The dplyr Package in R

Write less and faster code

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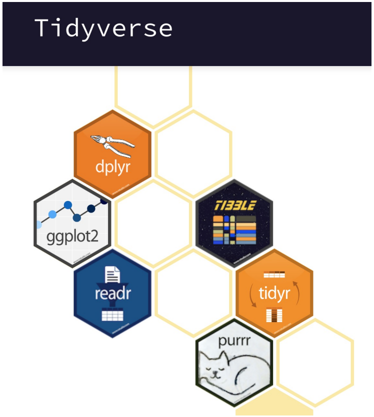
VAM 1 - MT 2018

October 17, 2018

The tidyverse package



- Created by Hadley Wickham

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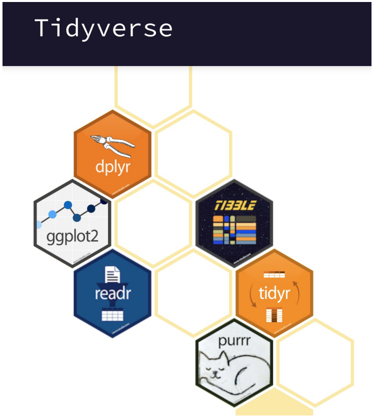

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- Helps you to organise, manipulate and analyse your data

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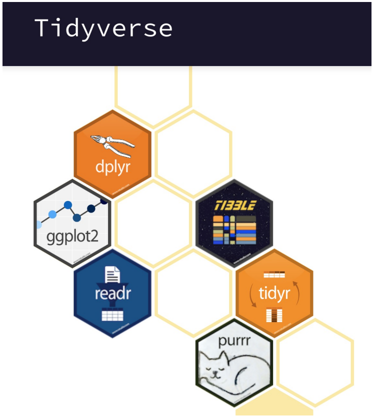

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- (Probably at most times) faster than your own code

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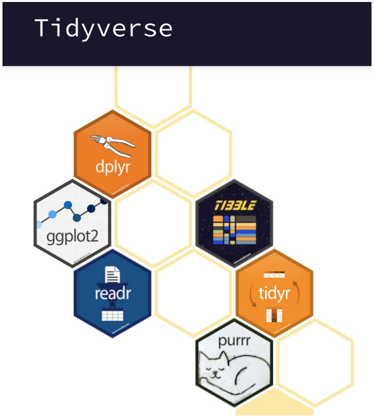

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- Clean and transparent, easy for others to read your code

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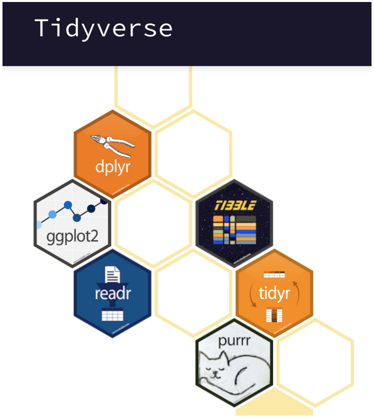

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- (Probably at most times) faster than your own code
- Clean and transparent, easy for others to read your code
- Requires you to write less

The tidyverse package

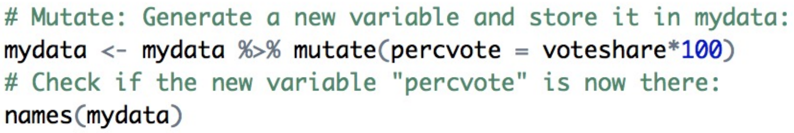
- Created by Hadley Wickham
- Helps you to organise, manipulate and analyse your data
- (Probably at most times) faster than your own code
- Clean and transparent, easy for others to read your code
- Requires you to write less
- My tip: Always think first how you could write code with the help of tidyverse (specifically: dplyr) - avoid long loops!

Your *dplyr* toolbox:

Five verbs to manipulate your data with:

- mutate() allows you to generate new variables

Example:



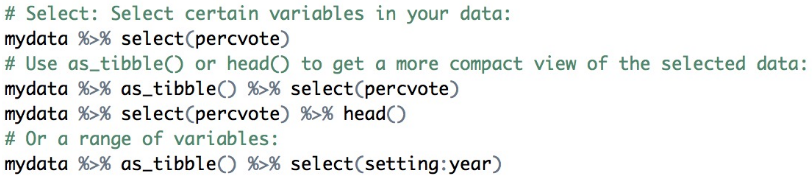
```r
# Mutate: Generate a new variable and store it in mydata:
mydata <- mydata %>% mutate(percvote = voteshare*100)
# Check if the new variable "percvote" is now there:
names(mydata)
```

Your *dplyr* toolbox:

Five verbs to manipulate your data with:

- mutate() allows you to generate new variables
- select() lets you select certain variables in your dataset

Example:



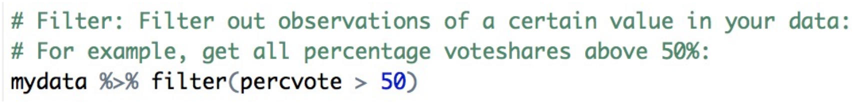
```
# Select: Select certain variables in your data:
mydata %>% select(percvote)
# Use as_tibble() or head() to get a more compact view of the selected data:
mydata %>% as_tibble() %>% select(percvote)
mydata %>% select(percvote) %>% head()
# Or a range of variables:
mydata %>% as_tibble() %>% select(setting:year)
```

Your *dplyr* toolbox:

Five verbs to manipulate your data with:

- mutate() allows you to generate new variables
- select() lets you select certain variables in your dataset
- filter() enables you to filter out observations of a certain value in your dataset

Example:



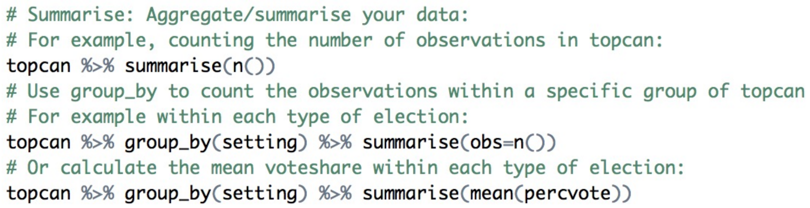
```
# Filter: Filter out observations of a certain value in your data:
# For example, get all percentage voteshares above 50%:
mydata %>% filter(percvote > 50)
```

Your *dplyr* toolbox:

Five verbs to manipulate your data with:

- mutate() allows you to generate new variables
- select() lets you select certain variables in your dataset
- filter() enables you to filter out observations of a certain value in your dataset
- summarise() allows you to for example count or calculate the mean value of groups of observations in your data

Example:



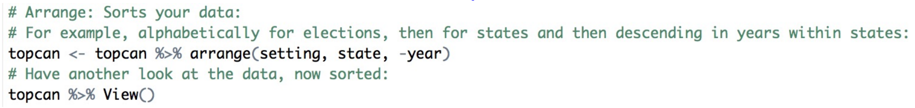
```
# Summarise: Aggregate/summarise your data:
# For example, counting the number of observations in topcan:
topcan %>% summarise(n())
# Use group_by to count the observations within a specific group of topcan
# For example within each type of election:
topcan %>% group_by(setting) %>% summarise(obs=n())
# Or calculate the mean voteshare within each type of election:
topcan %>% group_by(setting) %>% summarise(mean(percvote))
```

Your *dplyr* toolbox:

Five verbs to manipulate your data with:

- mutate() allows you to generate new variables
- select() lets you select certain variables in your dataset
- filter() enables you to filter out observations of a certain value in your dataset
- summarise() allows you to for example count or calculate the mean value of groups of observations in your data
- arrange() sorts your data, e.g. alphabetically when you have country-level data

Example:



```
# Arrange: Sorts your data:
# For example, alphabetically for elections, then for states and then descending in years within states:
topcan <- topcan %>% arrange(setting, state, -year)
# Have another look at the data, now sorted:
topcan %>% View()
```