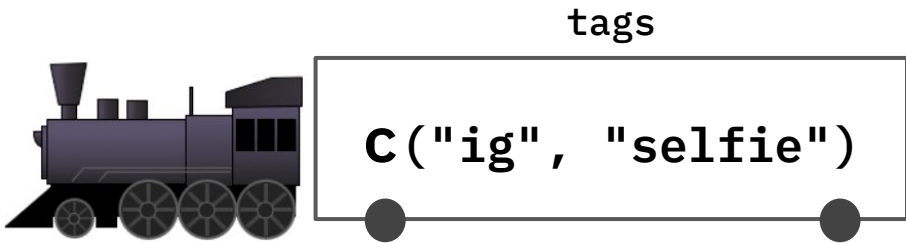
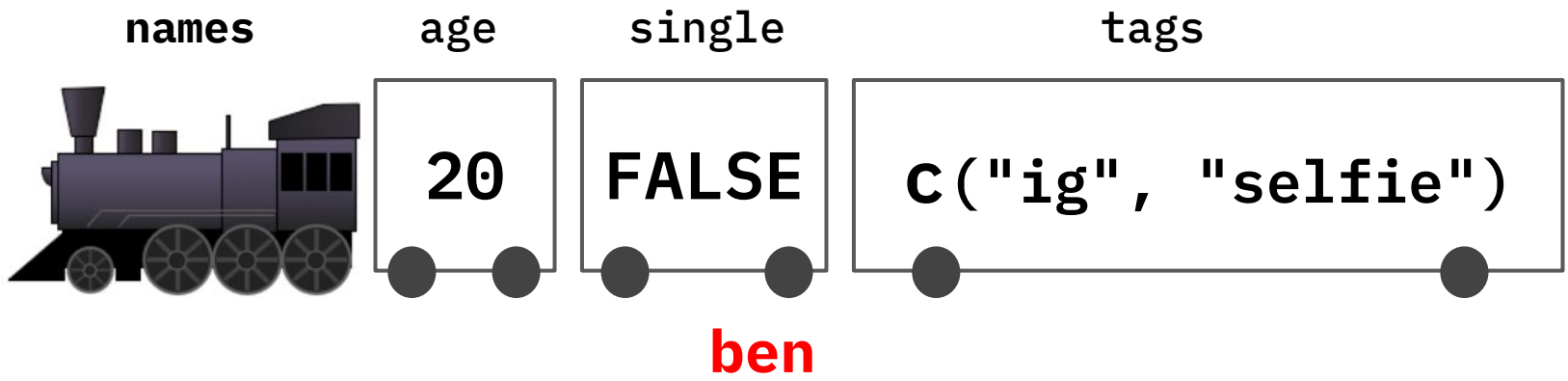


Lab 03

Base R (II)

List, Loop & Data Frame

list



`ben[3]`
or
`ben['tags']`

`C("ig", "selfie")`

`ben[[3]]`
or
`ben[['tags']]`
or
`ben$tags`

```
1 a_lst <- list(  
2   name = "ben",  
3   info = list(age = 20, tags = c("ig", "selfie"))  
4 )
```

`a_lst['name']`

會回傳？

A vector

B list

```
1  a_lst <- list(  
2    name = "ben",  
3    info = list(age = 20, tags = c("ig", "selfie"))  
4  )
```

`a_lst[['name']]`

會回傳？

A vector

B list

```
1  a_lst <- list(  
2    name = "ben",  
3    info = list(age = 20, tags = c("ig", "selfie"))  
4  )
```

`a_lst[['info']]`

會回傳？

A vector

B list

Building a for loop

將 member 裡的資料變成句子

```
member <- list(  
  list(name = "kai", age = 40),  
  list(name = "pooh", age = 20),  
  list(name = "tiger", age = 18),  
  list(name = "piglet", age = 19)  
)
```

```
[1] "kai is 40"
```

```
[1] "pooh is 20, which is quite young"
```

```
[1] "tiger is 18, which is quite young"
```

```
[1] "piglet is 19, which is quite young"
```


將 member 裡的資料變成句子

```
member <- list(  
  list(name = "kai", age = 40),  
  list(name = "pooh", age = 20),  
  list(name = "tiger", age = 18),  
  list(name = "piglet", age = 19)  
)
```

```
[1] "kai is 40"
```

```
[1] "pooh is 20, which is quite young"
```

```
[1] "tiger is 18, which is quite young"
```

```
[1] "piglet is 19, which is quite young"
```

將 member 裡的資料變成句子

```
member <- list(  
  list(name = "kai", age = 40),  
  list(name = "pooh", age = 20),  
  list(name = "tiger", age = 18),  
  list(name = "piglet", age = 19)  
)
```

條件：
如果年齡小於 35 歲，在句子最後印
出 ", which is quite young"

```
[1] "kai is 40"
```

```
[1] "pooh is 20, which is quite young"
```

```
[1] "tiger is 18, which is quite young"
```

```
[1] "piglet is 19, which is quite young"
```

data frame

A data frame looks like a Google Spreadsheet

	A	B	C	D
1	時間戳記	目前居住地	承上。您自何時定居於此	承上。您未來 5 年內是否
2	2018/6/12 下午 10:35:13	106; 臺北市; 大安區	1996 (民85)	是
3	2018/6/13 下午 7:04:51	204; 基隆市; 安樂區	2004 (民93)	是
4	2018/6/13 下午 7:05:44	103; 臺北市; 大同區	2013 (民102)	是
5	2018/6/13 下午 7:07:41	116; 臺北市; 文山區	2010 (民99)	是
6	2018/6/13 下午 7:07:46	105; 臺北市; 松山區	1997 (民86)	是
7	2018/6/13 下午 7:12:56	235; 新北市; 中和區	1986 (民75)	是
8	2018/6/13 下午 7:13:55	236; 新北市; 土城區	1980 (民69)	是
9	2018/6/13 下午 7:16:34	112; 臺北市; 北投區	2013 (民102)	是
10	2018/6/13 下午 7:19:20	237; 新北市; 三峽區	2000 (民89)	是
11	2018/6/13 下午 7:20:14	116; 臺北市; 文山區	1964 (民53)	是

一個變項

一筆資料
(觀察值)

name	age	grad
"kai"	40	FALSE
"pooh"	20	TRUE
"tiger"	18	FALSE
"piglet"	19	TRUE

character

numeric

logical

```
library(tibble)
tibble( name = c("kai", "pooh", "tiger", "piglet"),
        age  = c(40, 20, 18, 19),
        grad = c(FALSE, TRUE, FALSE, TRUE))
```

data frame subsetting

```
df[<vector 1>, <vector 2>]
```

篩選出特定 rows

篩選出特定 columns

Returns a new
data frame

row: 2
col: 1

name	age	grad
"kai"	40	FALSE
"pooh"	20	TRUE
"tiger"	18	FALSE
"piglet"	19	TRUE

df[2, 1]

row: 2
col: 1, 2

name	age	grad
"kai"	40	FALSE
"pooh"	20	TRUE
"tiger"	18	FALSE
"piglet"	19	TRUE

```
df[2, 1:2]
```

```
df[2, c("name", "age")]
```

row: 2
col: all

name	age	grad
"kai"	40	FALSE
"pooh"	20	TRUE
"tiger"	18	FALSE
"piglet"	19	TRUE

```
df[2, ]
```

Your Turn

name	age	grad
"kai"	40	FALSE
"pooh"	20	TRUE
"tiger"	18	FALSE
"piglet"	19	TRUE

row: 1 至 3
col: 2, 3

Your Turn

name	age	grad
"kai"	40	FALSE
"pooh"	20	TRUE
"tiger"	18	FALSE
"piglet"	19	TRUE

row: all
col: 1, 3

Returning a vector (column)

name	age	grad
"kai"	40	FALSE
"pooh"	20	TRUE
"tiger"	18	FALSE
"piglet"	19	TRUE

`df[[2]]`

or

`df[['age']]`

or

`df$age`