# Module 11: Loading packages and manipulating data with 'tidyverse'

#### Learning Outcomes

- Know how to install and load R packages.
- The tidyverse package and functions
- Filter and manipulate data using dplyr
- Know how to save data

#### What are packages?

- Collections of functions written by other users
- Can include complex analytical tools
- •To install: install.packages()
- •To load: library()

```
> install.packages("vctrs")
Warning in install.packages :
   lzma decoder corrupt data

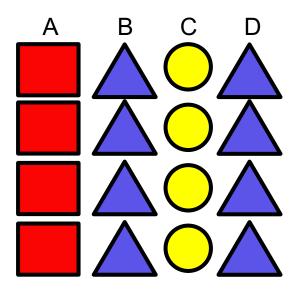
There is a binary version available but the source version is later:
        binary source needs_compilation
vctrs 0.6.2 0.6.3 TRUE
```

Do you want to install from sources the package which needs compilation? (Yes/no/cancel) Yes

#### Common functions

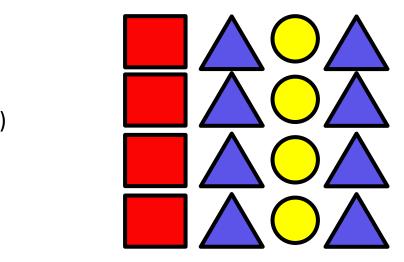
#### rename

rename()



#### select and filter

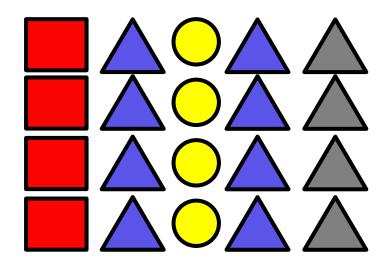
select()



filter()

#### mutate

mutate()



## group\_by, summarize

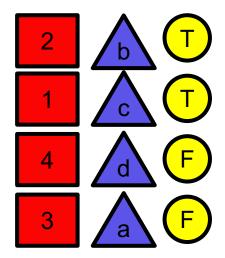
group\_by() summarise()

## unite, separate

unite() separate()

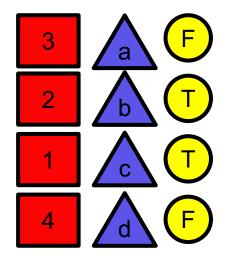
#### arrange

arrange()

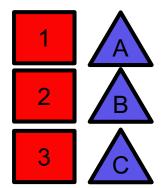


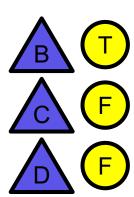
#### arrange

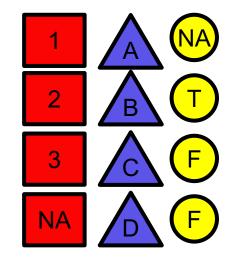
arrange()



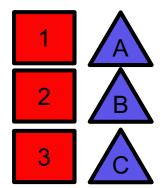
# full\_join

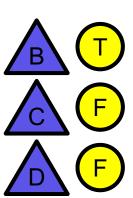


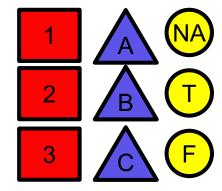




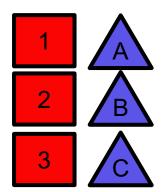
# left\_join

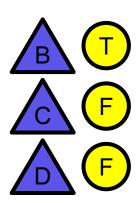


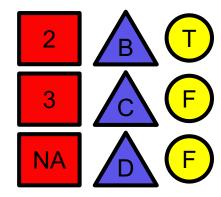




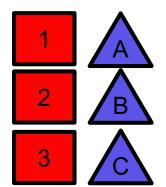
# right\_join

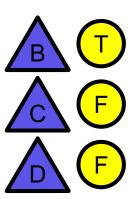


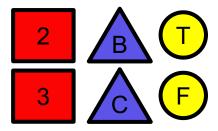




# inner\_join







#### Saving data

- •Write.table()
- •Write.csv()
- .Save() (RData)