

Troubleshooting Code

How to improve your relationship
with the  interpreter



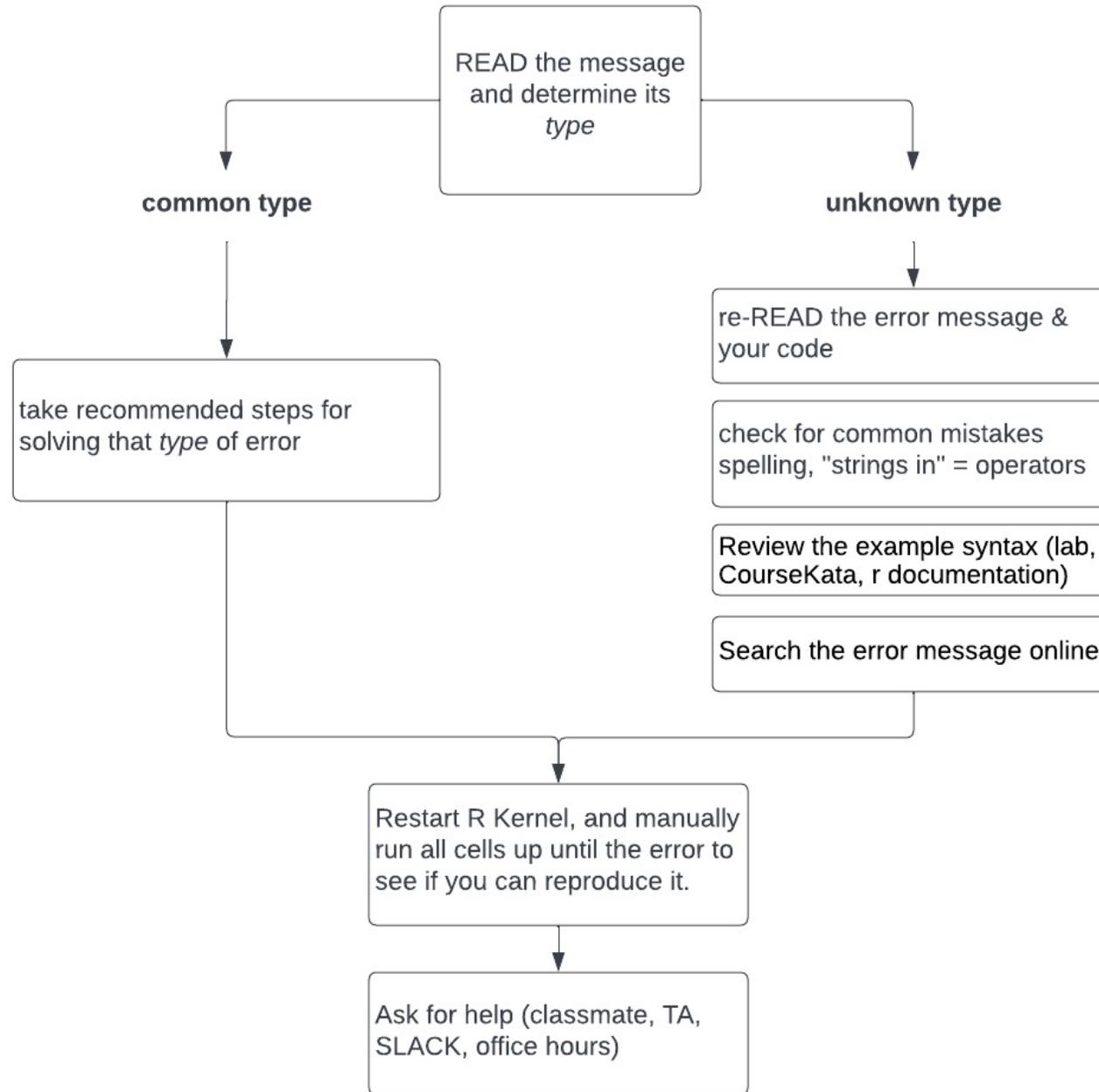
PSYC 60
Amy Rae Fox
Lea Bronnimann

TL ; DR

How to handle an error message:

1. Read the message, and determine its **type**
2. If it IS a **common type** of error, take the recommended steps to resolve it
3. If it's NOT a common type, read the message *again*. Compare it to your code. Try to fix the error
 - a. Review the example syntax for what you're trying to do
 - b. Search the error message online
4. Restart the R Kernel. Step through and run the code cell by cell
5. Ask for help
 - a. lab partner, team member
 - b. teaching team, in class
 - c. classmates and teaching team, on Slack
 - d. office hours

Don't panic!

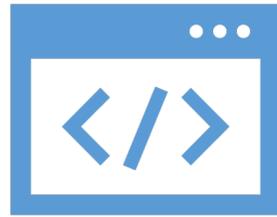


ERROR MESSAGE	problem	troubleshooting
Function not found	R can't find that FUNCTION	Check spelling; import packages
Object not found	R can't find that VARIABLE	Check spelling; check you created the object
unexpected INCOMPLETE_STRING	Missing or extra quotation marks	Check that strings are enclosed in " "
non-numeric argument to binary operator	<p>" "quotation marks around the wrong thing</p> <p>Trying to perform an operator on a column of the wrong data type</p>	<p>Check you're using "quotations" correctly</p> <p>Check the data types of the columns (variables) in the expression: hint use glimpse()</p>
Error: Problem with `filter()` input `..1`. ✘ Input `..1` is named. This usually means that you've used `=` instead of `==`.	Using = instead of ==	Remember that = means "assign this to that" And == means "does this equal that?"
argument is not numeric or logical: returning NA	Trying to execute function on column of wrong data type	Double check the data type of the column, and what you expect the function to do (most common when you try to perform math on categorical (factors))

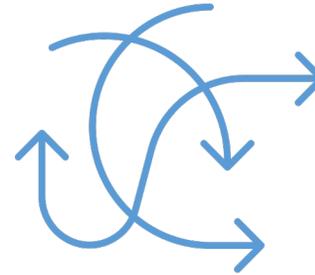
(the long version)



Thinking about
Programming



Troubleshooting
error messages



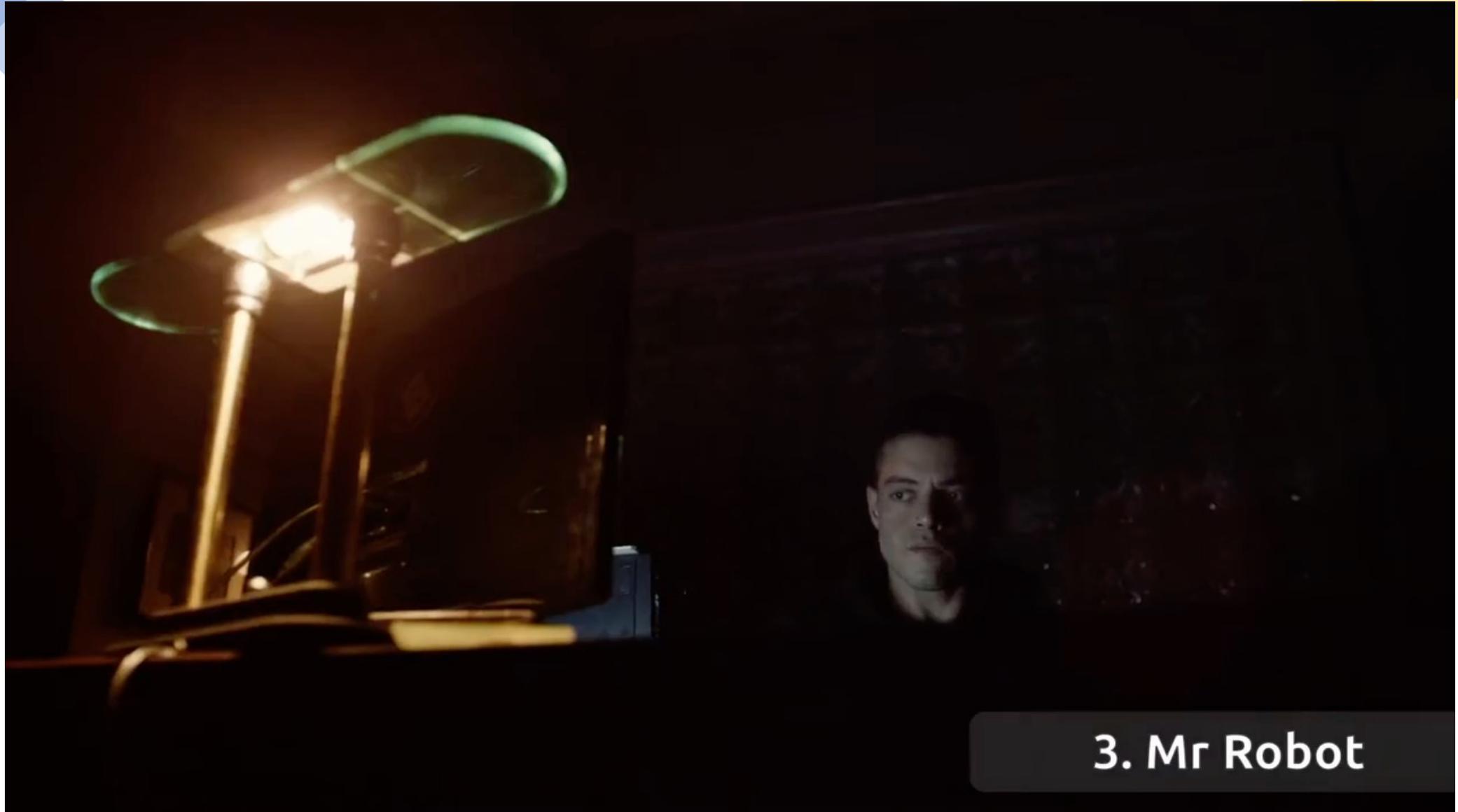
Troubleshooting
unexpected results



Searching
for help



Thinking about
Programming



3. Mr Robot

Suppose we only want to look at polls that asks people about their concern about contracting the virus.

- Use the `filter()` function to display only those polls where the `level` of the `subject` variable is `'concern-infected'`
- Store this result in the R object called `covid_concerns`.
- Check your work by printing the first few rows of this dataframe to the screen

Write your code in the cell below.

```
In [7]: #2.2 KEY
covid_concerns <- filter(covid_concerns, subject == "concern-infected")
head(covid_concerns)
```

A tibble: 6 x 5

subject	very_adjusted	somewhat_adjusted	not_very_adjusted	not_at_all_adjusted
<chr>	<dbl>	<dbl>	<dbl>	<dbl>
concern-infected	18.52789	23.22979	40.12951	17.05364
concern-infected	16.52789	21.22979	30.12951	19.05364
concern-infected	16.52789	25.22979	36.12951	21.05364
concern-infected	18.67313	23.72846	36.82274	20.62352
concern-infected	23.07826	22.35750	33.72846	20.30527
concern-infected	15.52789	25.22979	39.12951	18.05364

```
In [8]: #2.2 your code here
```

Part 3: Describing and Visualizing the Data

So far we have: (1) explored the structure of the dataset, and (2) prepared the data we want to analyze. Now we are ready to: (3) describe and visuali



Stack Overflow Products Search... 1 2 3 4 5

R making 'na.rm=TRUE' the default in statistics functions [duplicate]

Asked 3 years, 4 months ago Modified 3 years, 3 months ago Viewed 54 times

Ask Question

This question already has answers here:

[Is it possible to set na.rm to TRUE globally?](#) (4 answers)

Closed 3 years ago.

Is there an R library package that defaults the `na.rm` argument in the basic descriptive statistics (mean, sd, etc.) to TRUE? I want to have the option to set `na.rm=FALSE`, but I do not want this to be the default.

It is similar to [Is it possible to set na.rm to TRUE globally?](#), but this has become dated and incomplete. And, perhaps most importantly, it does not have a solution for sd, var, etc.

It's even trickier than that. The following works EXCEPT it cannot be stuck into an .Rprofile file (where it states `Error: object 'var' not found`)

```
orig.var <- var
var <- function(x, ..., na.rm = TRUE) { orig.var(x, ..., na.rm = na.rm) }
```

r

Share Edit Follow

edited Dec 30, 2018 at 2:07

asked Dec 26, 2018 at 19:44

ivo Welch
2,155 ● 2 ● 19 ● 28

The Overflow Blog

- Empathy for the Dev: Avoiding pitfalls when communicating with developers
- Episode 436: Meet the developer that lets us customize Stack...

Featured on Meta

- How might the new Ask Wizard Exchange...
- Question C Introduction
- An A/B "Tren"
- Ove re

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RDocumentation

Search all packages and functions

base (version 3.6.2)

mean: Arithmetic Mean

Description

Generic function for the (trimmed) arithmetic mean.

Usage

```
mean(x, ...)

# S3 method for default
mean(x, trim = 0, na.rm = FALSE, ...)
```

verflow

Products

Search...

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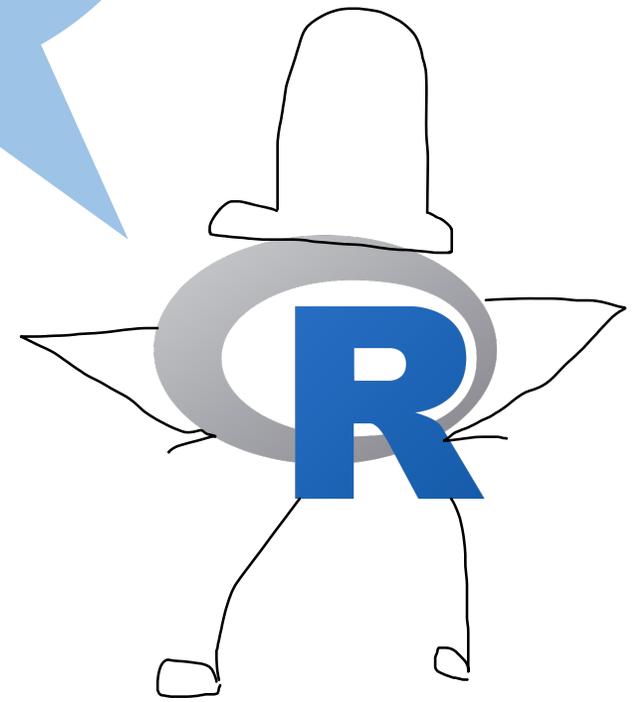
nizational

ee Team

ams?

3 This behavior is similar in concept to using `options(stringsAsFactors=FALSE)` for `read.csv`





source/lab1/ 1B-IntroToR - Jupyter Notebook

datahub.ucsd.edu/user/grader-psyc60-01/notebooks/source/lab1/1B-IntroToR.ipynb

jupyterhub 1B-IntroToR Last Checkpoint: 03/29/2022 (autosaved)

File Edit View Insert Cell Kernel Widgets Help

Kernel ready Trusted | R O

Lab 1B: Introduction to R

Part 0 - Collaboration on lab assignments in PSYC 60

We strongly believe in the value of collaborating with your peers for enhancing your learning experience in PSYC 60. Being able to successfully collaborate with others is an important skill to have when you enter the workforce, and everyone can get better at collaboration with practice. However, for collaboration to be maximally valuable, we need to set some ground rules, building on the expectations laid out in the [course syllabus](#): Show Up, Try, Ask for Help When You Need It, Be Professional.

Guidelines

- Rotate responsibilities between group members.
- Choose a driver and a navigator.
- Discuss your thinking process openly with your group.
- Be supportive, respectful, and patient with one another.

Rotate responsibilities between group members.

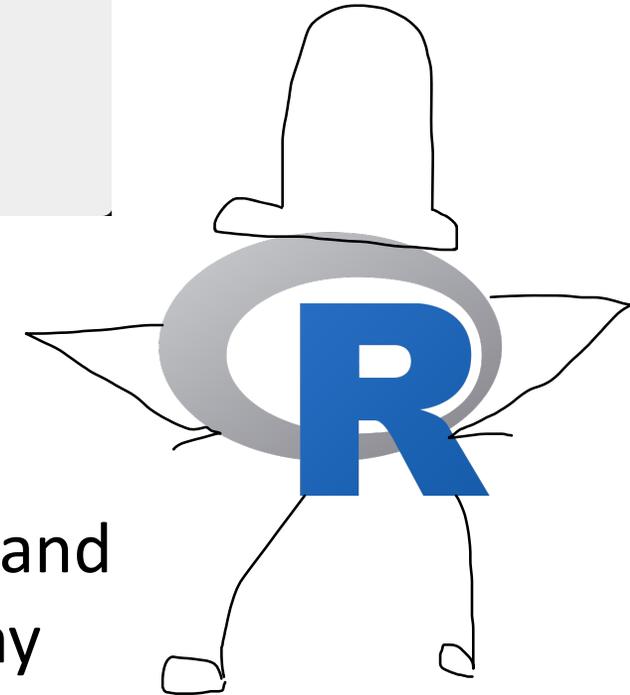
You will generally be working with the same people for each lab (e.g., Lab1), and a new group of people for the next lab (e.g., Lab2). Please form groups of 3 people based on who you are sitting next to in class for each lab. Because you will be working with the same classmates for the next week or so, you will have the opportunity to share responsibilities with one another.

Choose a driver and a navigator.

We suggest that one group member volunteer to act as the "driver", while the other group members act as the "navigators." Next time, it is a good idea to exchange roles, so that everyone gets a chance to act as the driver at least once, if possible.

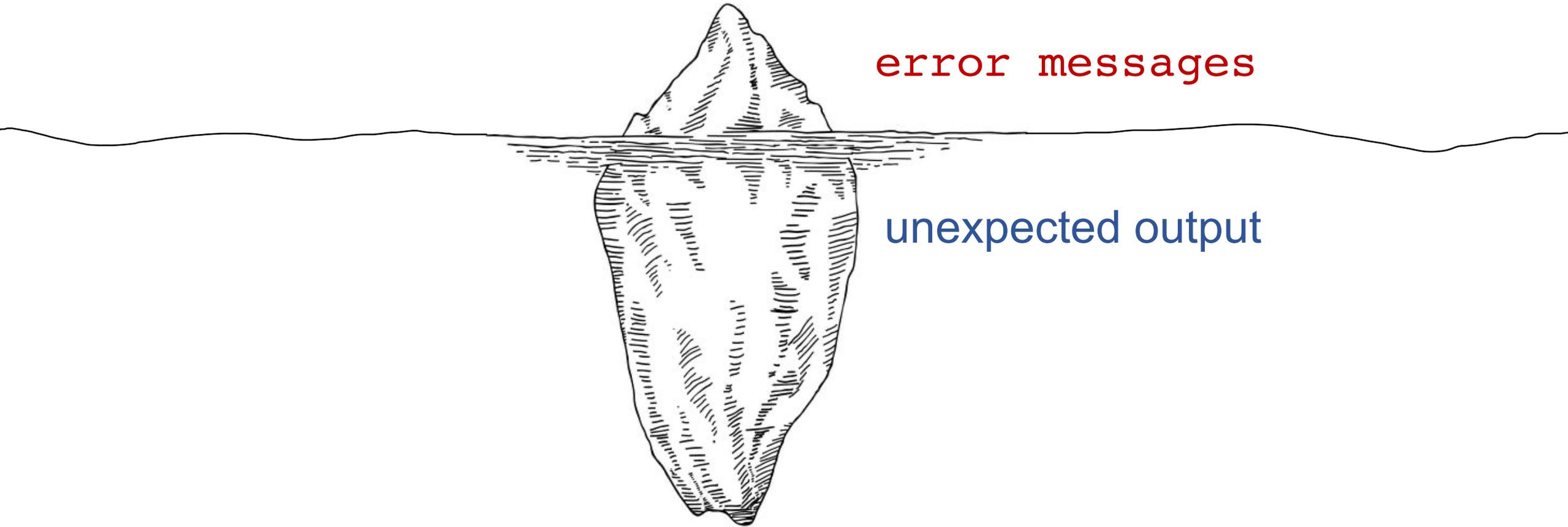


- **interactive:** turn-taking & correction
- **linearity :** order matters!
- **perspective-taking :** trying to understand what the other (person) is trying to say



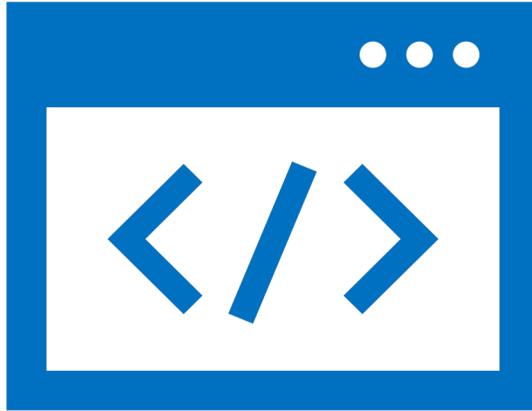
Most of the code you write will not work

and that's OK!

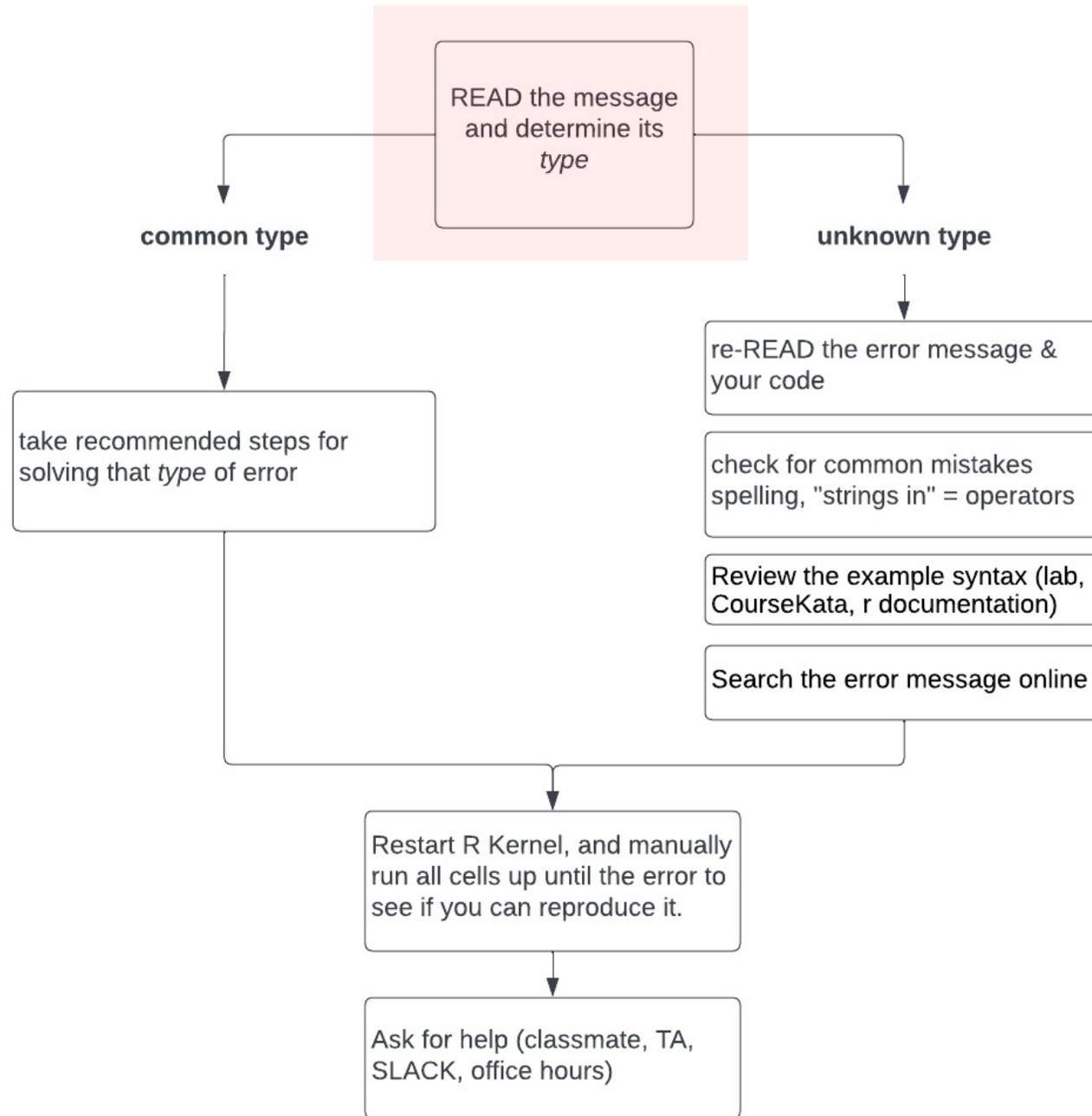


error messages

unexpected output



Troubleshooting
error messages



ERROR, OR WARNING?

WHAT PART OF THE CODE IS 'THROWING' THE ERROR

```
Error in unique(validate <-  
item_responses_scaffold_111$s_ABS ==  
f_dichom(item_responses_scaffold_111$tri_i,  
:  
object 'item_responses_scaffold_111' not  
found
```

Anatomy of an error message

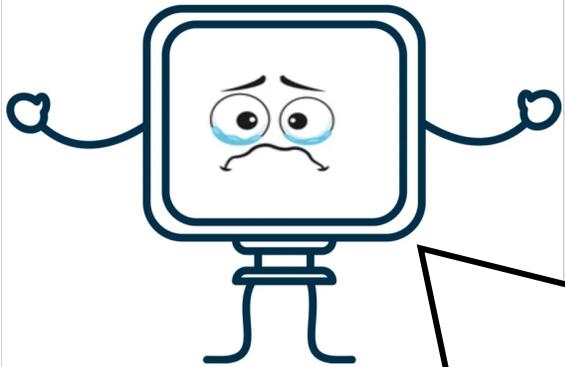
TYPE OF ERROR

FUNCTION not found



```
Error in gf_histogram(~cars, data = cars) :  
could not find function "gf_histogram"
```

FUNCTION not found



Happens because you're trying to use a function that **doesn't exist**

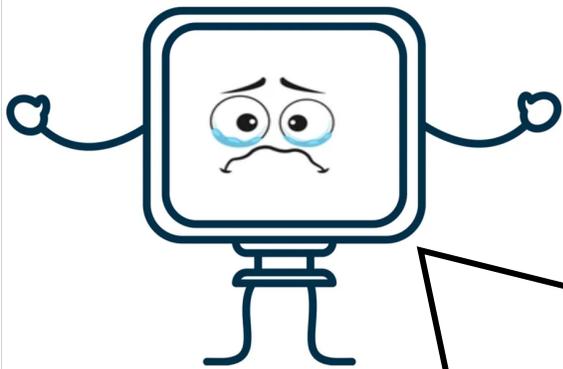
- misspelled the function name
- haven't loaded the *package* that contains the function

```
Error in gf_histogram(~cars, data = cars) :  
could not find function "gf_histogram"
```

(1) run the code that imports libraries (usually one of the first cells)

(2) wait for that cell to run successfully

(3) re-run the error throwing cell



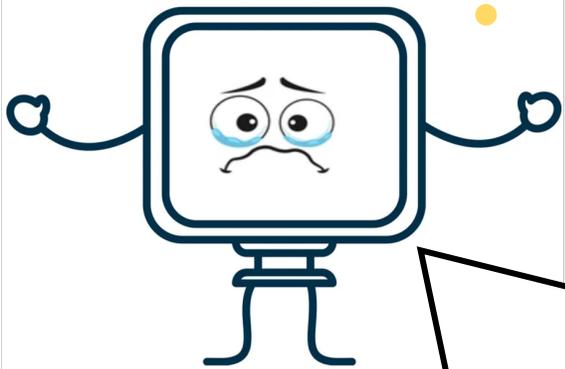
Happens because you're trying to use a function that **doesn't exist**

→ misspelled the function name

→ haven't loaded the *package* that contains the function

```
Error in gf_histogram(~cars, data = cars) :  
could not find function "gf_histogram"
```

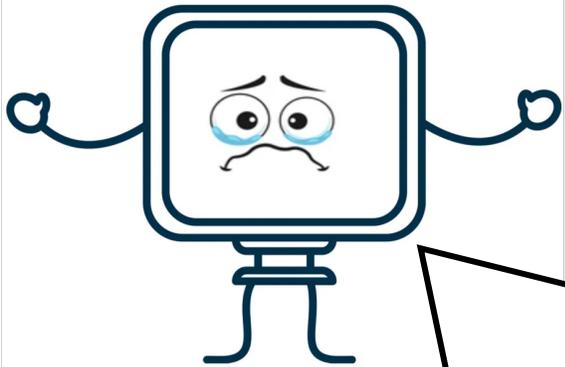
OBJECT not found



I'm trying to do what
you want BUT I don't
have that OBJECT

```
Error in gf_ingredients(formula = gformula,  
data = data, gg_object = object, :  
object 'mycars' not found
```

OBJECT not found



trying to use a variable (object) **that doesn't exist**

→ misspelled the variable name

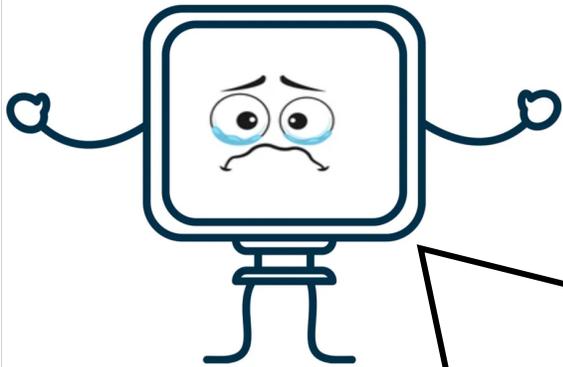
→ didn't run the cell that creates the variable

```
Error in gf_ingredients(formula = gformula,  
data = data, gg_object = object, :  
object 'mycars' not found
```

(1) run the code that creates the variable

(2) run any subsequent code that alters the variable

(3) re-run the error throwing cell

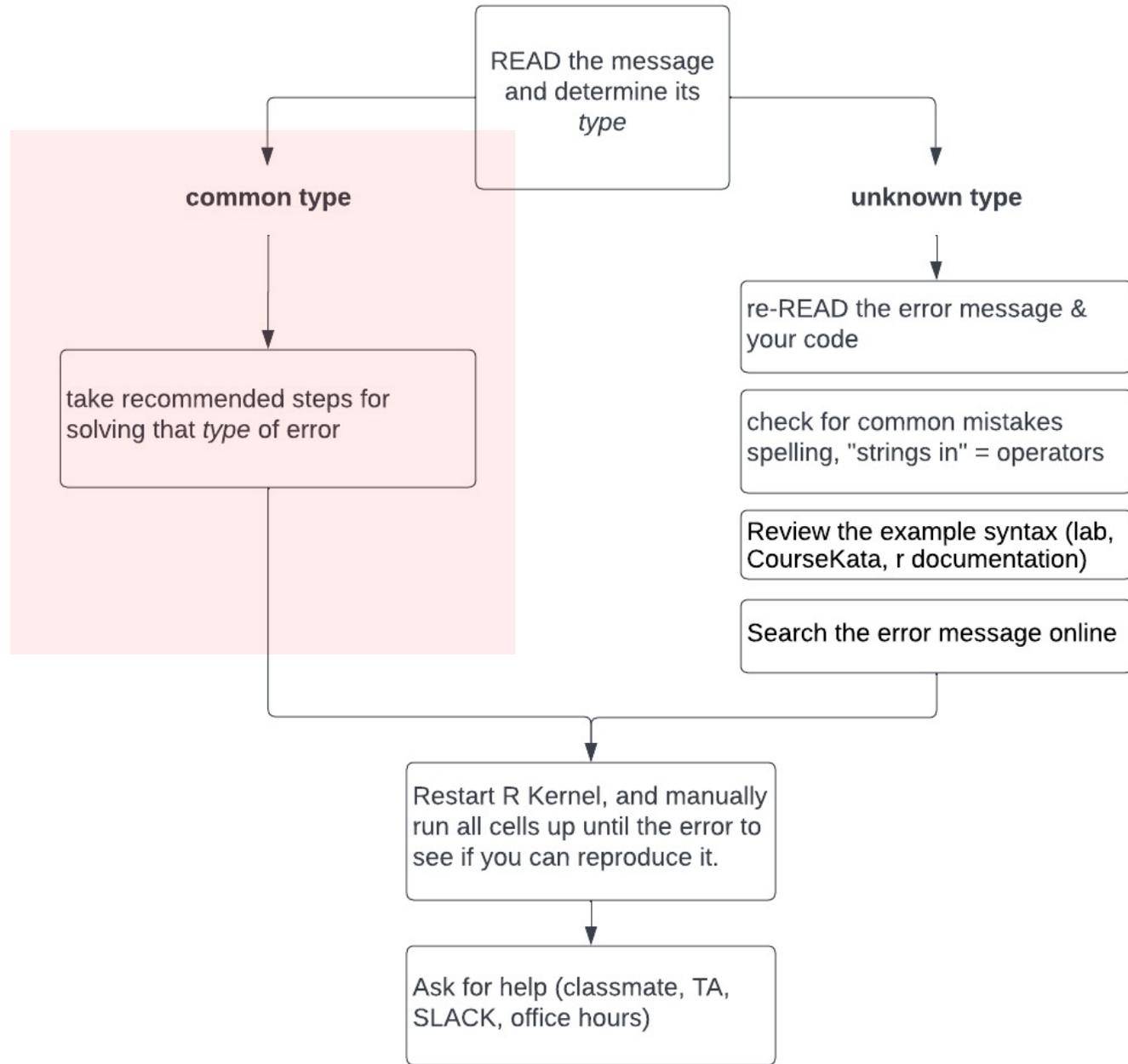


trying to use a variable (object) **that doesn't exist**

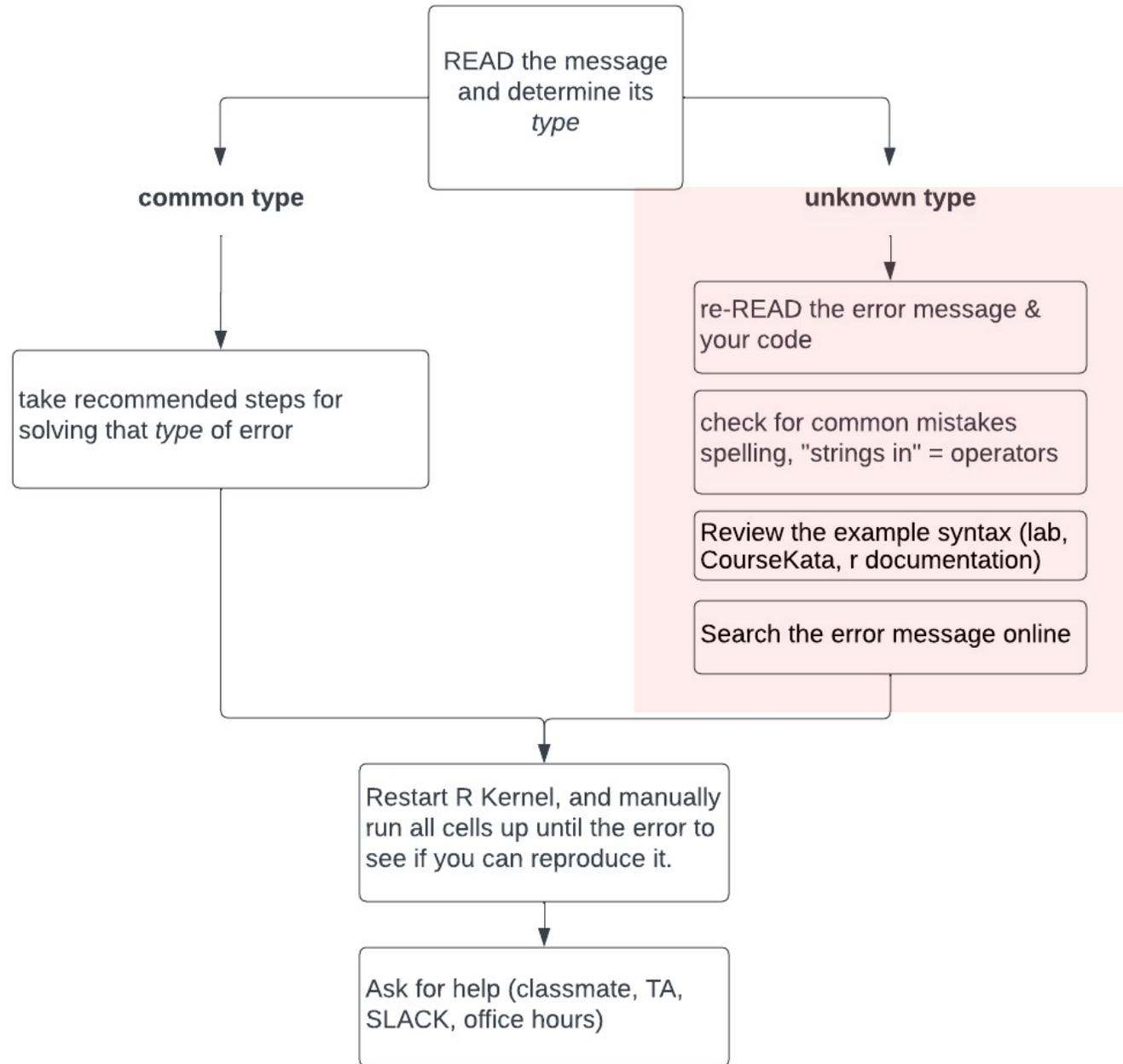
→ misspelled the variable name

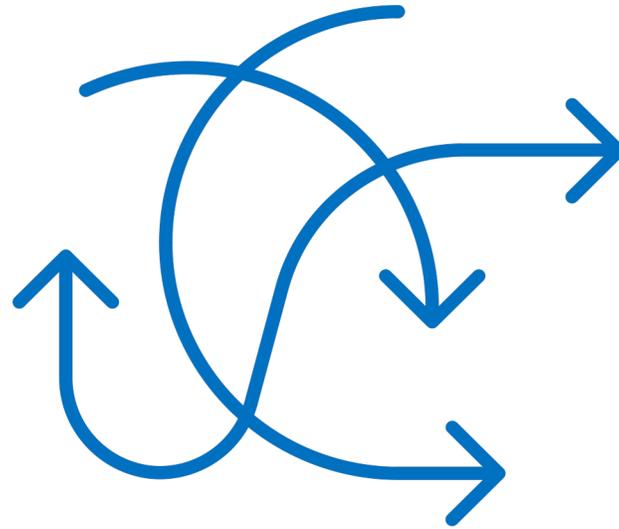
→ didn't run the cell that creates the variable

```
Error in gf_ingredients(formula = gformula,  
data = data, gg_object = object, :  
object 'mycars' not found
```



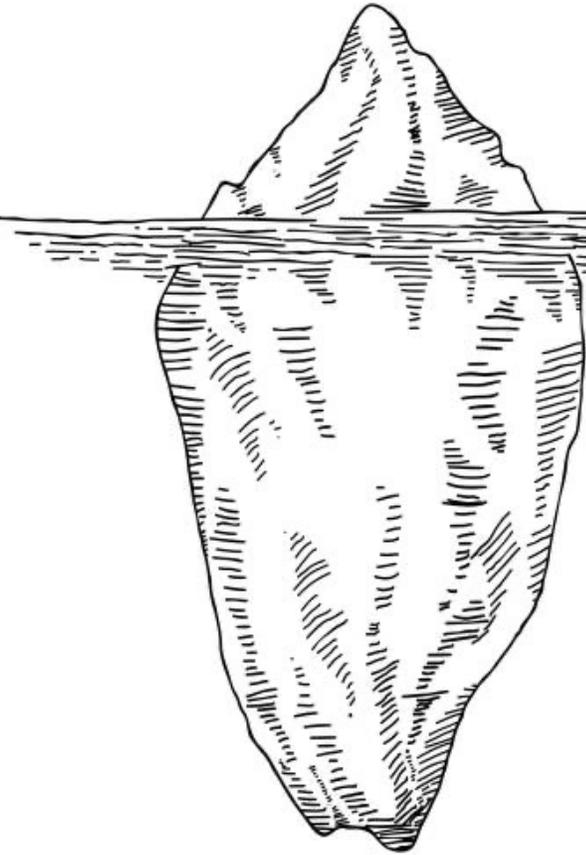
ERROR MESSAGE	problem	troubleshooting
Function not found	R can't find that FUNCTION	Check spelling; import packages
Object not found	R can't find that VARIABLE	Check spelling; check you created the object
unexpected INCOMPLETE_STRING	Missing or extra quotation marks	Check that strings are enclosed in " "
non-numeric argument to binary operator	<p>" "quotation marks around the wrong thing</p> <p>Trying to perform an operator on a column of the wrong data type</p>	<p>Check you're using "quotations" correctly</p> <p>Check the data types of the columns (variables) in the expression: hint use glimpse()</p>
Error: Problem with `filter()` input `..1`. ✘ Input `..1` is named. This usually means that you've used `=` instead of `==`.	Using = instead of ==	Remember that = means "assign this to that" And == means "does this equal that?"
argument is not numeric or logical: returning NA	Trying to execute function on column of wrong data type	Double check the data type of the column, and what you expect the function to do (most common when you try to perform math on categorical (factors))





Troubleshooting
unexpected results

Before you run a cell of code, ask yourself
“What do I expect to happen?”



unexpected output

1. Catch unexpected results by always asking yourself “what do I expect to happen” *before* running a cell.

2. #USE COMMENTS

3. Be very careful about running cells **out of order**

4. Break your code into small pieces

5. If you need to **mutate** (i.e. change) a dataframe you imported from file, consider *first* making changes on a *dummy copy*



Searching for Help

How to ask for help on Slack:

```
In [30]: ► # create copy of psyc60 dataframe. use editedpsyc60 for all edits we'll make to the data
# first output will be the first 6 rows of this new copy of psyc60.
editedpsyc60 <- psyc60
#head(editedpsyc60)

# Look at what we're working with (second output will be list of values in introverted_rating column)

editedpsyc60$introverted_rating

# filter out missing data

editedpsyc60 <- filter(editedpsyc60, !is.na(introverted_rating))

# take out data we don't need/aren't interested in (timestamp & subid columns)
editedpsyc60 <- select(psyc60, -timestamp, -subid)

# finally what are we working with? (third output will be editedpsyc60 dataframe)
#head(editedpsyc60)
```

```
4 7 4 8 8 6 5 5 4 2 8 4 5 3 2 5 4 8 9 10 2 5 7 9 9 3 9 7 4 9 7
4 6 2 10 3 6 9 8 6 2 4 9 7 8 6 3 7 4 9 4 6 7 5 7 7 7 4 8 3 5 7
3 8 8 5 3 6 8 6 3 8 3 8 7 5 7 6 6 4 6 5 8 8 6 8 4 4 7 6 8 8 7 3
7 3 4 3 6 10 8 7 3 7 4 4 7 1 3 8 4 2 3 7 7 3 7 5 7 3 2 9 6 8 5
8 7 7 9 8 5 4 8 3 4 7 8 5 8 3 <NA> 4 10 9 9 4 2 6 7 7 4 9 4 4 8
10 9 5 5 3 8 3 4 6 8 5 5 2 7 5 6 2 6 5 10 5 4 8 8 6 7 6 3 7 9
```

How to ask for help on Slack:

```
In [30]: ► # create copy of psyc60 dataframe. use editedpsyc60 for all edits we'll make to the data
# first output will be the first 6 rows of this new copy of psyc60.
editedpsyc60 <- psyc60
#head(editedpsyc60)

# Look at what we're working with (second output will be list of values in introverted_rating column)
```

```
editedpsyc60$introverted_rating
```

```
# filter out missing data

editedpsyc60 <- filter(editedpsyc60, !is.na(introverted_rating))

# take out data we don't need/aren't interested in (timestamp & subid columns)
editedpsyc60 <- select(psyc60, -timestamp, -subid)

# finally what are we working with? (third output will be editedpsyc60 dataframe)
#head(editedpsyc60)
```

```
4 7 4 8 8 6 5 5 4 2 8 4 5 3 2 5 4 8 9 10 2 5 7 9 9 3 9 7 4 9 7
4 6 2 10 3 6 9 8 6 2 4 9 7 8 6 3 7 4 9 4 6 7 5 7 7 7 4 8 3 5 7
3 8 8 5 3 6 8 6 3 8 3 8 7 5 7 6 6 4 6 5 8 8 6 8 4 4 7 6 8 8 7 3
7 3 4 3 6 10 8 7 3 7 4 4 7 1 3 8 4 2 3 7 7 3 7 5 7 3 2 9 6 8 5
8 7 7 9 8 5 4 8 3 4 7 8 5 8 3 <NA> 4 10 9 9 4 2 6 7 7 4 9 4 4 8
10 9 5 5 3 8 3 4 6 8 5 5 2 7 5 6 2 6 5 10 5 4 8 8 6 7 6 3 7 9
```

How to make a good search on google / CRAN / rdocumentation.org / Stack overflow

- Include the name of the language you're using in your query
Ex) "R read_csv()" instead of just "read csv function"
- Look on rdocumentation.org for function syntax & output examples
 - Tips: don't be intimidated by unfamiliar vocab!
- Stack overflow: make sure the tag says **r** and not something else:
~~javascript~~ ~~git~~ ~~python~~

PSYCH 60

FEUD

In [1]: 

ID: cell-4f1e2e8391e8f888

Read-only

```
#run this cell to load data  
csv_path = "data/fte_covid_concern_polls.csv"  
covid_polls = suppressMessages(suppressWarnings(read_csv(csv_path))) %>%  
  select(-X1)
```

Error in suppressMessages(suppressWarnings(read_csv(csv_path))) %>% select(-X1): could not find function "%>%"
Traceback:

CHECK THE SPELLING OF THE FUNCTION NAME

1

RUN THE CELL WITH THE IMPORT STATEMENTS

2

POST SCREENSHOT OF MY CODE + OUTPUT TO SLACK

3

ASK A TA FOR HELP (IN SLACK OR IN CLASS)

4

In [5]: 

ID: cell-4f1e2e8391e8f888

Read-only

```
#run this cell to load data  
csv_path = "fte_covid_concern_polls.csv"  
covid_polls = suppressMessages(suppressWarnings(read_csv(csv_path))) %>%  
  select(-X1)
```

Error: 'fte_covid_concern_polls.csv' does not exist in current working directory ('/srv/nbgrader/PSYC60_SP22_A00/source/psyc60_lab2').

Traceback:

CHECK SPELLING OF THE FILE NAME

1

CHECK THE FILE PATH

2

POST SCREENSHOT OF MY CODE + OUTPUT TO SLACK

3

ASK A TA FOR HELP (IN SLACK OR IN CLASS)

4

In [8]:

Points:

1

ID:

cell-8ce30383ba158c59

Manually graded answer ▾

```
#1.1 your code here  
glimpse(covid_polls)
```

```
Error in glimpse(covid_polls): object 'covid_polls' not found  
Traceback:
```

```
1. glimpse(covid_polls)
```

CHECK SPELLING OF THE OBJECT NAME

1

CHECK IF THE CELL CREATING THE OBJECT IS RUN

2

RESTART KERNEL AND RUN CELLS IN ORDER

3

POST SCREENSHOT OF MY CODE + OUTPUT TO SLACK

4

ASK A TA FOR HELP (IN SLACK OR IN CLASS)

5

In [41]:

Points: 5

ID: cell-77941b0d64414dac

Manually graded answer ▾

```
# 2.1 your code here  
lab2_polls <- filter(covid_polls, subject = "concern-economy")
```

```
Error: Problem with `filter()` input `..1`.  
* Input `..1` is named.  
i This usually means that you've used `=` instead of `==`.  
i Did you mean `subject == "concern-economy"`?  
Traceback:
```

CHECK FOR MIX UP OF = AND ==

1

CHECK DOCUMENTATION FOR FILTER() FUNCTION

2

POST SCREENSHOT OF MY CODE + OUTPUT TO SLACK

3

ASK A TA FOR HELP (IN SLACK OR IN CLASS)

4

In [4]:



ID: cell-affc3df3b715f561

Read-only

```
# Run this code to load the required packages
suppressMessages(suppressWarnings(suppressPackageStartupMessages({
  library(mosaic)
  library(supernova)
  library(fivethirtyeight)
  library(fivethirtyeightdata)
})))
```

Error in library(mosaic): there is no package called 'mosaic'

Traceback:

CHECK IF IN THE RIGHT DATAHUB ENVIRONMENT (1)

1

CHECK SPELLING OF PACKAGE NAME

2

POST SCREENSHOT OF MY CODE + OUTPUT TO SLACK

3

ASK A TA FOR HELP (IN SLACK OR IN CLASS)

4