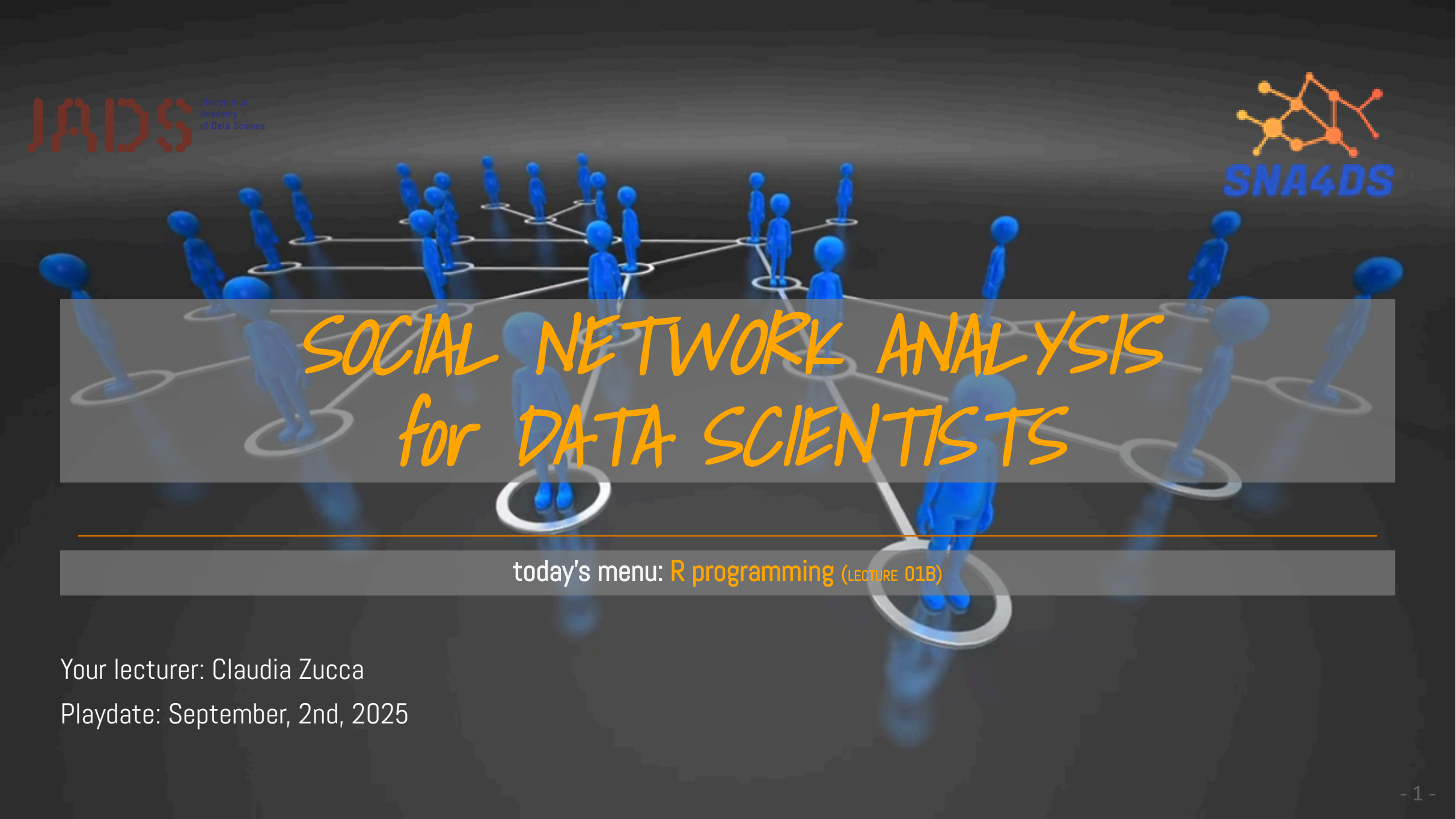


SOCIAL NETWORK ANALYSIS for DATA SCIENTISTS

today's menu: R programming (LECTURE 01B)

Your lecturer: Claudia Zucca

Playdate: September, 2nd, 2025

R & RStudio

Why R?

R is a programming language specifically thought for

- data analysis
- statistics

Why R?

R is a programming language specifically thought for

- data analysis
- statistics

It is also quite similar to Python in many levels

- if you are a Pythonist you will 'translate' quickly
- you can do in R anything that you usually do in Python

Why R?

R is a programming language specifically thought for

- data analysis
- statistics

It is also quite similar to Python in many levels

- if you are a Pythonist you will 'translate' quickly
- you can do in R anything that you usually do in Python

R has already more packages for statistical analysis

This software choice makes your life easier.

How about your programming skills?

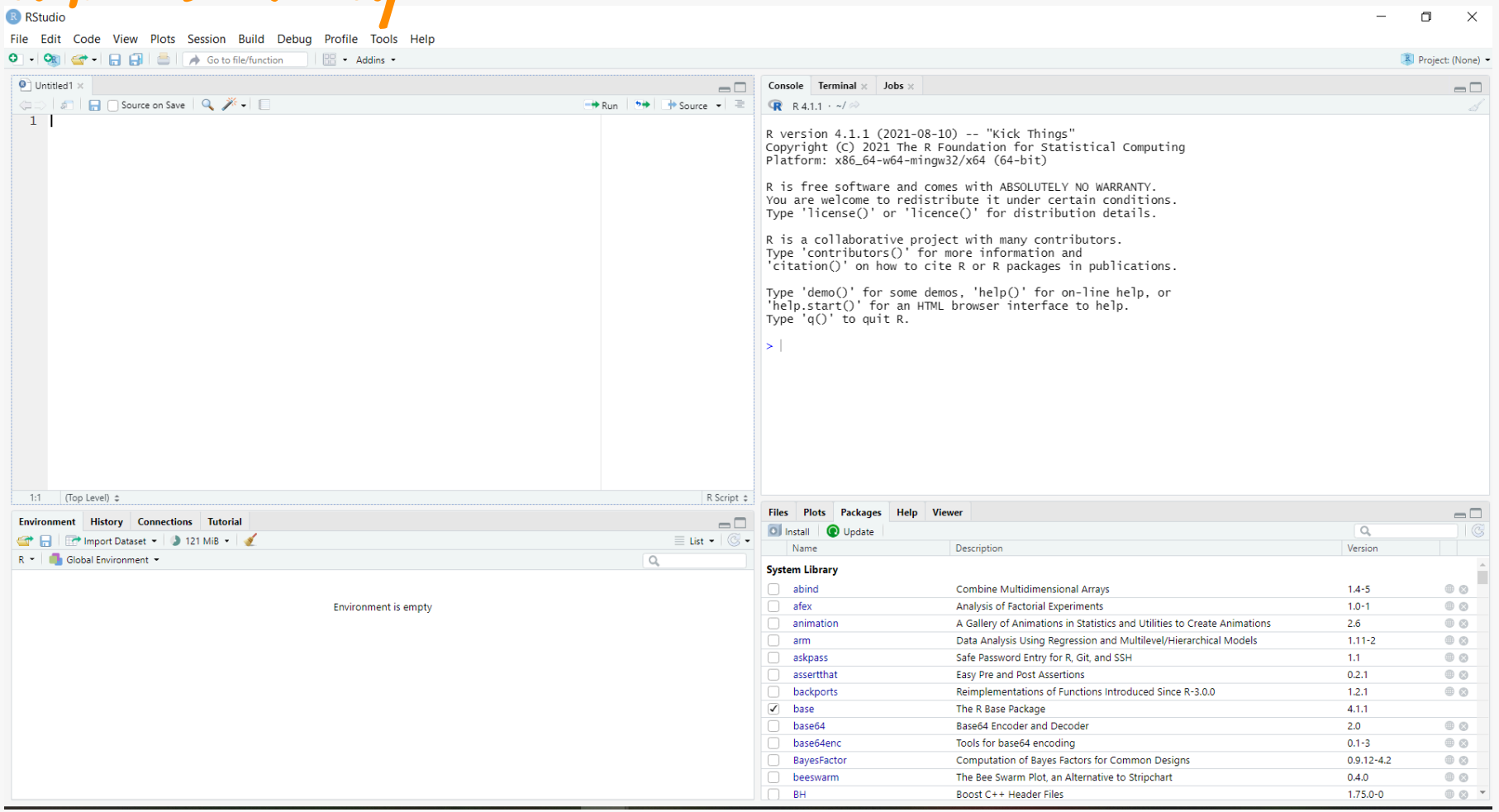
www.menti.com code: 7203 0239

Have you installed R and Rstudio?

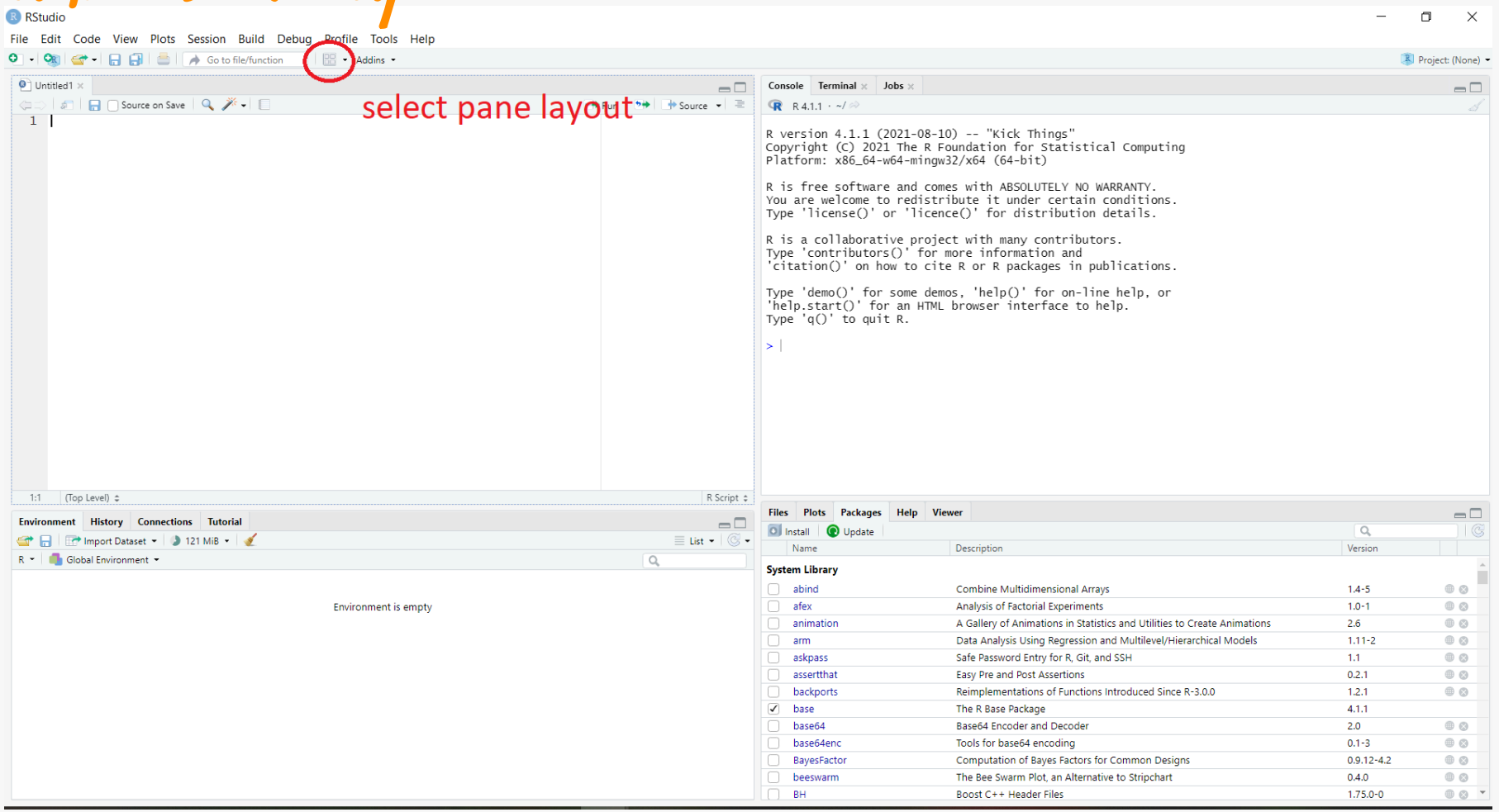
did you run the `snaverse::rstudiofy()` function?

Did you encounter any problems?

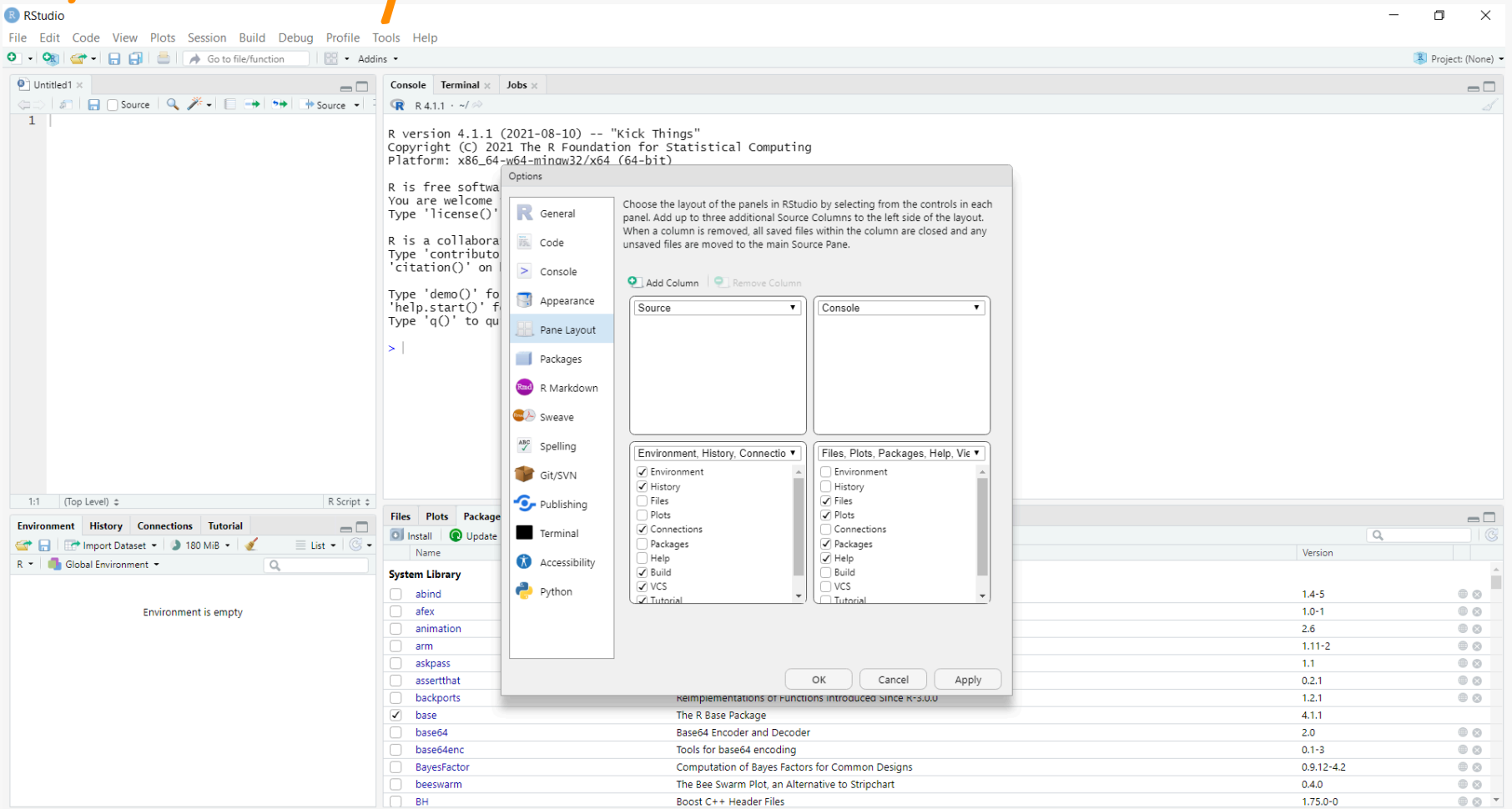
R studio set up



R studio set up



R studio set up



Have you installed the snaverse?

```
snaverse::packagefy()
```

```
snaverse::snaversify()
```

Have you installed GERGM?

If it did not work in the regular installation, try:

```
remotes::install_github("matthewjdenny/GERGM",
dependencies = TRUE, force = TRUE)
```

If it doesn't work, emails us at SNA4DS@jads.nl

(especially mac users)

snaverse suite

snaverse - The sna package to rule them all ;-)

Written by Roger and Claudia for the SNA4DS class

Attempting to make this class more enjoyable :)

composed of 3 packages

sna4tutti

It contains 9 interactive tutorials

It makes easier learning SNA4DS since

- you study the theory
- immediately get to practice it

`snafun`

Doing analysis of dyadic data can be quite challenging

We introduced a set of function that will make your life much easier

without `snafun` you would have to navigate at least three packages everyday

- `igraph`
- `sna`
- `network`
- ...

SNA4DSData

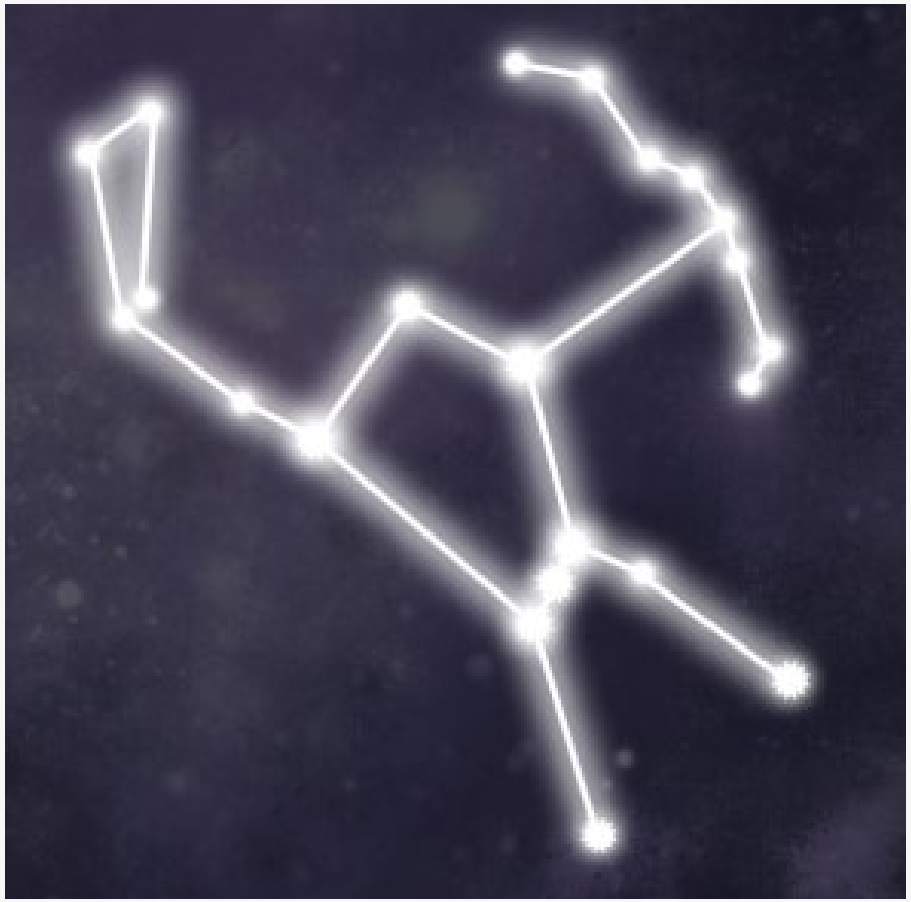
It contains the Data tha we will use for...

- Tutorials
- Demostration
- Examples
- Houseplay
- Class play

... during the semester

You can also use it to practice for the exam

Any questions about the snaverse?



Opening Tutorials

```
sna4tutti::open_sna4tutti_tutorials()
```

similar to the bootcamp ones

Any Problems/Questions?

Solving Possible problems you can encounter

The tutorial does not open

1) Close R studio

2) Restart R studio

3) Try again

Still not working?

4) Clear the cache

Still not working?

5) Contact us

Solving Possible problems you can encounter

Tutorials have a system to authomatically report errors

In case there is an error, you will see it in two places

- where the error takes place in the tutorial flow
- at the end of the tutorial

If you see this, copy and paste the error code and email it to us

Bug reporting

First complete version of the suite

Still, this package is work in progress

You might find some bugs as code or text typos

If you do, please report them to us so we can fix them

SNA4DS@jads.nl

Forbidden Items

- attaching Libraries

```
library(igraph)
```

- using the suite of packages tidyverse

```
library(dplyr)
```

DO NOT DO THAT!

JUST DO IT

prefix packages

`igraph::degree(net)` OR `stats::lm(Ovar ~ Pred)`

do data analysis and manipulation in R base

`var$col1` OR `Var[,1]`

etc...

If you attach libraries and/or use tidyverse we will mark you down

Tutorial 01

Intro to programming in R

It has been written with two main purposes

- Giving you an overview of the programming skills you need in this class
- Getting you started with them

It will take you between 1 and 3 hours to complete the tutorial

It depends on your programming level and your R level

It's not difficult!

Please do it carefully. -- No LLMs cannot code everything for you!

Topics in the tutorial (1)

- Checking installation
- Operators, Variables and Conditions
- Make your code readable
- R Objects
- Looking for help
- Missing Data
- Data Structures
- Reading files into R

Topics in the tutorial (2)

- Inspecting Data
- Data Manipulation
- Packages in R
- Functions
- Loops
- The `apply` family
- basics R graphics

Tutorial 01 is a companion

Refer to it everytime you have to code something in R

There should be everything you need

No need to remember things if you know where to find them!

BUT DO FIND THEM!

For next week:

- Tutorial 1
- Tutorial 2
- Homeplay data manipulation in R
- Homeplay descriptives

You can do it! :)

Speed Disclaimer

We start FAST -- keep up with the speed!

See you next week!