Debugging for beginners

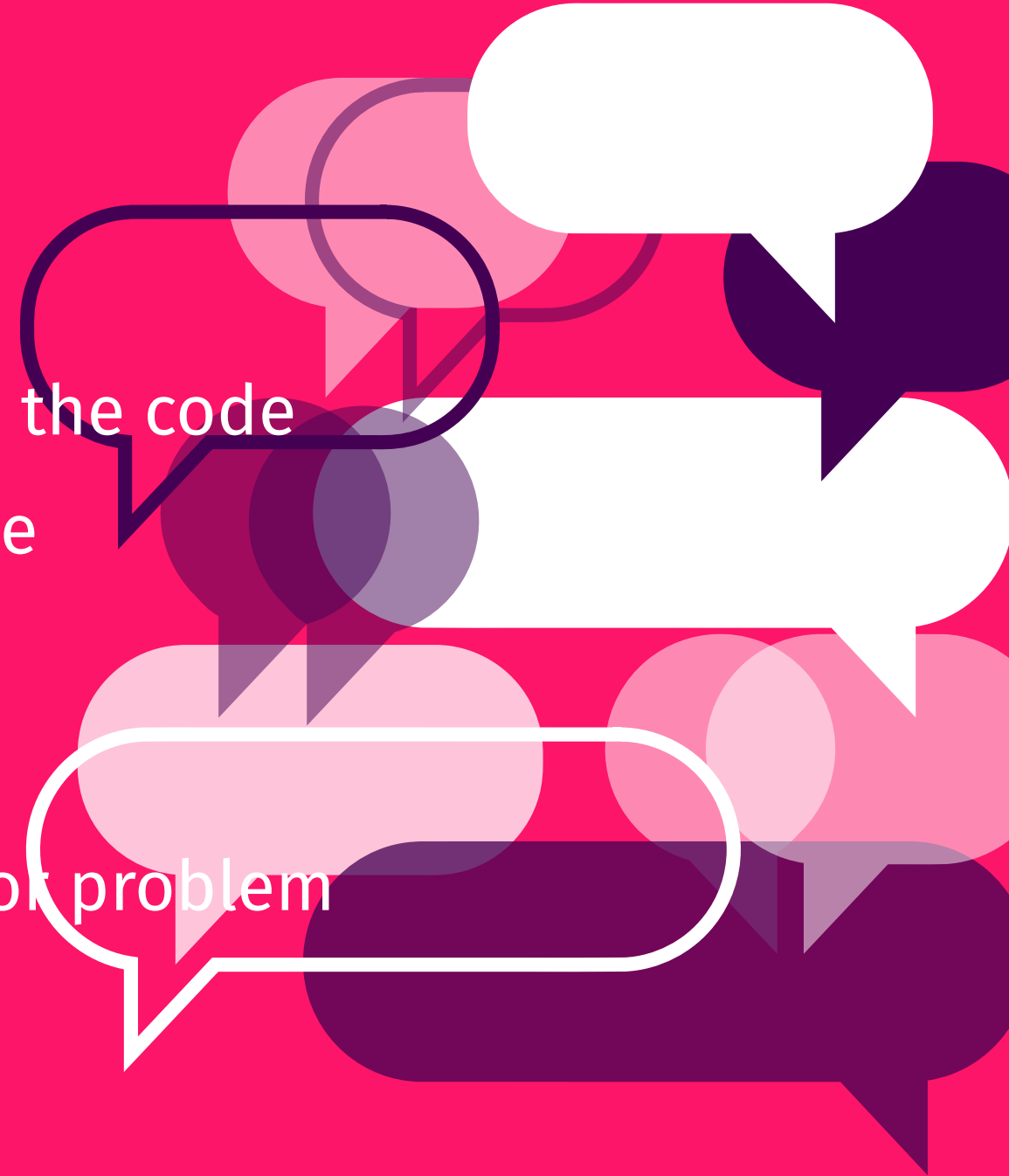## Human Sentence Processing (WiSe 2024/25)

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Debugging Steps

1. Read the error message
2. Clarify the problem
3. Figure out the logic behind the code
4. Review the code line by line
5. Test on a small sample
6. Simplify the code
7. Google the error message or problem
8. Ask the experts

Read the error message

Discard your fear.

Don't take it personal.

It probably tells you **what** went wrong and **where**.

```
ERROR [11:38:22]
No column named 'CONDITION'
found in table items.csv.
(PennController: 2)
```

Clarify the problem

What should have happened?

What happened?

Figure out the logic behind the code

What is the bigger picture?

How does the structure look like?

Cause and effect:
What leads/contributes to what?

→ Read the manual
for PCIbex or my experiments.

Review the code line by line

Check for for obvious typos:

- wrong variable/file/column **name**

- missing **parenthesis**

- missing **quotation marks**

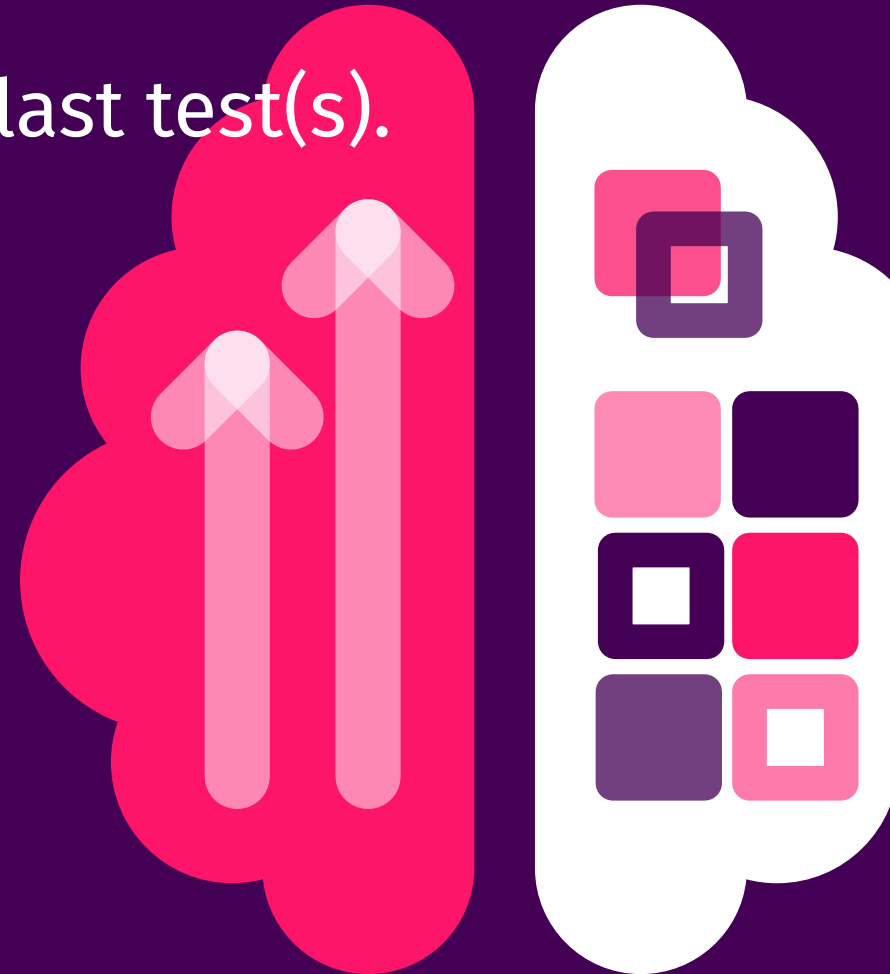- misplaced **semicolon**

- misplaced **colon**

- ...

Test on a small sample

~~20 items, 40 fillers, 4 lists~~

Leave the whole experiment for the last test(s).

- 1 item sentences, 0 fillers

- 2 item sentences, 2 fillers, 1 list

- 2 item sentences, 2 fillers, 2 lists

... and expand from there.

Simplify the code

Test the elements separately until they work.

Copy the code for **only one element.**

Make **minimal changes** incrementally

→ Read their documentation
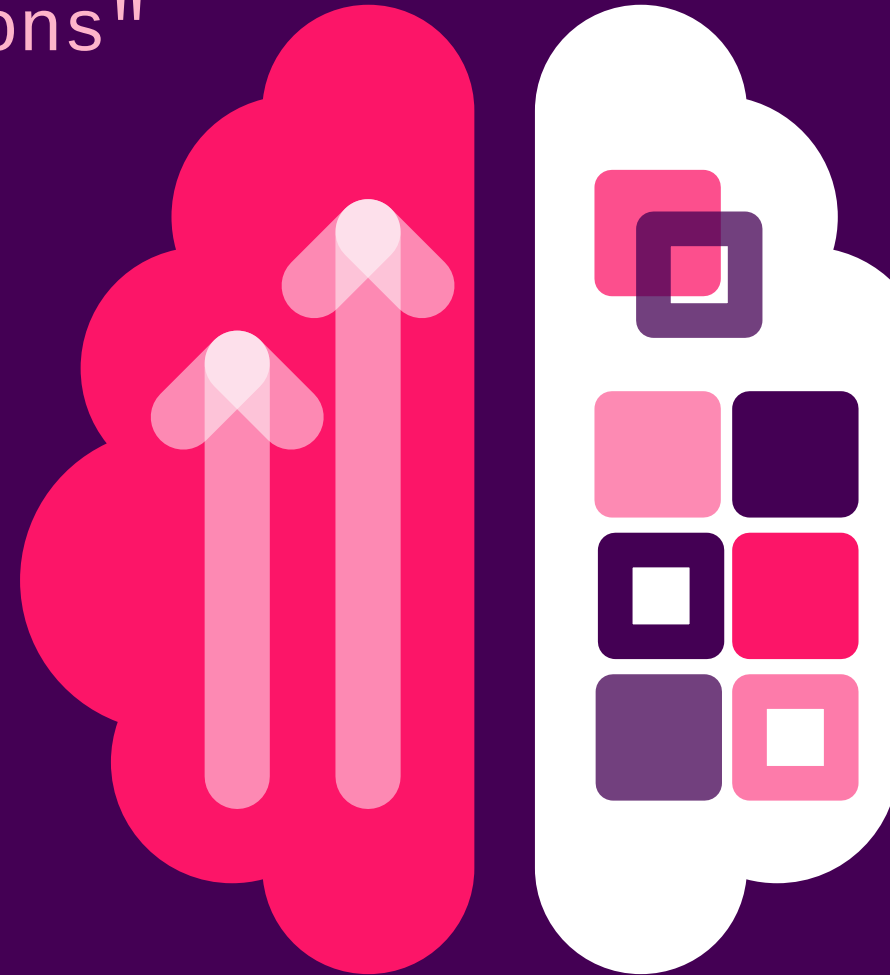for PCIbex or my experiments.

Google error message or general problem

"pcibex comprehension questions"

And click through the first 3-5 hits
that seem to apply.

→ Read their documentation:

- Frequently Asked Questions,

- PCIbex documentation,

- PCIbex support forum,

- my experiments documentation.

Ask the experts

Don't "ask to ask", just ask.

Provide a Minimal Reproducible Example

Who to ask: me, PCIbex support forum, …

> ~~Hi, I have a problem with PCIbex.~~
> ~~Can anyone help me?~~

> Hi, I have a problem with PCIbex.
> When I run my experiment I get the following error message: "…". I tried this and that. Here is a screenshot and (the link to) my code.
> Can anyone help me?