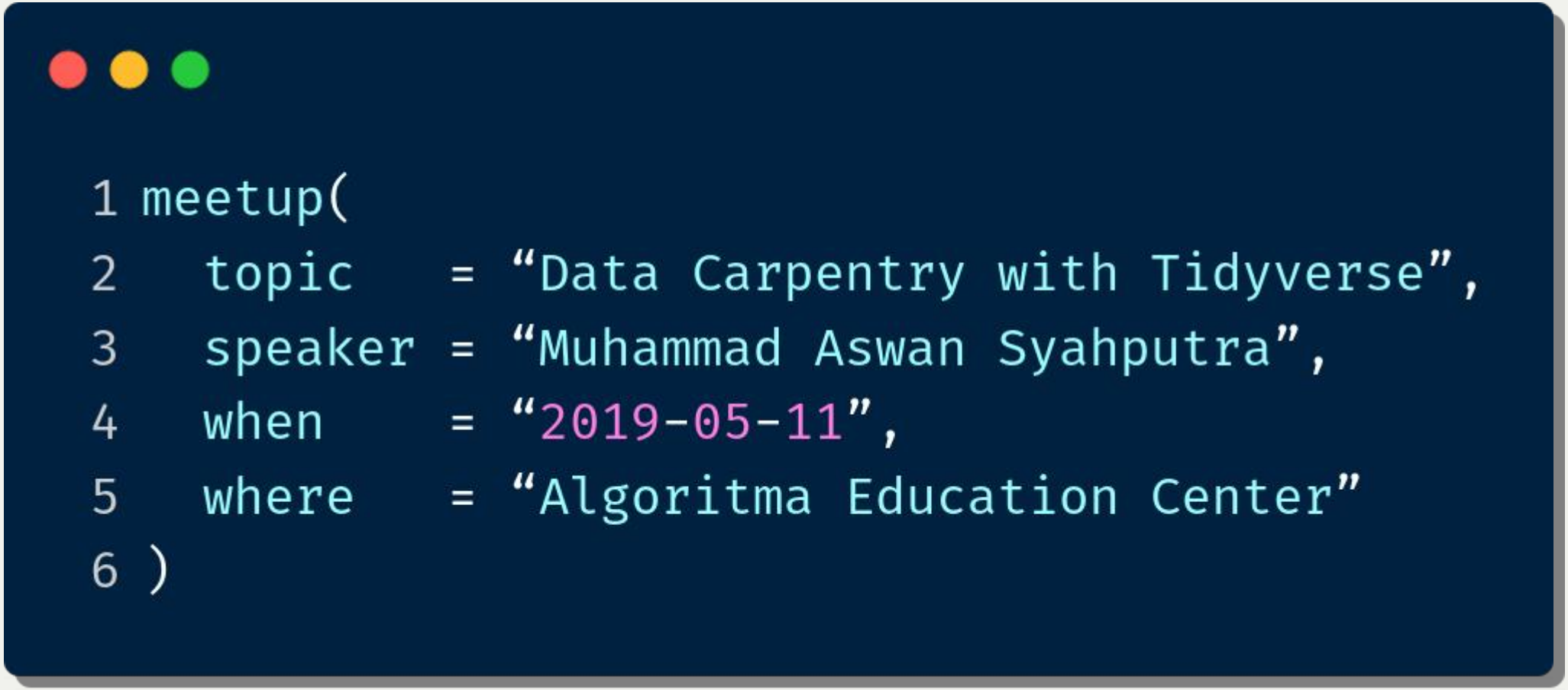
meetup(
topic = “Data Carpentry with Tidyverse”,
speaker = “Muhammad Aswan Syahputra”,
when = “2019-05-11”,
where = “Algoritma Education Center”
)

- Sensory Scientist @ Sensolution.ID
- Trainer @ R-Academy Telkom University and The Datanomics Institute (TDI)
- Initiator of Komunitas R Indonesia
- Pkgs: sensehubr, nusandata, bandungjuara, prakiraan, etc
- Shinyapps: sensehub, thermostats, aquastats, bcrp, bandungjuara, etc

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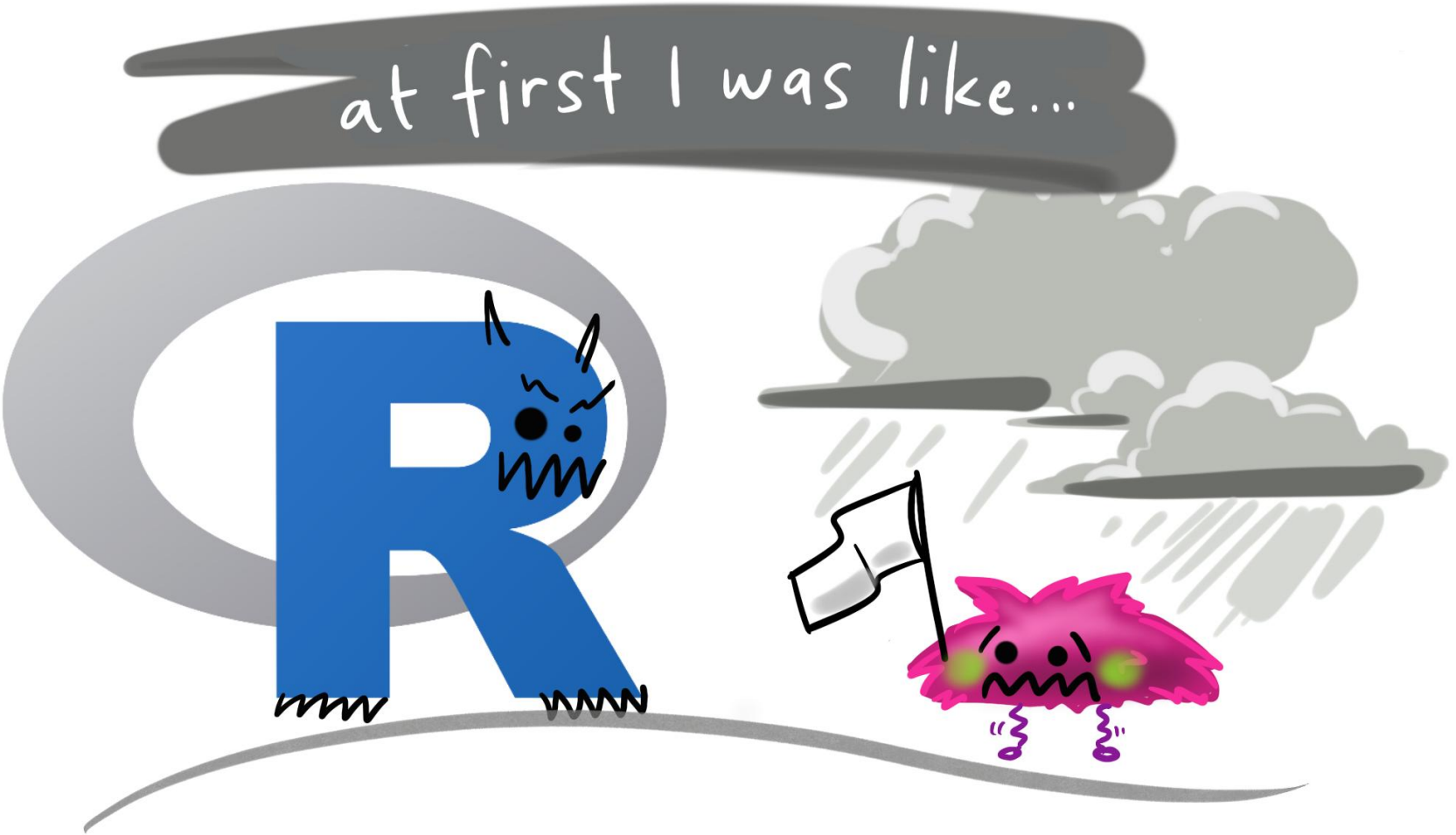
Komunitas
R Indonesia

R Indones a
www.r- ndones a. d

Know your neighbour!

- Who are you?
- What you do with data?
- How would you describe your experience with R?



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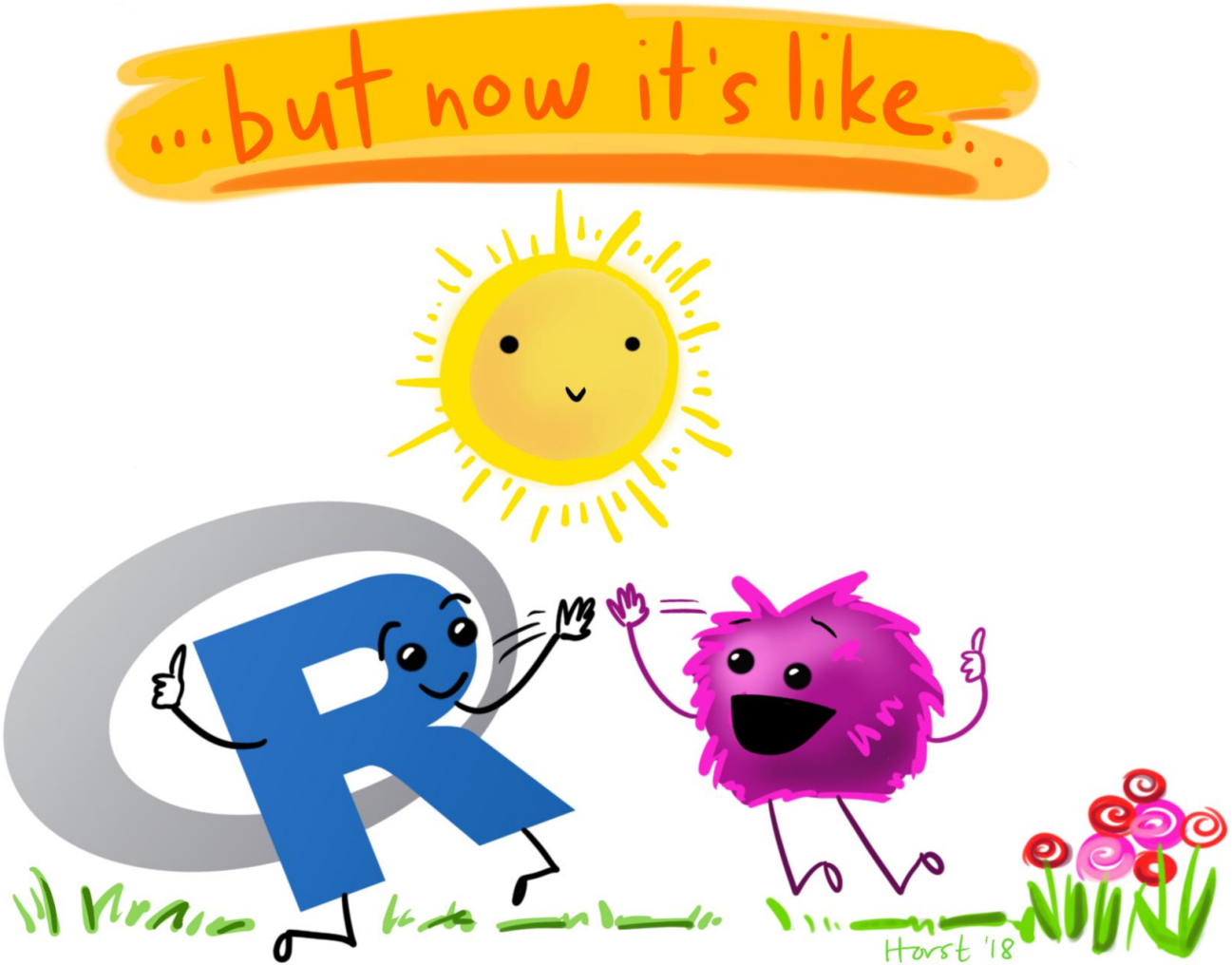


Artwork by @allison_horst

Data Carpentry?

It’s so relatable,

is it not?

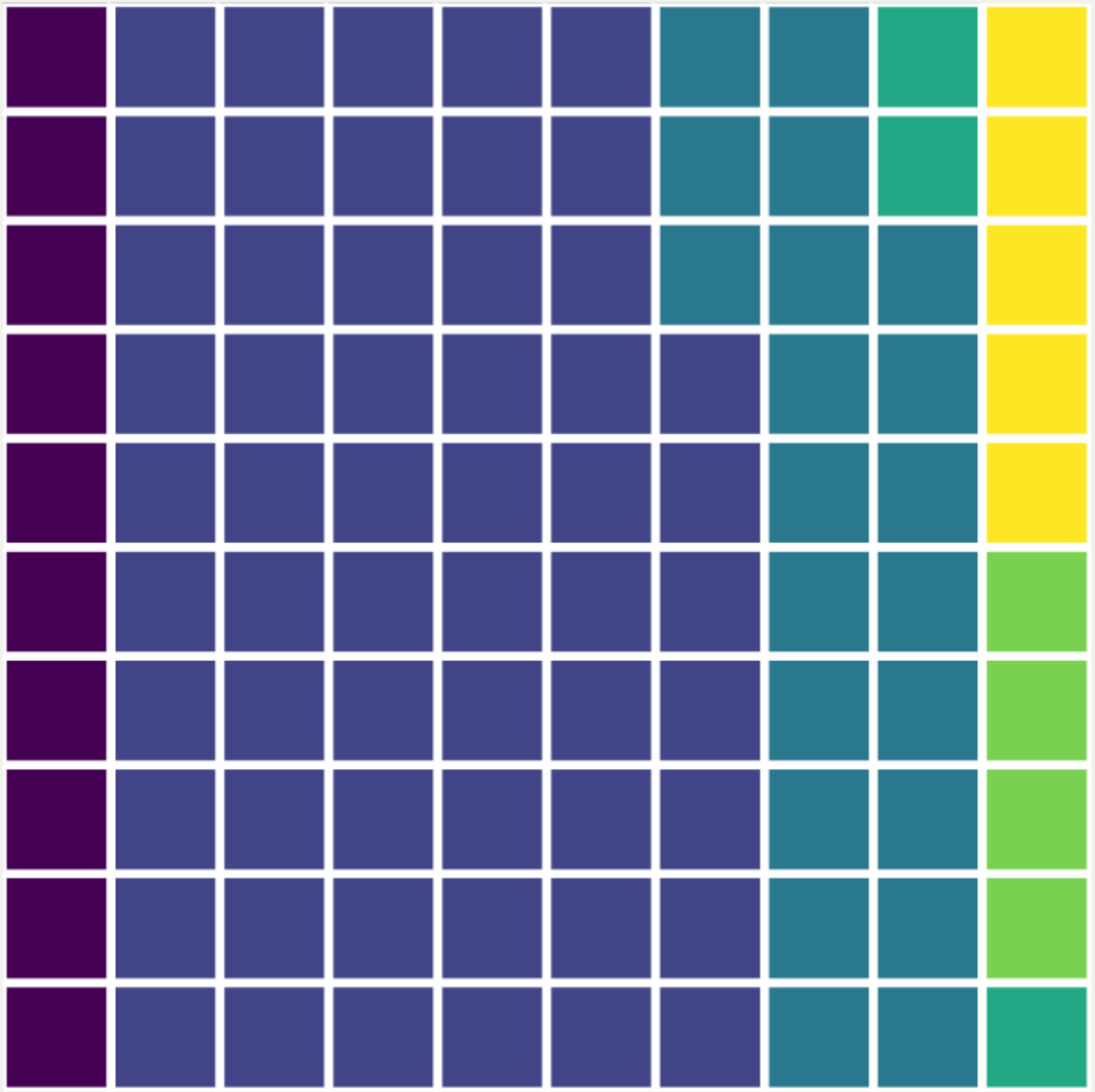
Source: Forbes, 2016

What data scientists spend the most time doing?

- Building training sets
- Cleaning and organizing data
- Collecting data sets
- Mining data for pattern
- Refining algorithms
- Other

What the least enjoyable part of data science?

- Building training sets
- Cleaning and organizing data
- Collecting data sets
- Mining data for pattern
- Refining algorithms
- Other



Source: Forbes, 2016

“

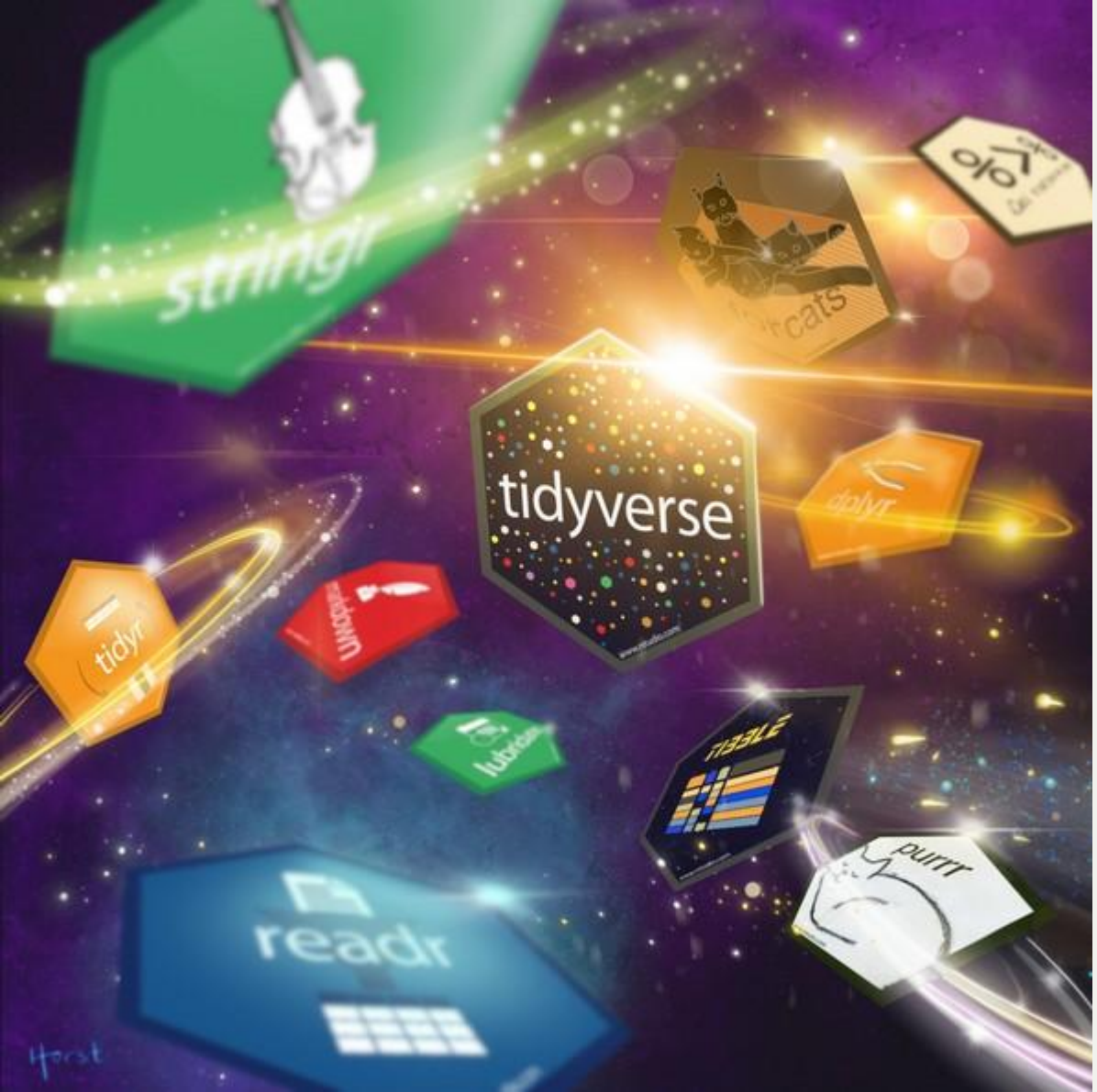
Do not underestimate

DATA PREPROCESSING

”

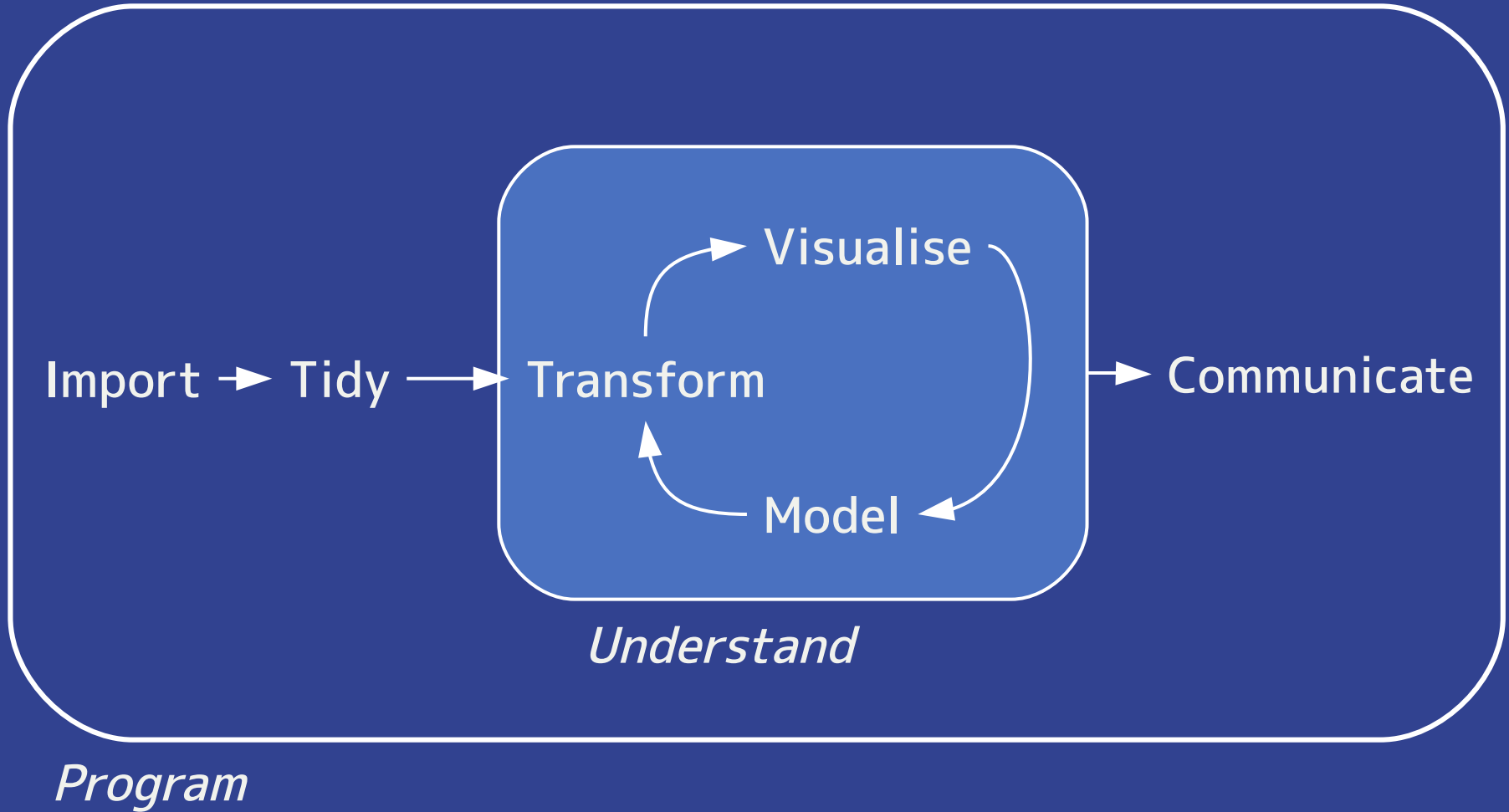
“is not a single process
but a thousand of
little skills and techniques”

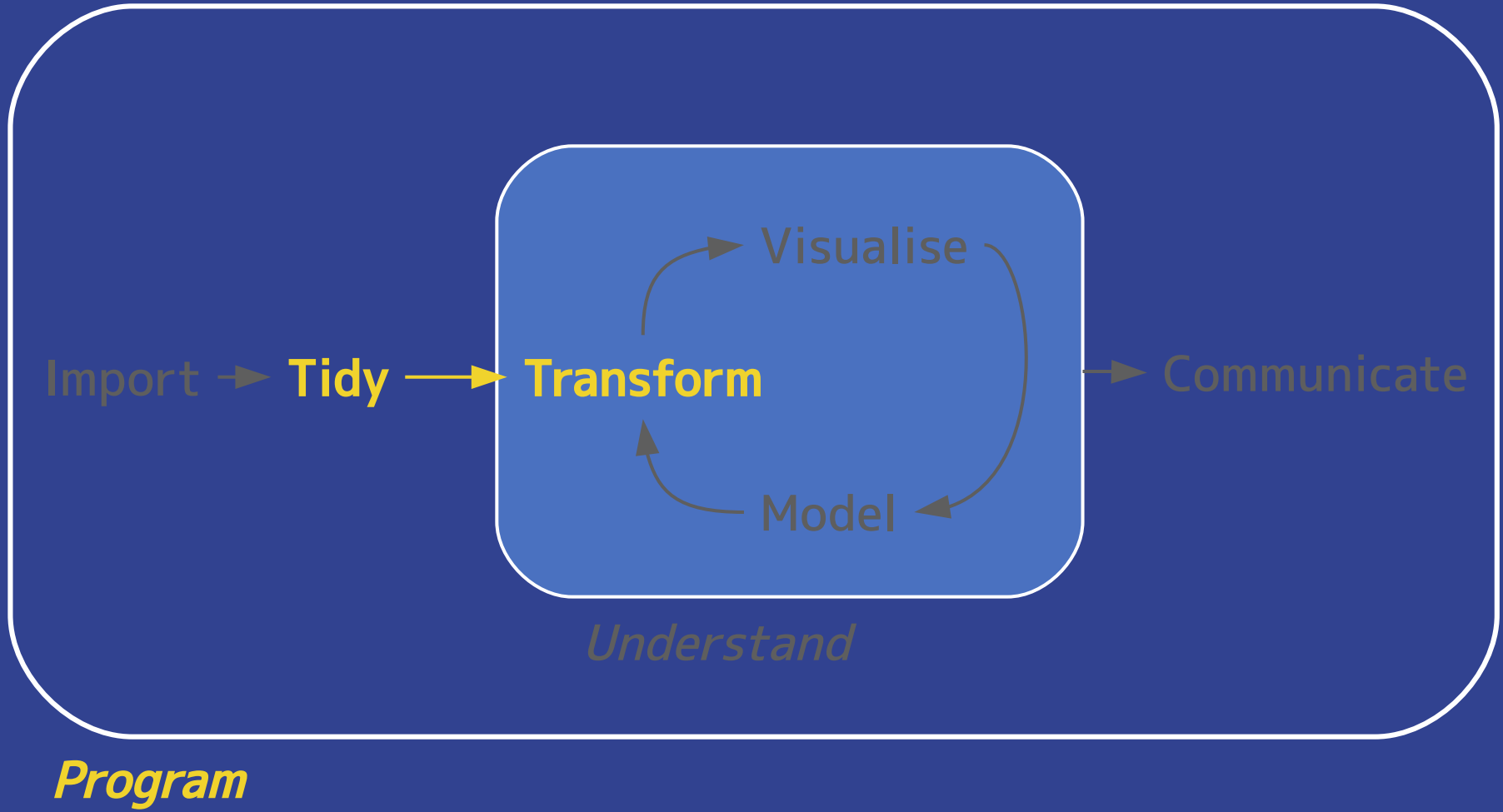
- David Minmo



The tidyverse is an opinionated **collection of R packages** designed for **data science.** All packages **share** an underlying **design** philosophy, **grammar**, and **data structures**.

Artwork by @allison_horst


Import
Tidy
Transform
Visualise
Model
Communicate
Understand
Program


Import
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Transform
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Communicate
Program

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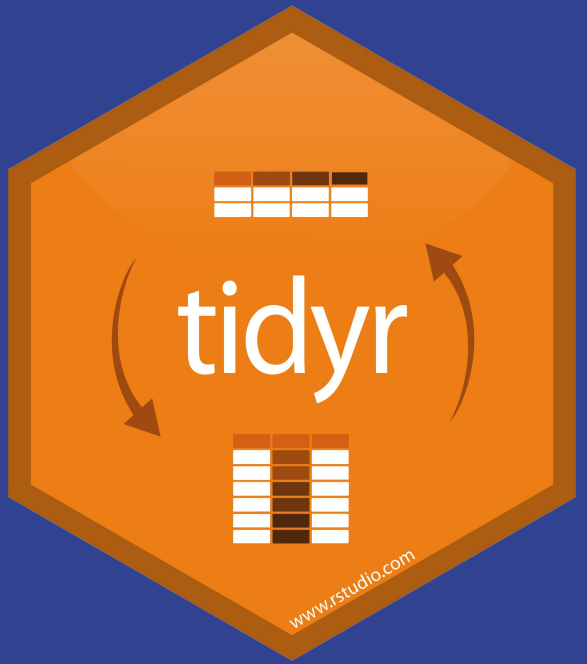
tidyr



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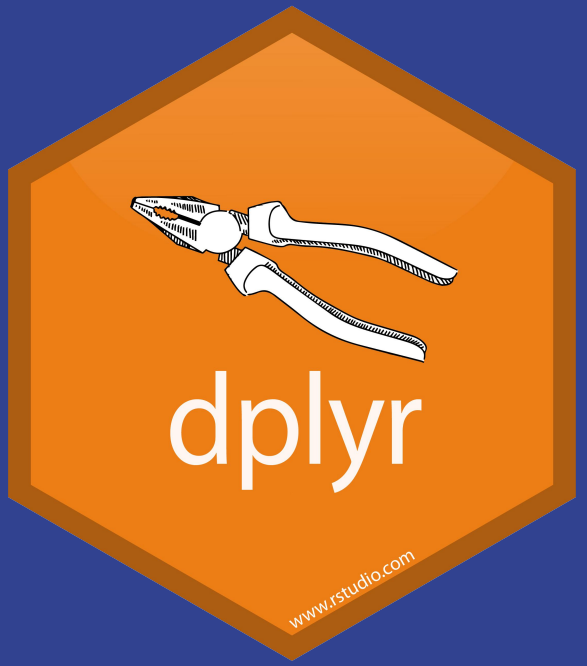
dplyr



dplyr basic functions:

- `filter()` selects rows based on their values
- `mutate()` creates new variables
- `select()` picks columns by name
- `summarise()` calculates summary statistics
- `arrange()` sorts the rows

tidyr basic functions:

- `gather()` wide-format >> long-format
- `spread()` long-format >> wide-format
- `fill()` fills value based on previous entry
- `complete()` turns implicit missing values into explicit

Operators:

- ! (not)
- | (or)
- & (and)
- ==, !=
- <, <=, >, >=
- %in%
- is.na()

How can I chain?

1. diputar
2. dijilat
3. dicelupin
4. dimakan :D

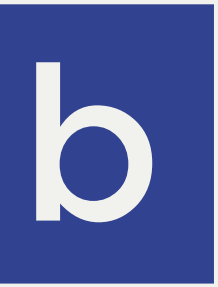
1. putar(apa)
2. jilat(apa, berapa_kali)
3. celup(apa, ke)
4. makan(apa, output)

a

```
> oreo_putar ← putar(apa = “oreo”)
> oreo_jilat ← jilat(apa = oreo_putar,
                     berapa_kali = 2)
> oreo_celup ← celup(apa = oreo_jilat,
                     ke = “susu”)
> makan(apa = oreo_celup,
        output = “kenyang.perut”)
```

a

```
> oreo_putar ← putar(apa = “oreo”)
> oreo_jilat ← jilat(apa = oreo_putar,
                     berapa_kali = 2)
> oreo_celup ← celup(apa = oreo_jilat,
                     ke = “susu”)
> makan(apa = oreo_celup,
        output = “kenyang.perut”)
```



```
> makan(
    celup(
      jilat(
        putar(apa = “oreo”),
        berapa_kali = 2
        ),
      ke = “susu”
    ),
    output = “kenyang.perut”
  )
```

```
function(arg1, arg2, arg3, ... )
```

```
arg1 %>%
  function(arg2, arg3, ... )
```

```
function(arg1, arg2, arg3, ... )
```

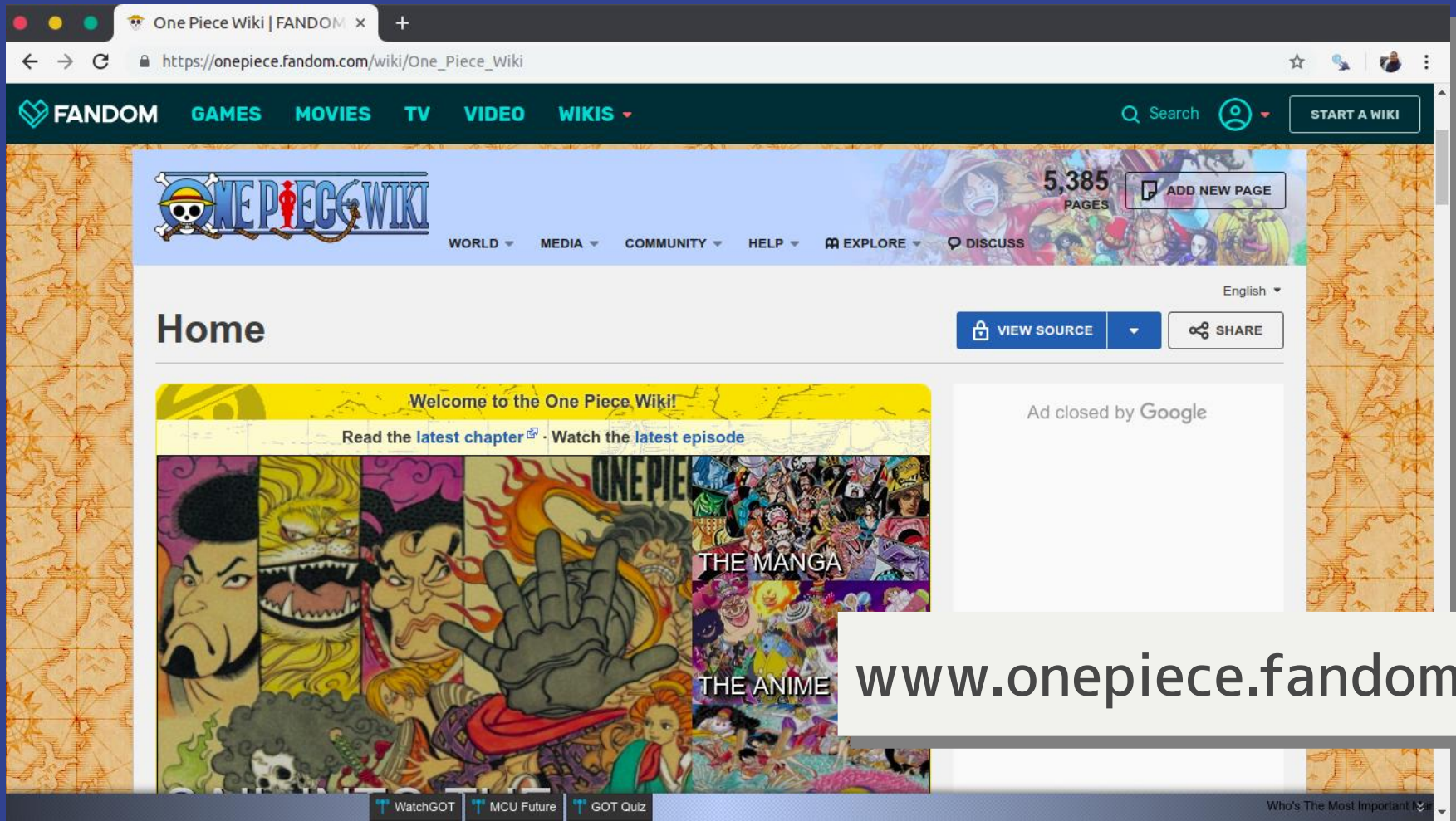
```
arg2 %>%
  function(arg1, arg2=.,arg3, ... )
```

magrittr

```
> putar(apa = “oreo”) %>%
    jilat(berapa_kali = 2) %>%
    celup(ke = “susu”) %>%
    makan(output = “kenyang.perut”)
```

What to do today?

ワンピース
ONE PIECE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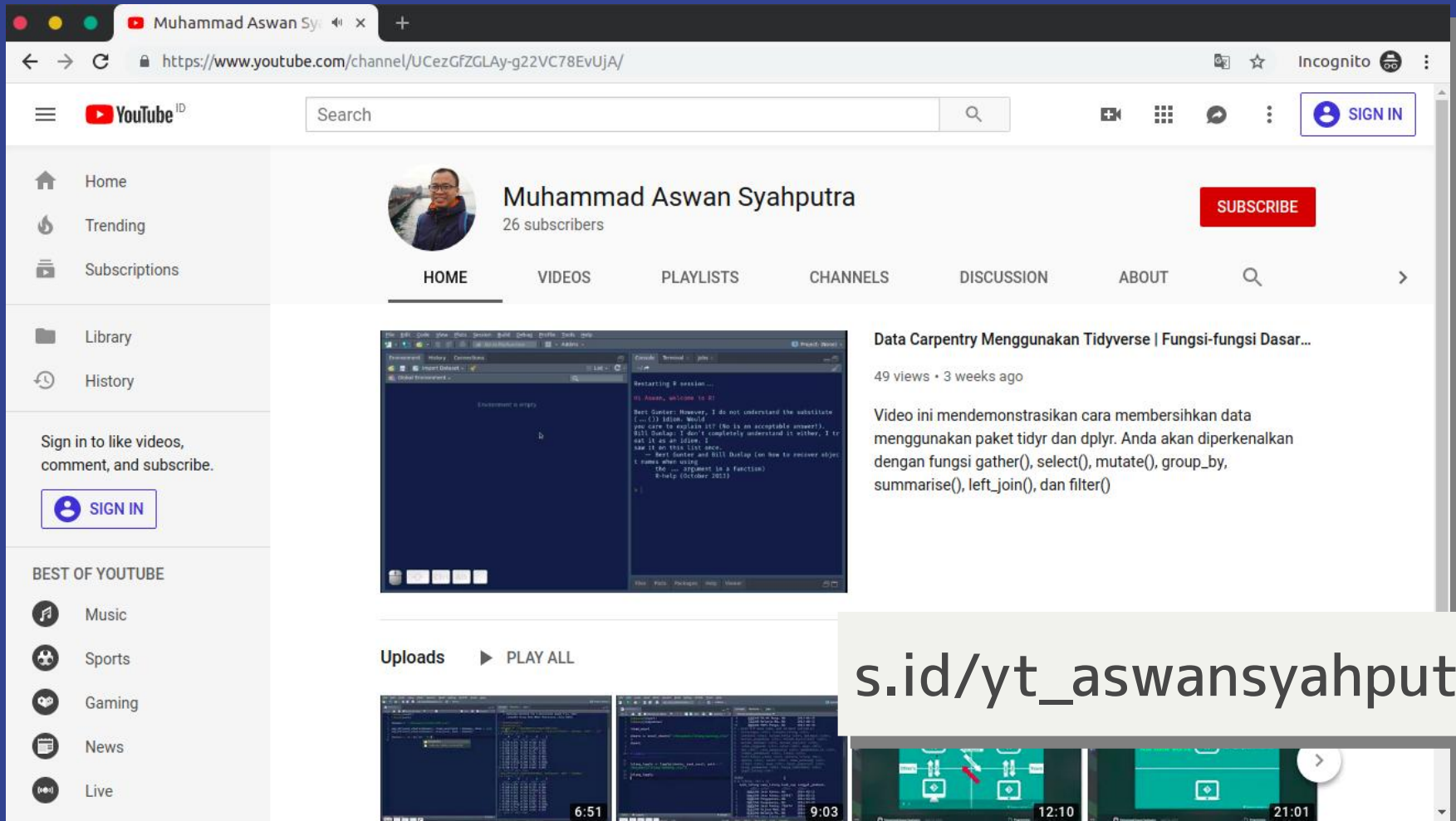
Who's The Most Important

Let's get started!

- Let's write R scripts together!
- I will demonstrate and explain the use of each code
- Access this presesentation at:

s.id/data-carpentry-tidyverse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Uploads
PLAY ALL
6:51
9:03
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Thanks!

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