读取数据

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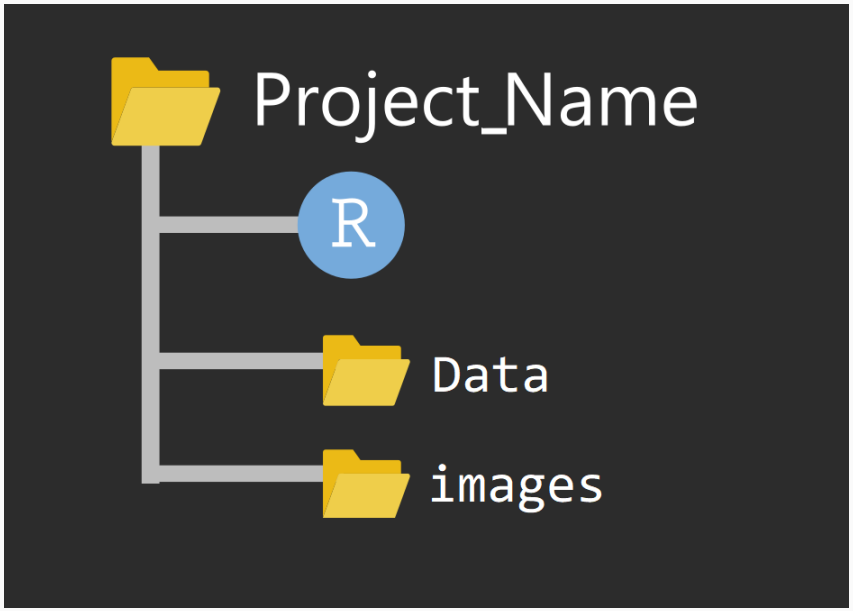
项目管理

项目管理

- 把项目所需的文件（代码、数据、图片等），放在一个文件夹里



- 放在一个没有中文和空格的路径下

文件夹命名

推荐我自己的文件夹命名习惯 (项目名 + 日期)，注意这里不要有**中文和空格**，比如下面风格的就比较好

- homework20220618
- project20220618
- Emotional_experiment20220618
- R_ladies_20220520
- R_You_with_Me

数据读取

读取数据

R 语言提供了很多读取数据的函数。

文件格式	R 函数
.txt	`read.table()`
.csv	`read.csv()` and `readr::read_csv()`
.xls and .xlsx	`readxl::read_excel()` and `openxlsx::read.xlsx()`
.sav(SPSS files)	`haven::read_sav()` and `foreign::read.spss()`
.Rdata or rda	`load()`
.rds	`readRDS()` and `readr::read_rds()`
.dta	`haven::read_dta()` and `haven::read_stata()`
.sas7bdat(SAS files)	`haven::read_sas()`
Internet	`download.file()`

Tidyverse 各种宏包[1]

The tidyverse packages to import your data

readr

- `readr` package:
  - `read_csv()`: comma separated (`,`)
  - `read_csv2()`: separated (`;`)
  - `read_tsv()`: tab separated
  - `read_delim()`: general delimited files, auto-guesses delimiter
  - `read_fwf()`: fixed width files
  - `read_table()`: columns separated by white-space(s)

readxl

To import excel files (`.xls` and `.xlsx`):

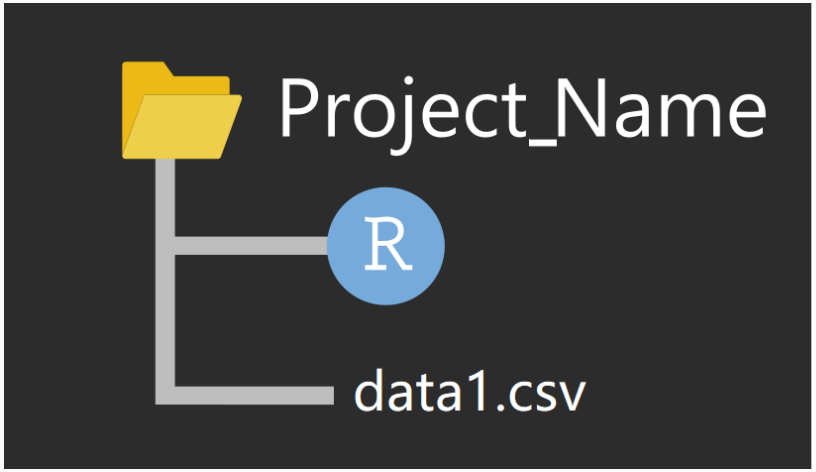
- `read_excel()`
  - `read_xls()`
  - `read_xlsx()`

haven

- `read_sas()` for SAS
- `read_sav()` for SPSS
- `read_dta()` for Stata

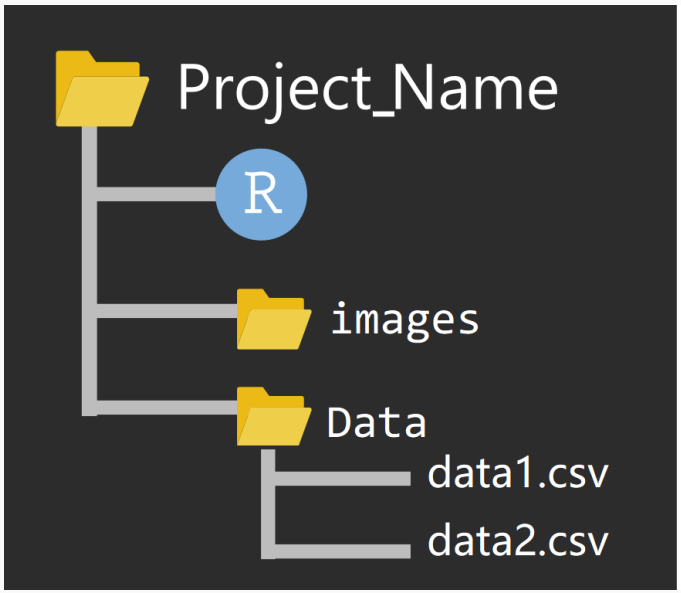
[1]图片来源 https://rworkshop.uni.lu/

文件路径，推荐使用相对路径



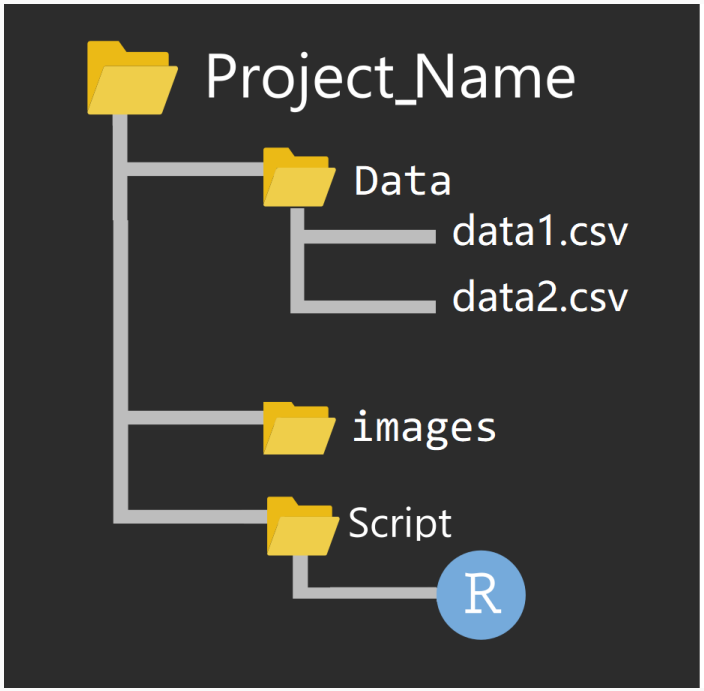

```
d <- read_csv("./data1.csv")

# or

d <- read_csv("data1.csv")
```

文件路径




```
d <- read_csv("./Data/data1.csv")
```

文件路径




```
d <- read_csv("../Data/data1.csv")
```

范例

```
library(readr)
wages <- read_csv("./data/wages.csv")
wages
#> # A tibble: 1,379 x 6
#>       earn height sex    race      ed   age
#>      <dbl>  <dbl> <chr>  <chr>  <dbl> <dbl>
#>  1 79571.   73.9 male   white     16    49
#>  2 96397.   66.2 female white     16    62
#>  3 48711.   63.8 female white     16    33
#>  4 80478.   63.2 female other     16    95
#>  5 82089.   63.1 female white     17    43
#>  6 15313.   64.5 female white     15    30
#>  7 47104.   61.5 female white     12    53
#>  8 50960.   73.3 male   white     17    50
```

变量类型

Variable Type	Long form	Abbreviation
Logical (TRUE/FALSE)	col_logical()	l
Integer	col_integer()	i
Double	col_double()	d
Character	col_character()	c
Factor (nominal or ordinal)	col_factor(levels, ordered)	f
Date	col_date(format)	D
Time	col_time(format)	t
Date & Time	col_datetime(format)	T
Number	col_number()	n
Don’t import	col_skip()	-
Default Guessing	col_guess()	?

指定类型

```
wages <- read_csv(
  file = "./data/wages.csv",
  col_types = list(
    col_double(),
    col_double(),
    col_character(),
    col_character(),
    col_character(),
    col_guess()
  )
)
```

```
#> # A tibble: 1,379 x 6
#>       earn height sex    race      ed      age
#>      <dbl>  <dbl> <chr>  <chr>     <chr> <dbl>
#>  1 79571.    73.9 male   white     16       49
#>  2 96397.    66.2 female white     16       62
```

习题

读取 demo_data 文件夹下 kidiq.RDS 文件

变量含义：

变量	含义
kid_score	小孩考试分数
mom_hs	母亲是否完成高中
mom_iq	母亲 IQ 值
mom_age	母亲年龄

请说出数据框中每一列的变量类型