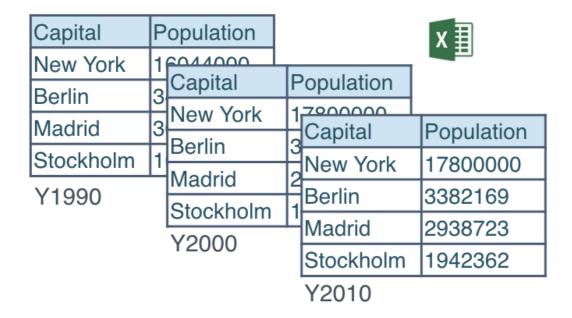
renameSheet()

```
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 | |
|-----------|---|-----------|------------|
| New York | 1 | 6044000 | <u> </u> |
| Berlin | 3 | Capital | Population |
| | | New York | 17800000 |
| Madrid | | 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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