# 8>%

# Visualização

# Vimos até aqui...

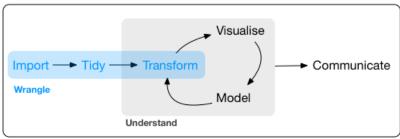
- 1. conhecemos o R, o RStudio e o R Markdown.
- 2. nos ambientamos no R
  - operações/tipos de objeto
  - manipular vetores, listas e data frames
  - criar e usar funções
  - instalar e carregar pacotes

#### 3. aprendemos a importar dados

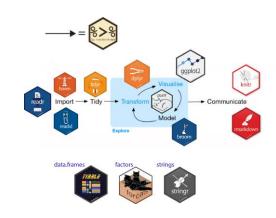
- funções do tipo `read\_\*()` e `write\_\*()`
- tipos de input: texto, binário, banco de dados, lista
- excel é do tipo lista



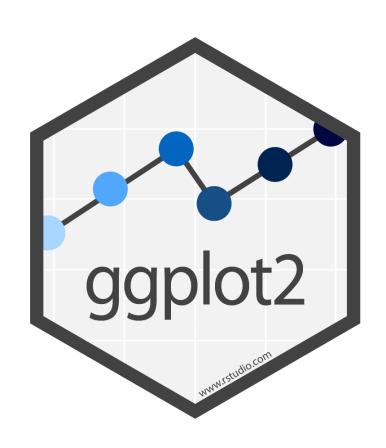
- `arrange()`, `select()`, `filter()`, `mutate()`, `summarise()`
- 5. conhecemos as funções inversíveis do tidyr
  - `gather()` e `spread()`
  - `unite()` e `separate()`
- 6. e uma miscelânea de coisas importantes
  - 'distinct()' para retirar duplicatas.
  - `get\_dupes()` do pacote `janitor`.



Program



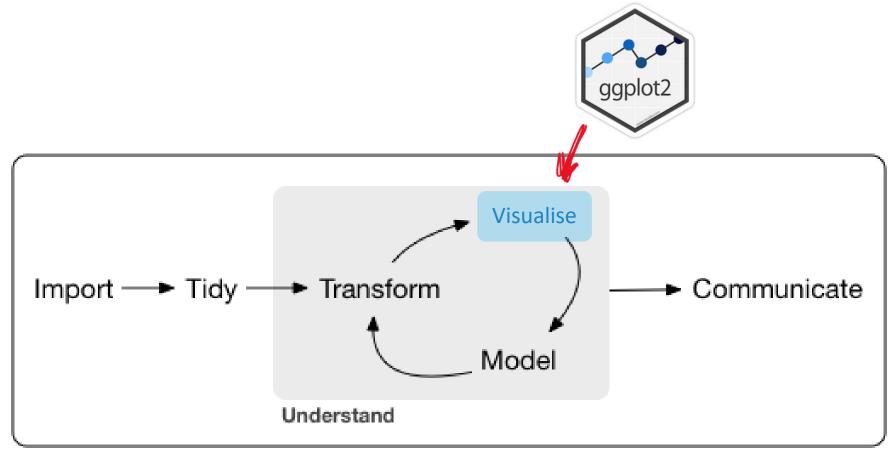
# \*> Aula de hoje





# GGPLOT2

## GGPLOT2



Program

Fonte: R4DS



### Fundamento: Gramática de Gráficos

# Vantagens em relação ao r-base:

- gráficos naturalmente mais bonitos;
- muito mais fácil deixar o gráfico do jeito que você quer;
- a estrutura padronizada das funções deixa o aprendizado muito mais intuitivo; e
- possível criar gráficos sofisticados com poucas linhas de código.

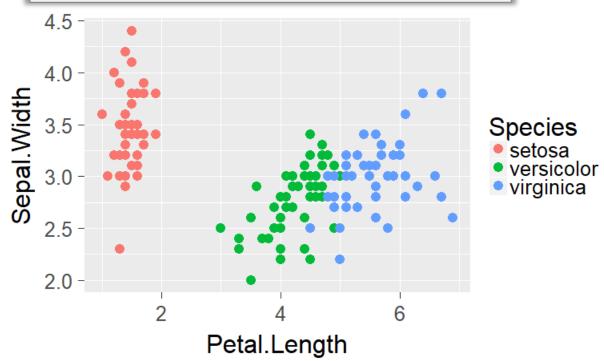
### GGPLOT2

#### data.frame `iris`

Sepal.Width	Petal.Length	Species
1.4	3.5	setosa
1.5	3.1	setosa
3.5	2.6	versicolor
5.0	2.5	virginica

#### Mapping

Aesthetic	Variável
у —	→ Sepal.Width
х —	→ Petal.Length
colour	Species



# %>% GGPLOT2

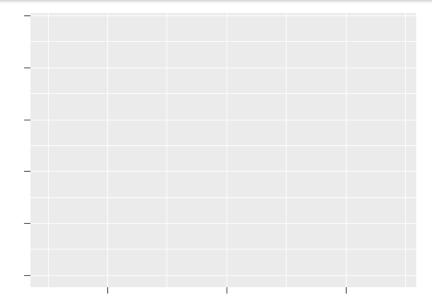
#### data.frame `iris`

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1.4	3.5	setosa
1.5	3.1	setosa
3.5	2.6	versicolor
5.0	2.5	virginica

#### Mapping

Aesthetic	Variável

```
iris %>%
ggplot()
```



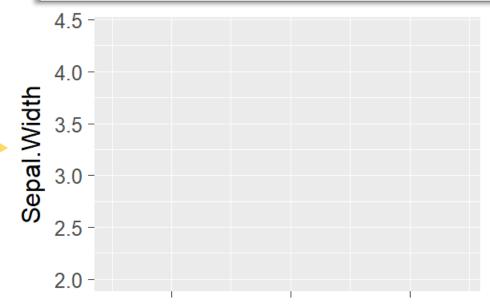
# SSS GGPLOT2

#### data.frame `iris`

Sepal.Width	Petal.Length	Species
1.4	3.5	setosa
1.5	3.1	setosa
3.5	2.6	versicolor
5.0	2.5	virginica

#### Mapping

Aesthetic	Variável
У	→ Sepal.Width



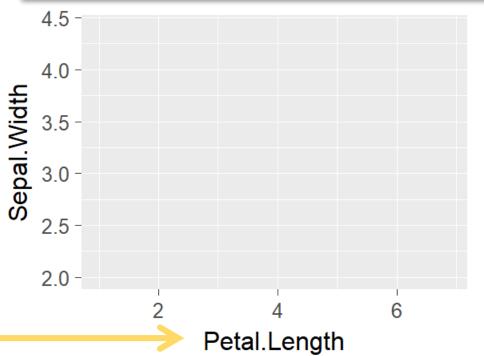
# SSS GGPLOT2

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1.5	3.1	setosa
3.5	2.6	versicolor
5.0	2.5	virginica

#### Mapping

Aesthetic	Variável
у —	→ Sepal.Width
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#### **%>**%

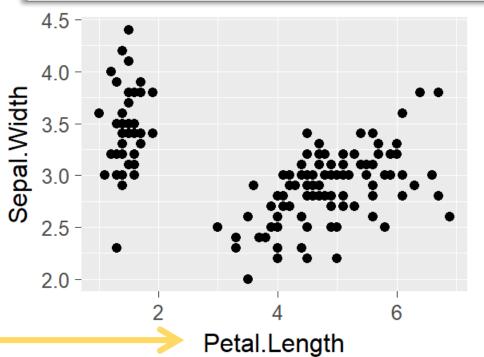
### GGPLOT2

#### data.frame `iris`

Sepal.Width	Petal.Length	Species
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3.5	2.6	versicolor
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#### Mapping

Aesthetic	Variável
у —	> Sepal.Width
х —	→ Petal.Length



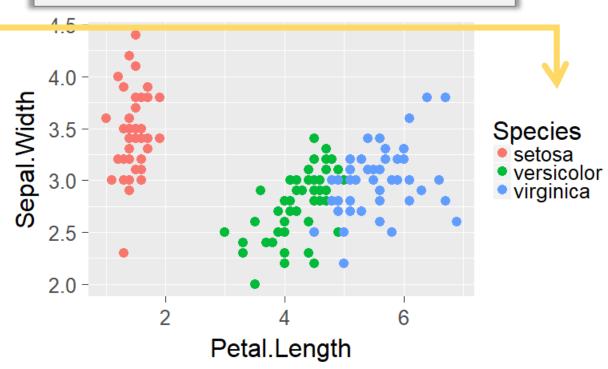
### SSS GGPLOT2

#### data.frame `iris`

Sepal.Width	Petal.Length	Species
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#### Mapping

Aesthetic	Variável
у —	→ Sepal.Width
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colour	Species



#### **%>**%

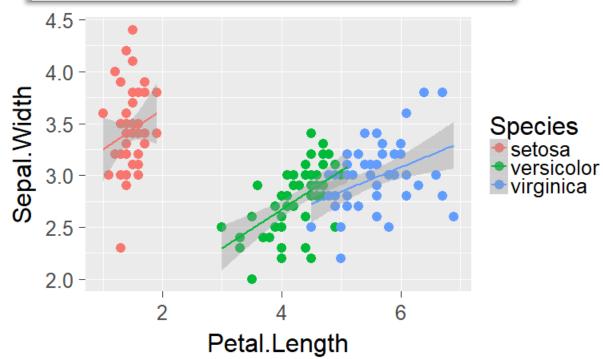
### GGPLOT2

#### data.frame `iris`

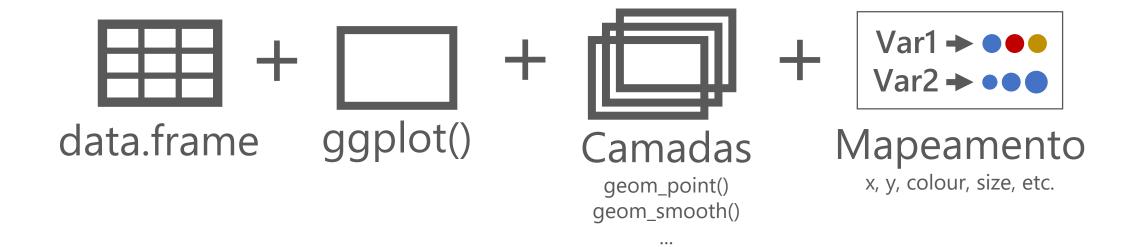
Sepal.Width	Petal.Length	Species
1.4	3.5	setosa
1.5	3.1	setosa
3.5	2.6	versicolor
5.0	2.5	virginica

#### Mapping

Aesthetic	Variável	
у —	→ Sepal.Width	
х —	→ Petal.Length	
colour —	Species	



#### Resumo:



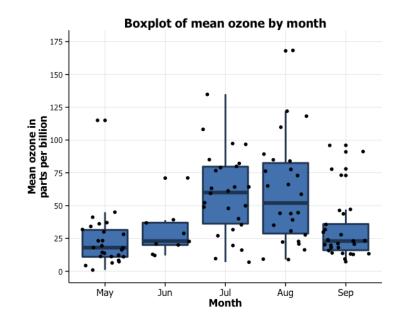
# %>% GGPLOT2

Exercício 0: abra o cheat sheet do GGPLOT2: <a href="https://www.rstudio.com/wp-content/uploads/2015/03/ggplot2-cheatsheet.pdf">https://www.rstudio.com/wp-content/uploads/2015/03/ggplot2-cheatsheet.pdf</a>

Exercício 0: abra o cheat sheet do GGPLOT2: <a href="https://www.rstudio.com/wp-content/uploads/2015/03/ggplot2-cheatsheet.pdf">https://www.rstudio.com/wp-content/uploads/2015/03/ggplot2-cheatsheet.pdf</a>

Exercício 1: quais geom\_\* foram usados no gráfico abaixo?

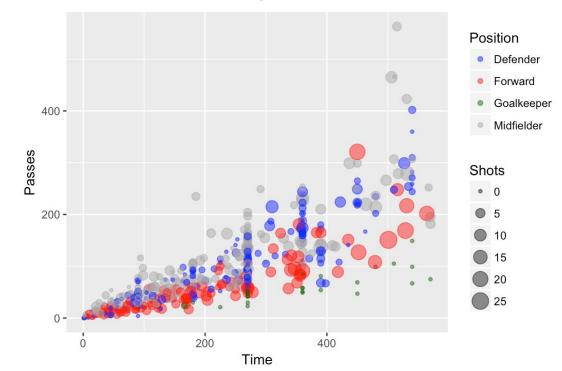
- a) geom\_points()
- b) geom\_lines()
- c) geom\_boxplot()
- d) geom\_bar()
- e) (a) e (c)



Exercício 0: abra o cheat sheet do GGPLOT2: <a href="https://www.rstudio.com/wp-content/uploads/2015/03/ggplot2-cheatsheet.pdf">https://www.rstudio.com/wp-content/uploads/2015/03/ggplot2-cheatsheet.pdf</a>

Exercício 2: quais características foram mapeadas no gráfico abaixo?

- a) x, y
- b) x, y, point
- c) x, y, fill, alpha
- d) x, y, colour, alpha
- e) x, y, colour, size



Exercício 0: abra o cheat sheet do GGPLOT2: <a href="https://www.rstudio.com/wp-content/uploads/2015/03/ggplot2-cheatsheet.pdf">https://www.rstudio.com/wp-content/uploads/2015/03/ggplot2-cheatsheet.pdf</a>

# Vamos ao R...