IMPORTING DATA IN R

readxl (1)

Microsoft Excel

- Common data analysis tool
- Many R packages to interact with Excel
- readxl - Hadley Wickham

Typical Structure Excel Data

Different sheets with tabular data

Capital	Population
New York	16044000
Berlin	3433695
Madrid	3010492
Stockholm	1683713

year_1990

	Population
	17800000
	3382169
Madrid	2938723
Stockholm	1942362

year_2000

Source: Wikipedia

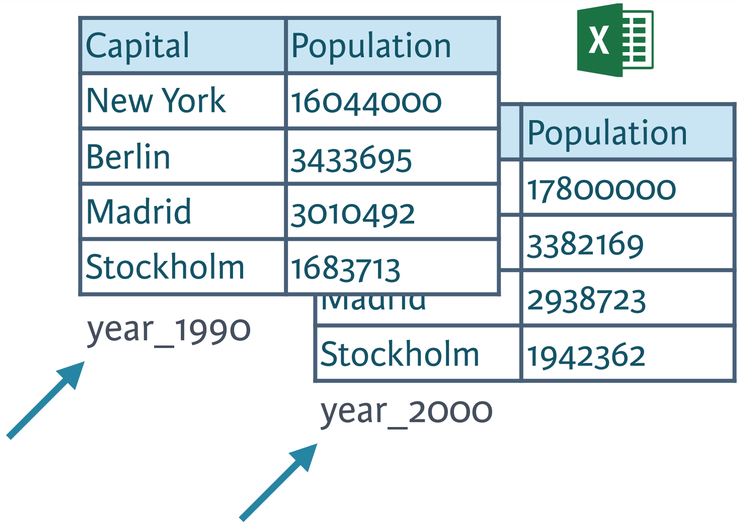
readxl

- excel_sheets() list different sheets
- read_excel() actually import data into R

```
> install.packages("readxl")
> library(readxl)
```

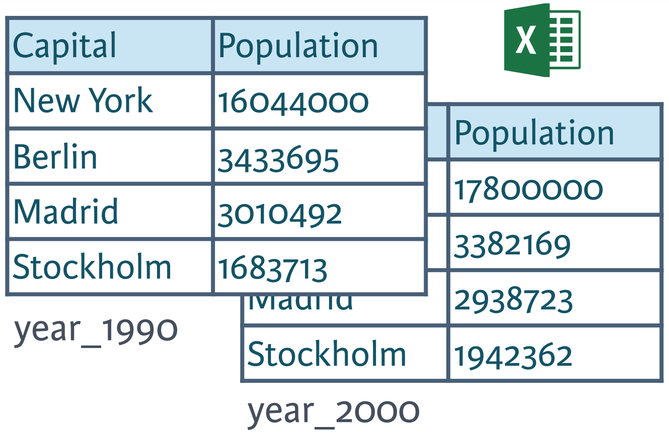
excel_sheets()

```
> dir()
[1] "cities.xlsx"  "the_rest_is_secret.txt"

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



read_excel()

```
> read_excel("cities.xlsx")
# A tibble: 4 × 2
    Capital Population
      <chr>      <dbl>
1  New York   16044000
2    Berlin    3433695
3    Madrid    3010492
4 Stockholm    1683713

> read_excel("cities.xlsx", sheet = 2)
> read_excel("cities.xlsx", sheet = "year_2000")
# A tibble: 4 × 2
    Capital Population
      <chr>      <dbl>
1  New York   17800000
2    Berlin    3382169
3    Madrid    2938723
4 Stockholm    1942362
```



IMPORTING DATA IN R

Let’s practice!

IMPORTING DATA IN R

readxl (2)

read_excel()

```
read_excel(path, sheet = 1,
           col_names = TRUE,
           col_types = NULL,
           skip = 0)
```

read_excel() - col_names

```
read_excel(path, sheet = 1,
           col_names = TRUE,
           col_types = NULL,
           skip = 0)
```

col_names = FALSE: R assigns names itself
col_names = character vector: manually specify

Capital	Population
New York	16044000
Berlin	3433695
Madrid	3010492
Stockholm	1683713

year_1990

	Population
	17800000
	3382169
Madrid	2938723
Stockholm	1942362

year_2000

read_excel() - col_types

```
read_excel(path, sheet = 1,
           col_names = TRUE,
           col_types = NULL,
           skip = 0)
```

```
> read_excel("cities.xlsx", col_types = c("text", "text"))

# A tibble: 4 × 2
    Capital Population
      <chr>      <chr>
1  New York   16044000
2    Berlin    3433695
3    Madrid    3010492
4 Stockholm    1683713
```

numeric **date** **blank**

Capital	Population
New York	16044000
Berlin	3433695
Madrid	3010492
Stockholm	1683713

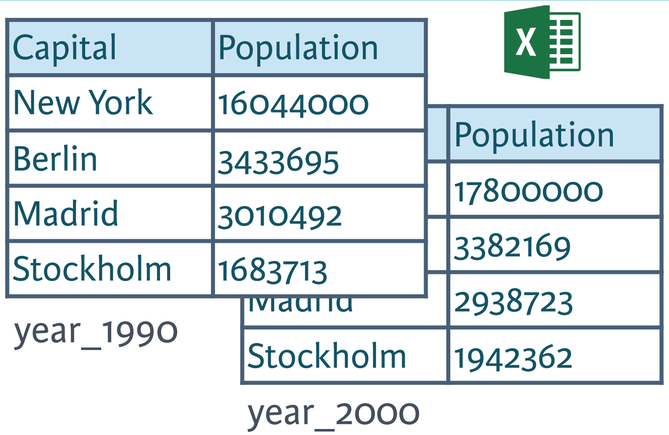
year_1990

	Population
	17800000
	3382169
Madrid	2938723
Stockholm	1942362

year_2000

read_excel() - col_types

```
read_excel(path, sheet = 1,
           col_names = TRUE,
           col_types = NULL,
           skip = 0)
```



Capital	Population
New York	16044000
Berlin	3433695
Madrid	3010492
Stockholm	1683713

year_1990

	Population
	17800000
	3382169
	2938723
Stockholm	1942362

year_2000

```
> read_excel("cities.xlsx",
             col_types = c("text", "blank"))

# A tibble: 4 × 1
    Capital
      <chr>
1  New York
2    Berlin
3    Madrid
4 Stockholm
```

read_excel() - skip

```
read_excel(path, sheet = 1,
           col_names = TRUE,
           col_types = NULL,
           skip = 0)
```

Capital	Population
New York	16044000
Berlin	3433695
Madrid	3010492
Stockholm	1683713

year_1990

Population
17800000
3382169
2938723
1942362

year_2000

```
> read_excel("cities.xlsx",
             col_names = c("Capital", "Population"),
             skip = 2)

# A tibble: 3 × 2
    Capital Population
      <chr>      <dbl>
1    Berlin    3433695
2    Madrid    3010492
3 Stockholm    1683713
```

n_max not (yet) available

Wrap-up

- **excel_sheets()**
- **read_excel()**
- Everything you need!
- Fast
- Same arguments as in readr package
- Consistency

IMPORTING DATA IN R

Let’s practice!

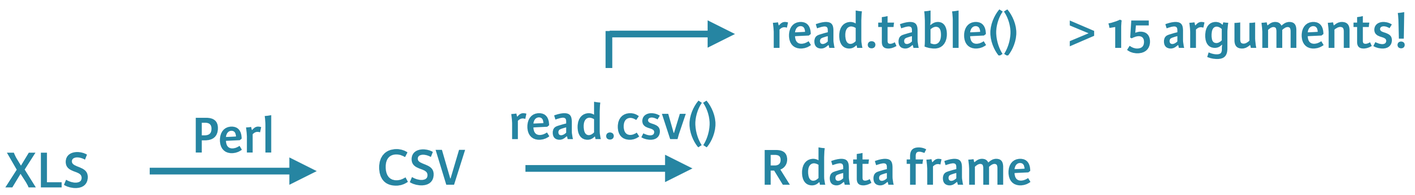
IMPORTING DATA IN R

gdata

gdata

- Gregory Warnes
- Entire suite of tools for data manipulation
- Supercharges basic R
- `read.xls()`
- Support for XLS
- Support for XLSX with additional driver
- No readxl::excel_sheets() equivalent

gdata



- Elegant extension of utils package
- Easy if familiar with utils
- Extremely inefficient
- readxl < v1.x

cities.xls

Capital	Population
New York	16044000
Berlin	3433695
Madrid	3010492
Stockholm	1683713

year_1990

	Population
	17800000
Berlin	3382169
Madrid	2938723
Stockholm	1942362

year_2000

read.xls()

```
> install.packages("gdata")
> library(gdata)

> read.xls("cities.xls")

    Capital Population
1  New York   16044000
2    Berlin    3433695
3    Madrid    3010492
4 Stockholm    1683713

> read.xls("cities.xls", sheet = "year_2000")

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

Capital	Population
New York	16044000
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