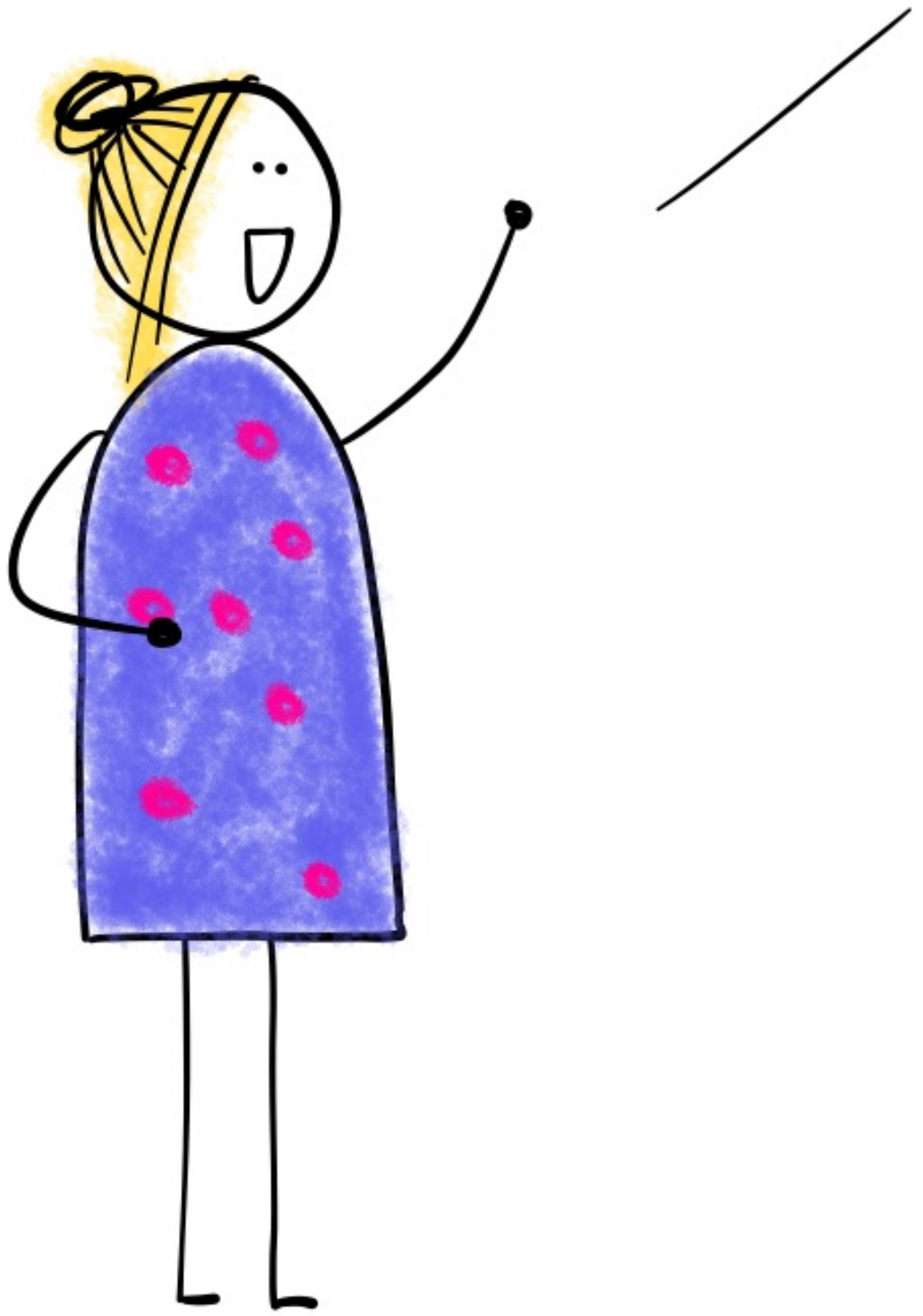
Felienne Hermans

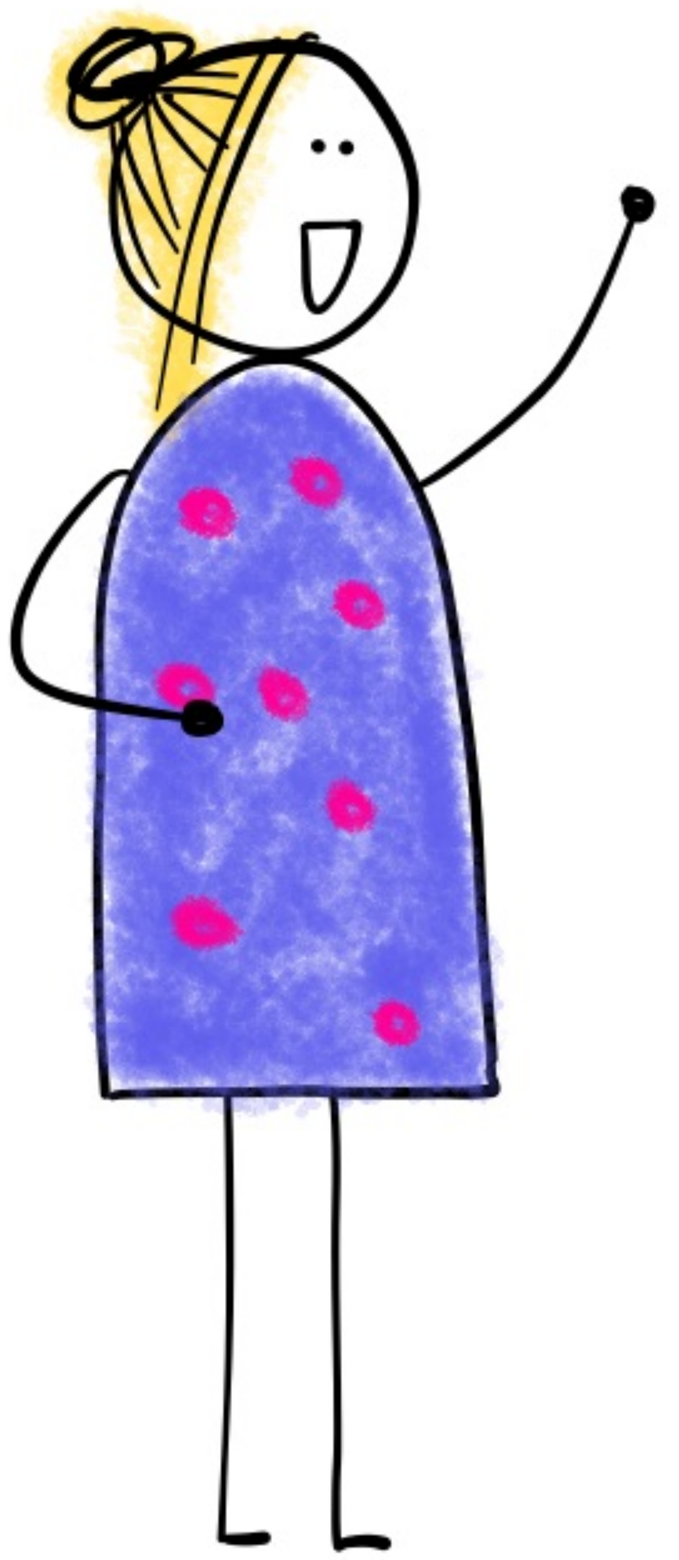
What they don't teach you about AI in school



Felienne Hermans

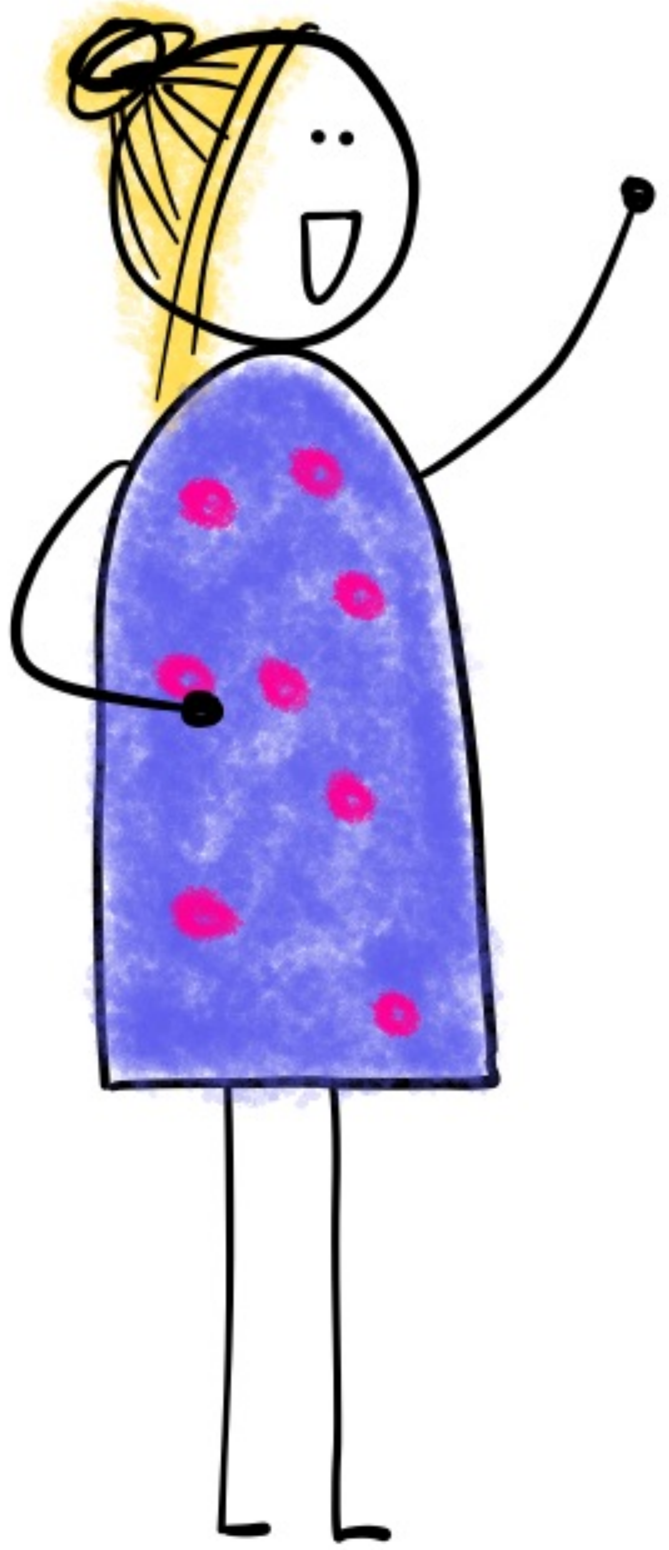
Professor of Computer Science Education at VU

&



Computer Science teacher at OSB

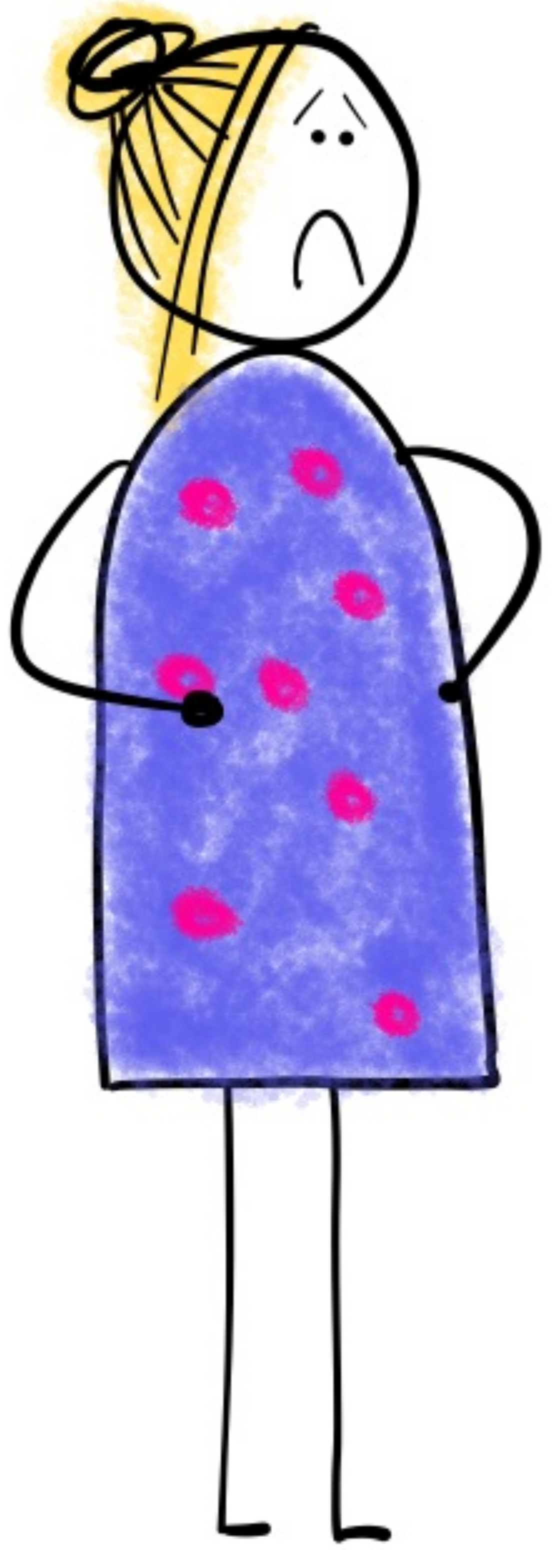
Felienne Hermans

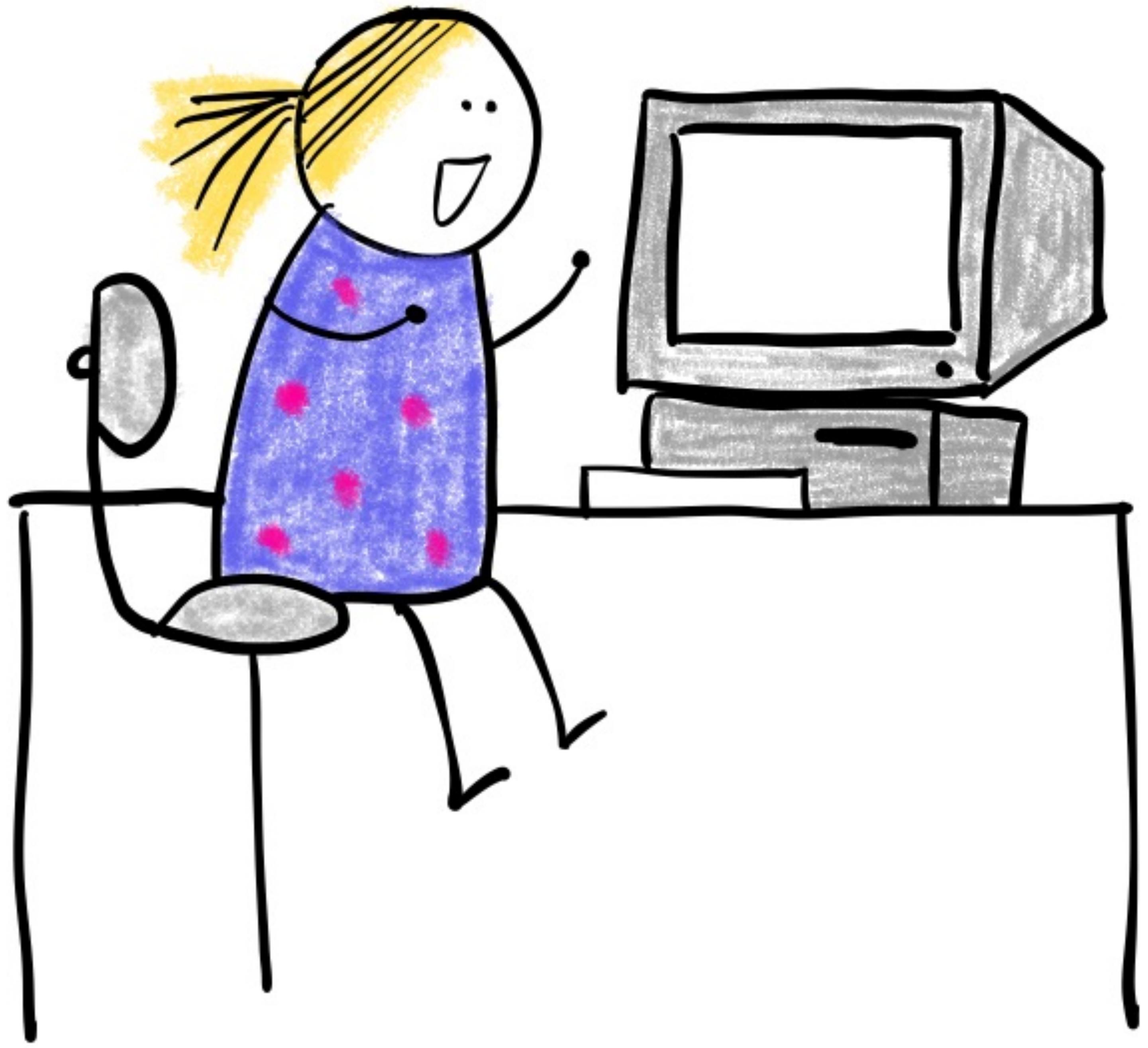


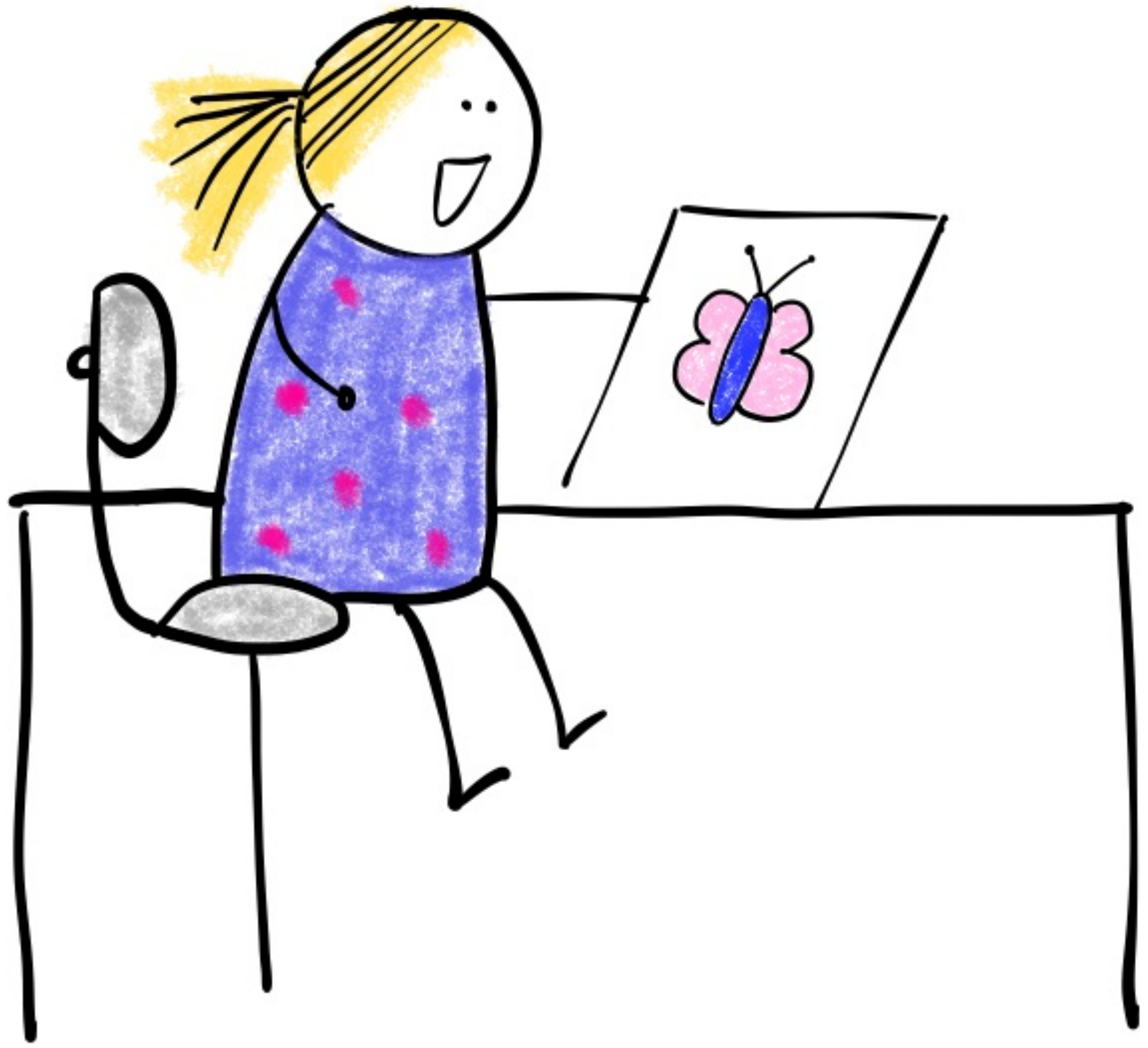
Computer Science

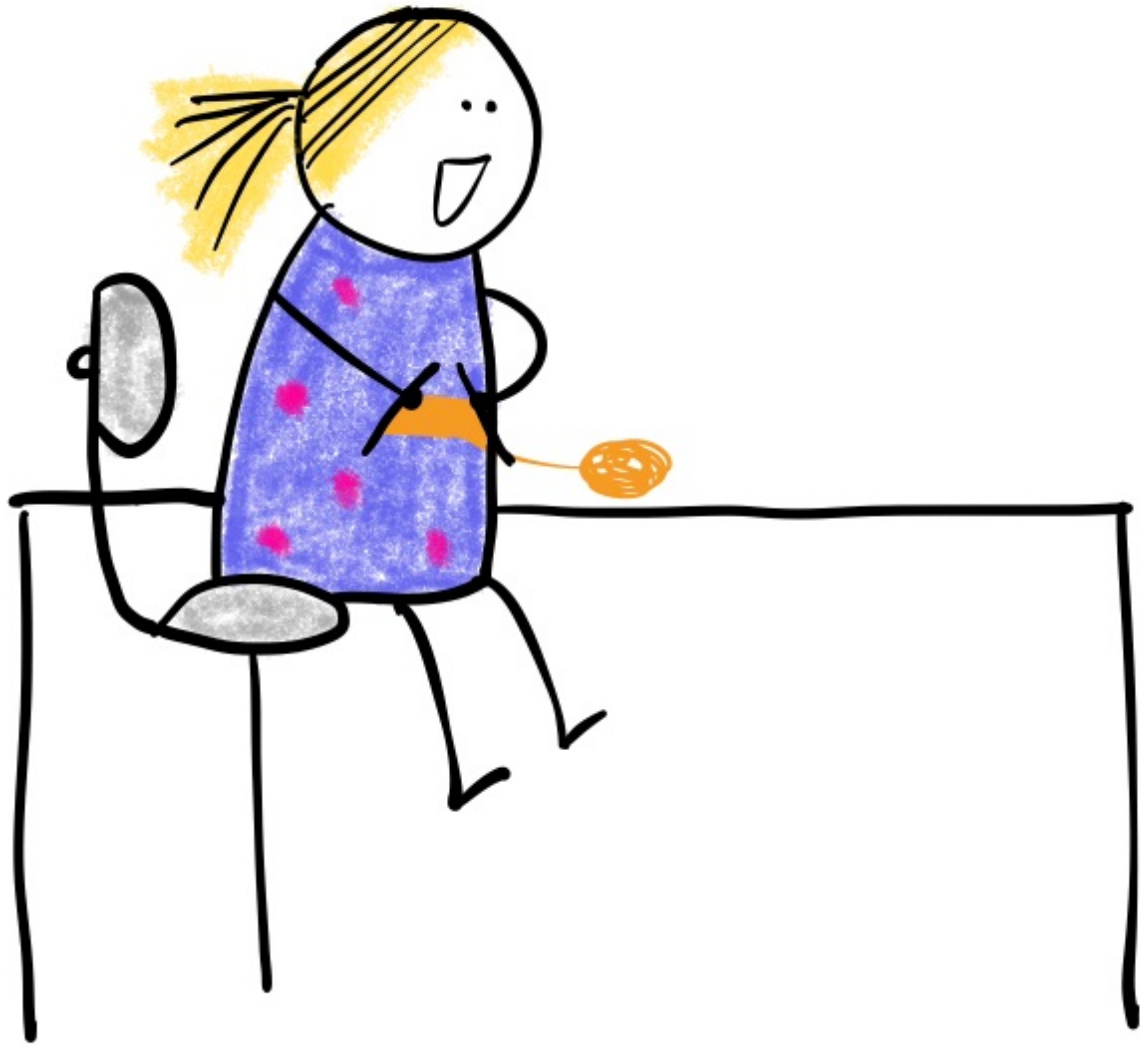
Felienne Hermans

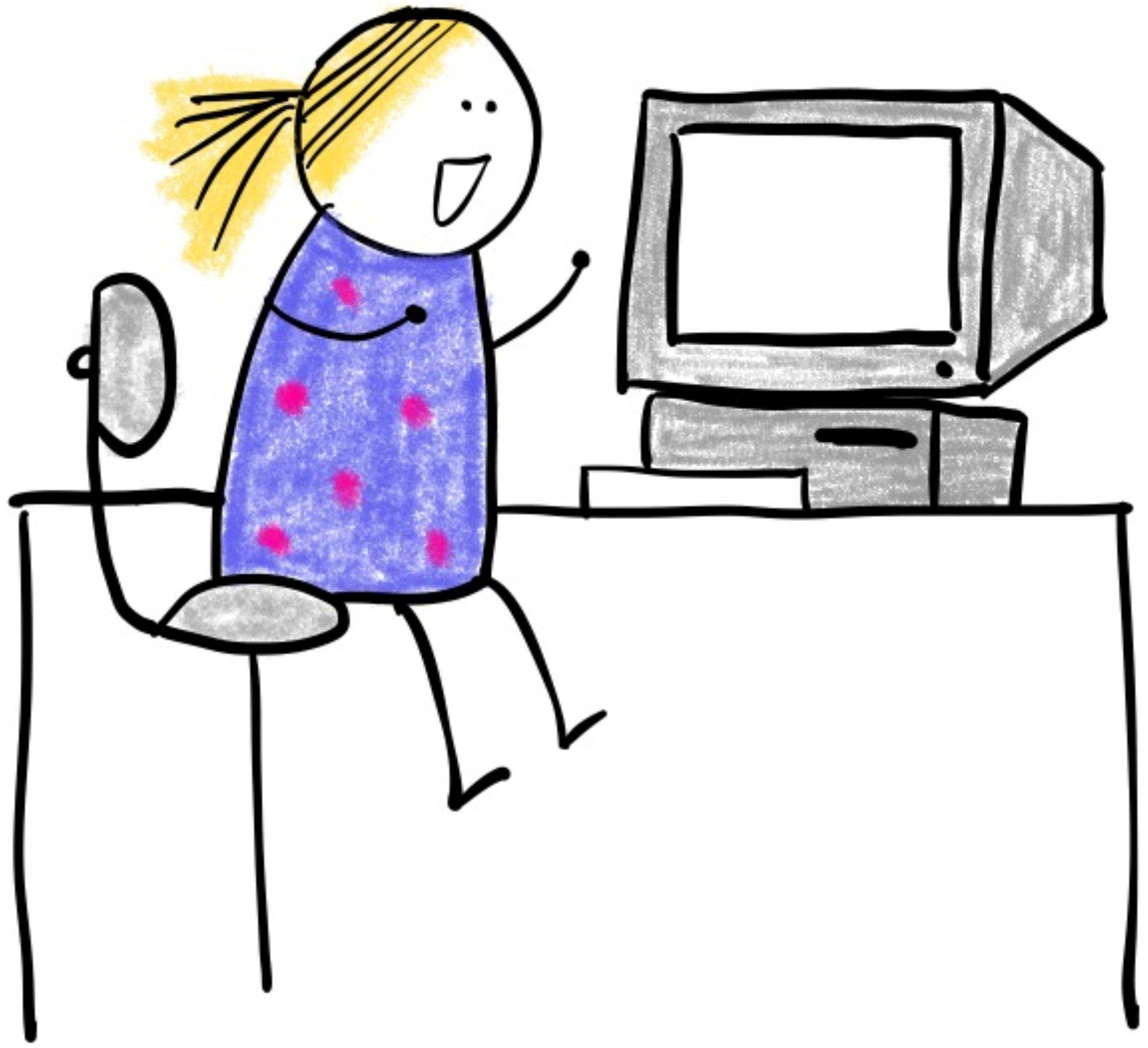
How I fell out of love with Computer Science



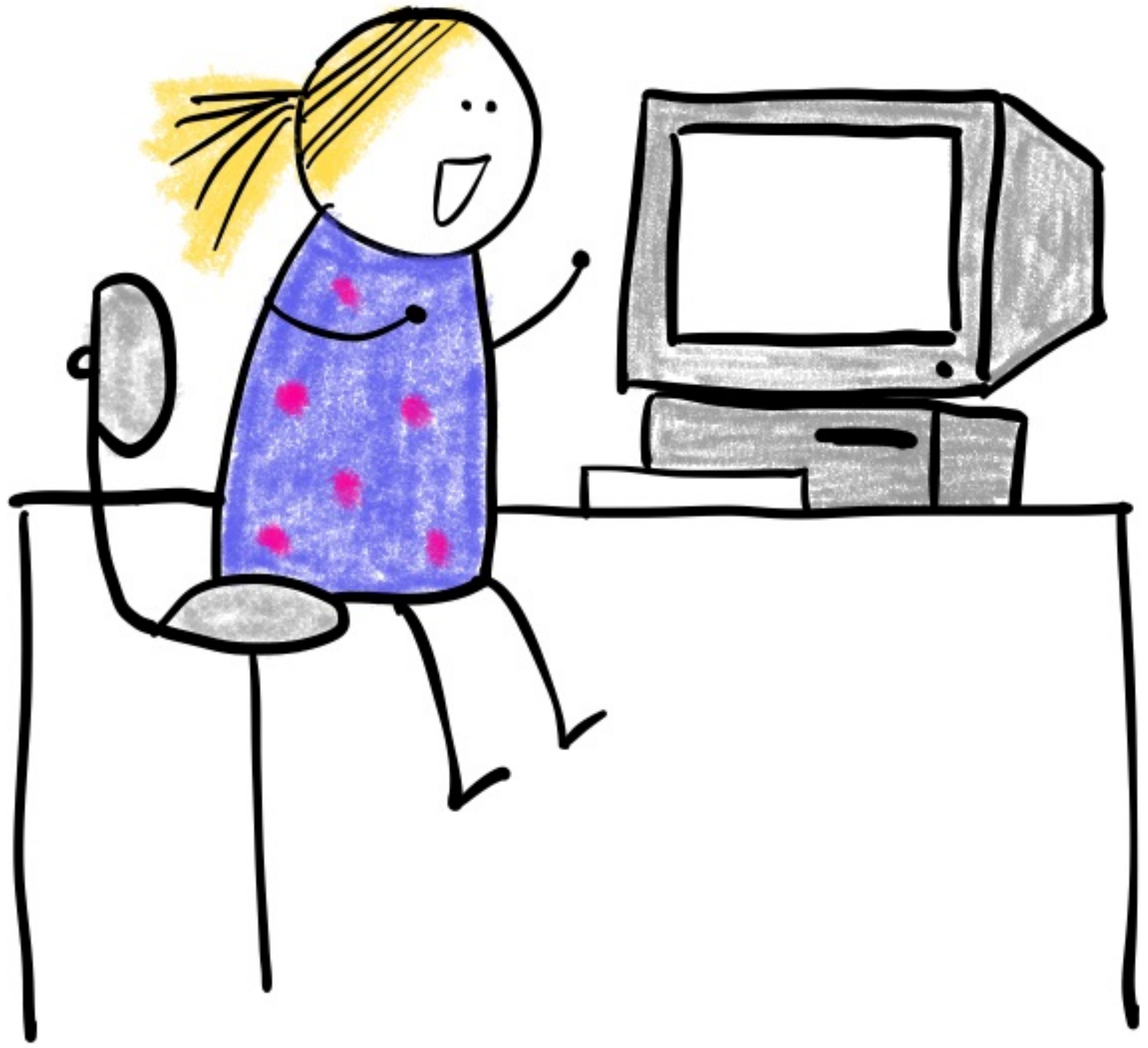




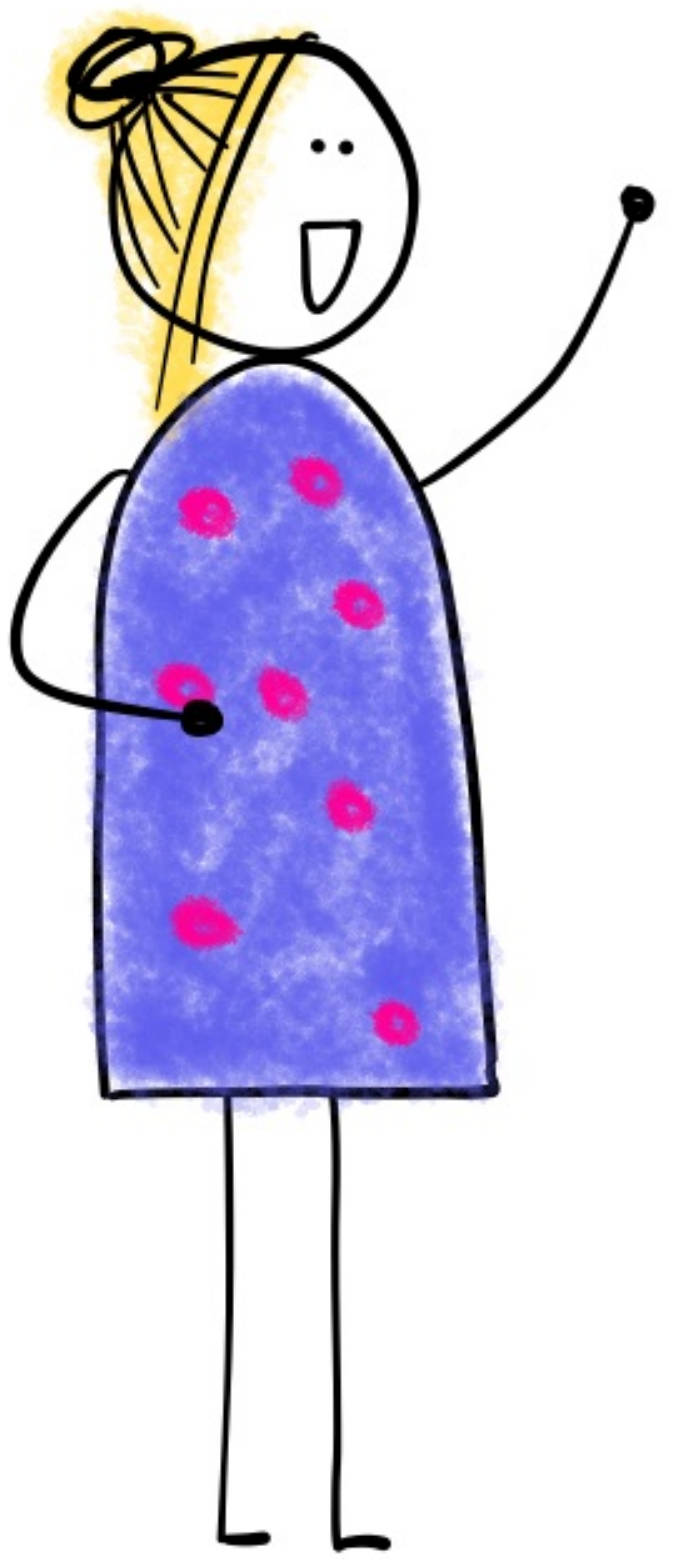


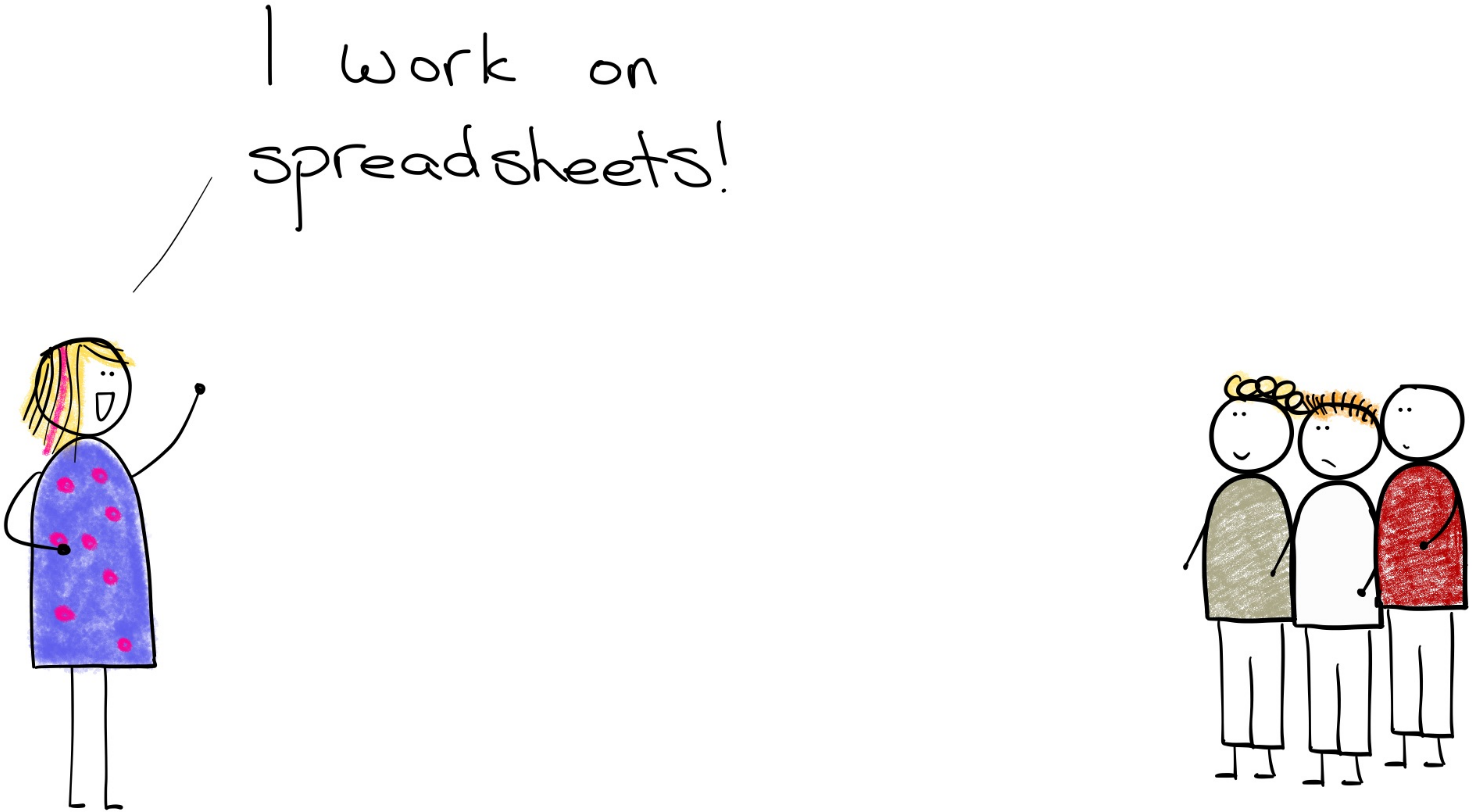


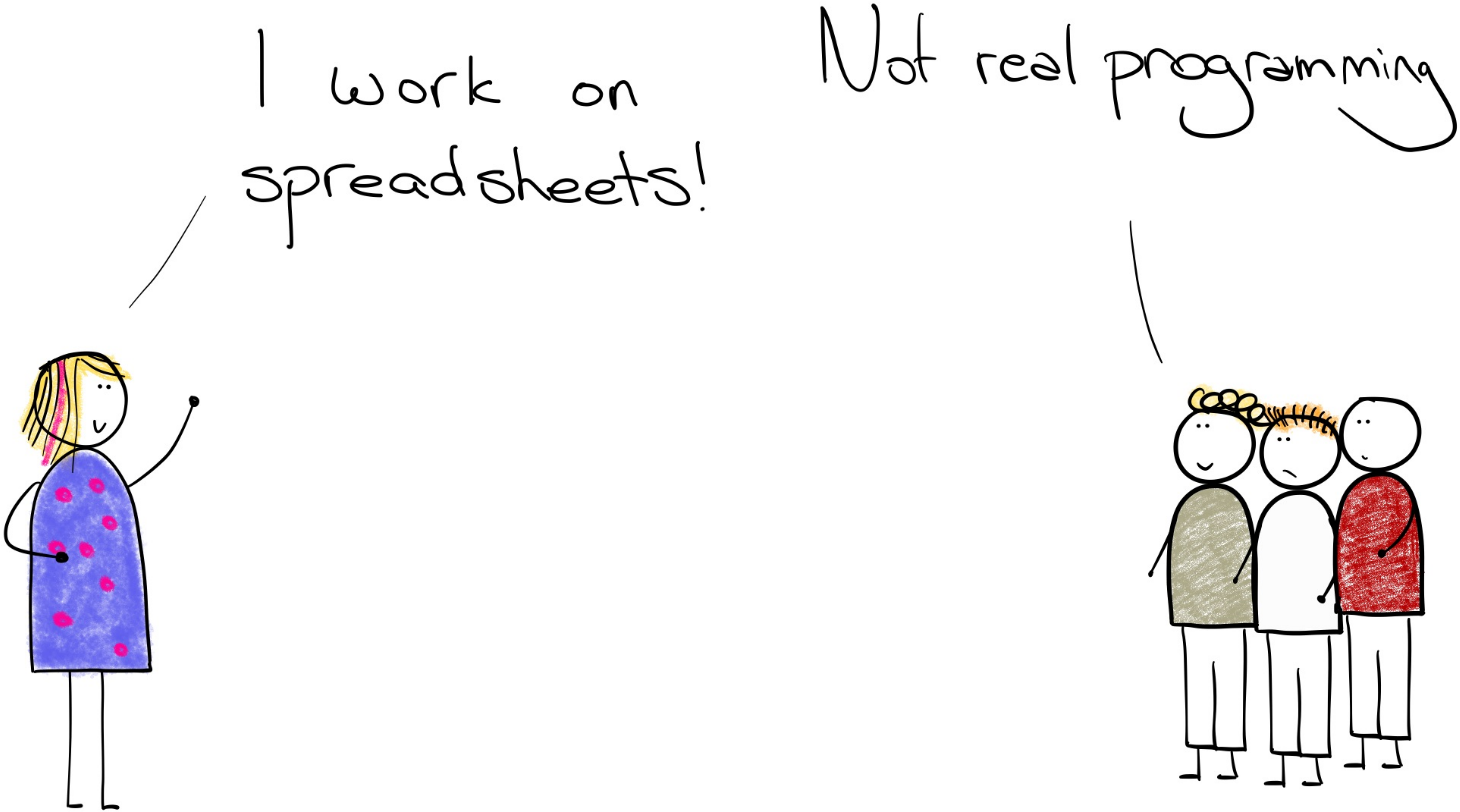
Love-o-meter → 

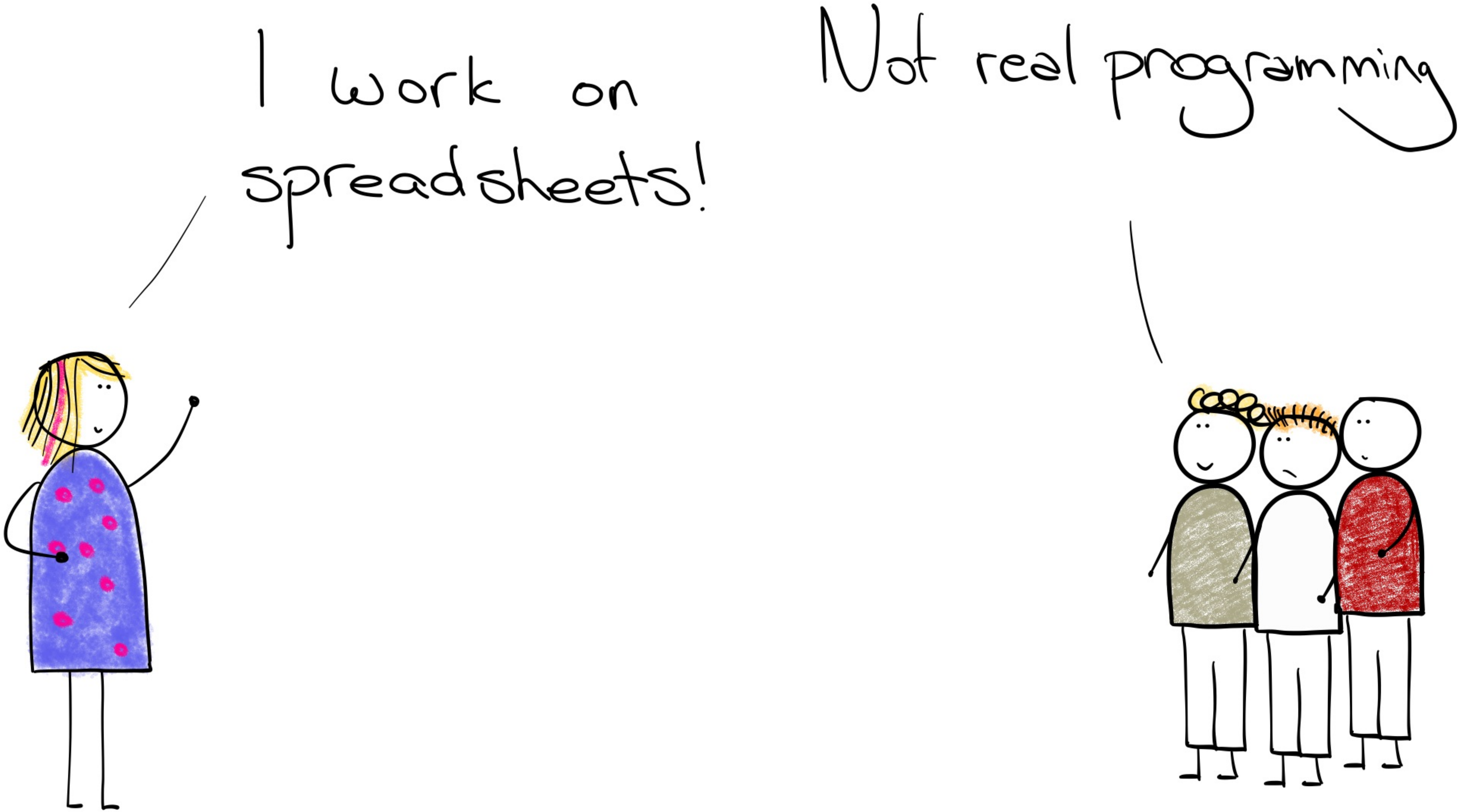


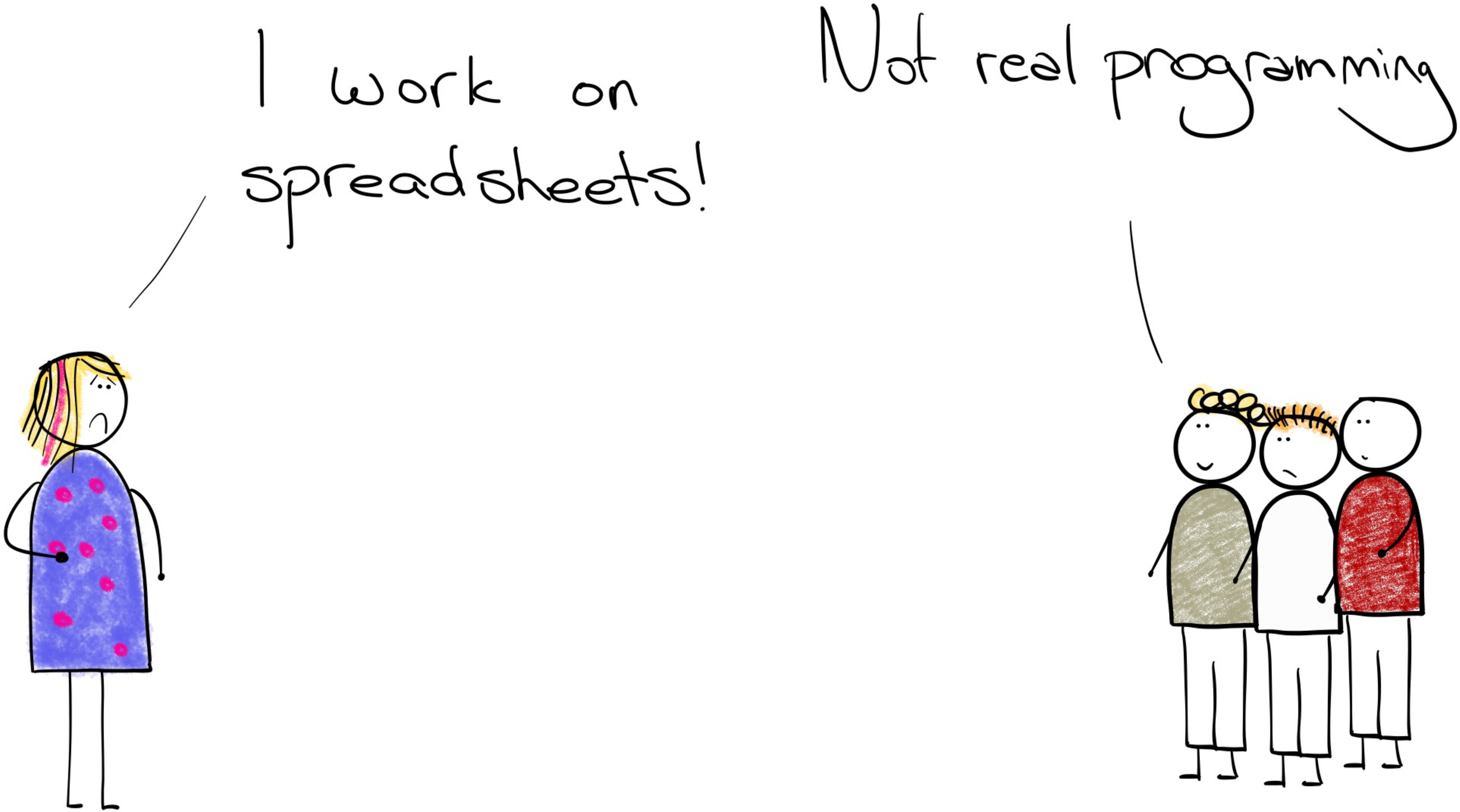
I want to spread this love!

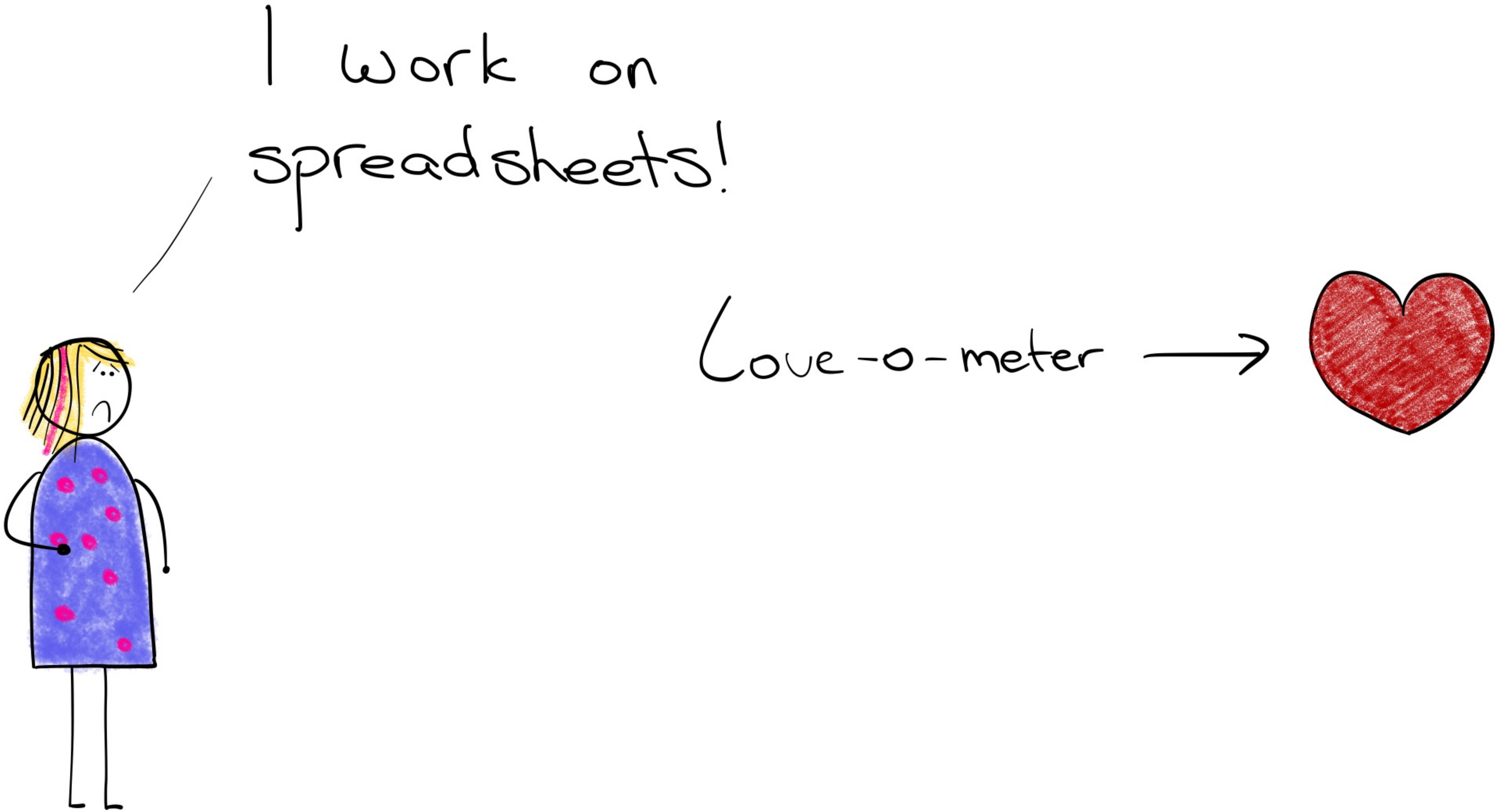


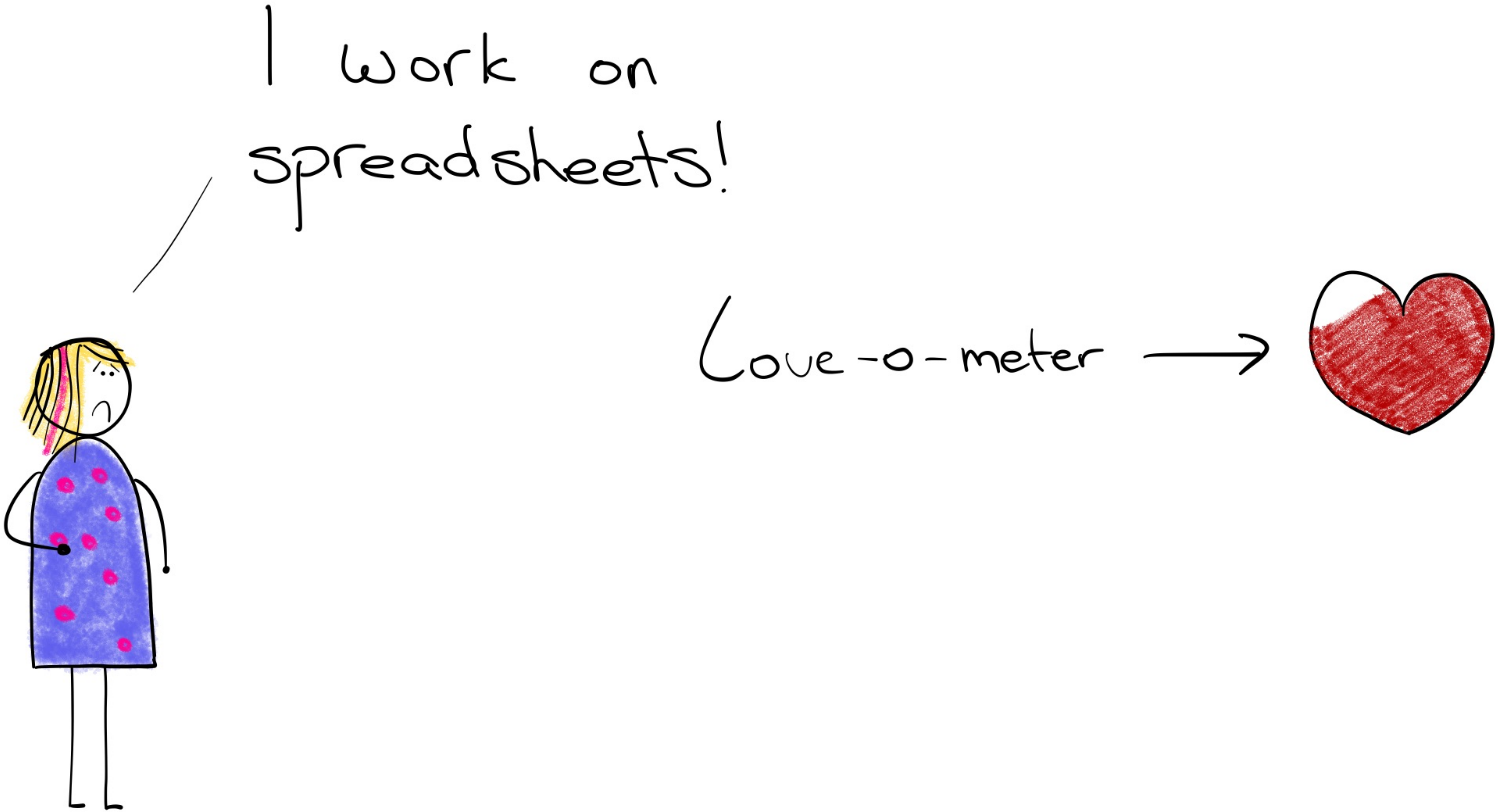

I work on spreadsheets!


I work on spreadsheets!
Not real programming


I work on spreadsheets!
Not real programming


I work on spreadsheets!
Not real programming


I work on spreadsheets!
Love-o-meter


I work on spreadsheets!
Love-o-meter

Level 1 — Tekenen

Taal

In level 1 kun je ook beginnen met een programmeer-tekening! Door lijnen te combineren met draaien kun je bijvoorbeeld een vierkant maken of een trapje.

Met `vooruit` ga je naar voren. Het getal erna bepaalt hoe ver naar voren. Met `draai rechts` draai je een kwartslag, met de klok mee. `draai links` draait tegen de klok in.

Wil je naar achteren? Gebruik dan het `vooruit` commando met een negatief getal. Dus bijvoorbeeld `vooruit -100`.

```
vooruit 100
draai links
```

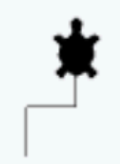
Opdracht

Dit is het begin van een klein trappetje. Kun jij de code aanvullen tot de trap 5 treden heeft?

```
vooruit 20
draai rechts
vooruit 20
draai links
vooruit 20
```

```
vooruit 20
draai rechts
vooruit 20
draai links
vooruit 20

```



Voer de code uit Debug Expand output Save drawing Choose a voice

More adventures

Hedy

hedy.org/hedy#story

首页 海蒂 中文 (简体) 登录

级别 1 — 故事

语言

在第1级中你可以自己添加角色创作一个有不同主角的故事动画。

在第一行，使用`提问`，问谁是故事的主角。

在这第一行之后，如果需要打印这个句子，就用`打印`开始这个句子。 如果你想让你的主角的名字出现在句子的末尾，你可以用`回声`。

```
提问 这个故事的主人公是（谁）
打印 主人公现在要到森林里去散步
回声 他们有点害怕，
打印 听到到处都有疯狂的声音
打印 他们害怕这是一片闹鬼的森林
```

练习

现在创建至少有6行代码的你自己的故事。 这个故事不能与示例代码相同。 至少要使用一个`提问`和一个`回声`命令。 你可以把它写成任何你喜欢的主题。 如果你想不出来，可以使用我们的给你的选择：看电影、体育比赛或动物园的一天。

```
提问 这个故事的主人公是（谁）
打印 主人公现在要到森林里去散步
回声 他们有点害怕，
打印 听到到处都有疯狂的声音
打印 他们害怕这是一片闹鬼的森林
```

运行程序 调试 Expand output Choose a voice

More adventures

Latest update: 2025 Oct 01(c83db2)

Hedy

hedy.org/hedy#story

Home Hedy

हिन्दी लॉगिन

स्तर 1 — कहानी

Language

स्तर 1 में आप एक अलग मुख्य पात्र के साथ एक कहानी बना सकते हैं जिसे आप स्वयं दर्ज करते हैं।

पहली पंक्ति के रूप में, इस कोड का उपयोग करें `पूछें`.

उस पहली पंक्ति के बाद, `प्रिंट` अगर से शुरु करें, वाक्य को मुद्रित करने की आवश्यकता है। आप `गूंज` अगर का उपयोग करते हैं, आप चाहते हैं कि आपका मुख्य चरित्र वाक्य के अंत में हो।

```
पूछें इस कहानी का मुख्य पात्र है
प्रिंट मुख्य पात्र अब जंगल में चलने वाला है
गूंज वह थोड़ा डरा हुआ है,
प्रिंट वह हर जगह क्षीण शोर सुनता है
प्रिंट उसे डर है कि यह एक प्रेतवाधित जंगल है
```

Exercise

Can you make your own story in Hedy now by using `प्रिंट` , `पूछें` and `गूंज`?

```
पूछें इस कहानी का मुख्य पात्र है
प्रिंट मुख्य पात्र अब जंगल में चलने वाला है
गूंज वह थोड़ा डरा हुआ है,
प्रिंट वह हर जगह क्षीण शोर सुनता है
प्रिंट उसे डर है कि यह एक प्रेतवाधित जंगल है

```

कोड को चलाएं Debug

Expand output

Choose a voice

More adventures

Latest update: 2025 Oct 01(c83db2)

Nivel 1 — La tortuga

Idioma

En nivel 1 también puedes usar Hedy para dibujar. Combinando giros y líneas, ¡puede hacer un cuadrado o una escalera!

Usando `adelante` dibujas una línea hacia adelante. El numero detrás del comando determina qué tan lejos caminará la tortuga. `girar derecha` gira un cuarto de vuelta en el sentido de las agujas del reloj, `girar izquierda` gira en sentido contrario a las agujas del reloj.

Si quieres ir hacia atrás, puedes utilizar el comando `adelante` pero con un número negativo. Por ejemplo `adelante -100`

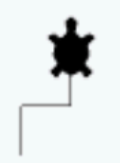
```
adelante 100
girar izquierda
```

Ejercicio

Este es el principio de una pequeña escalera, ¿Puedes hacer 5 escalones más?

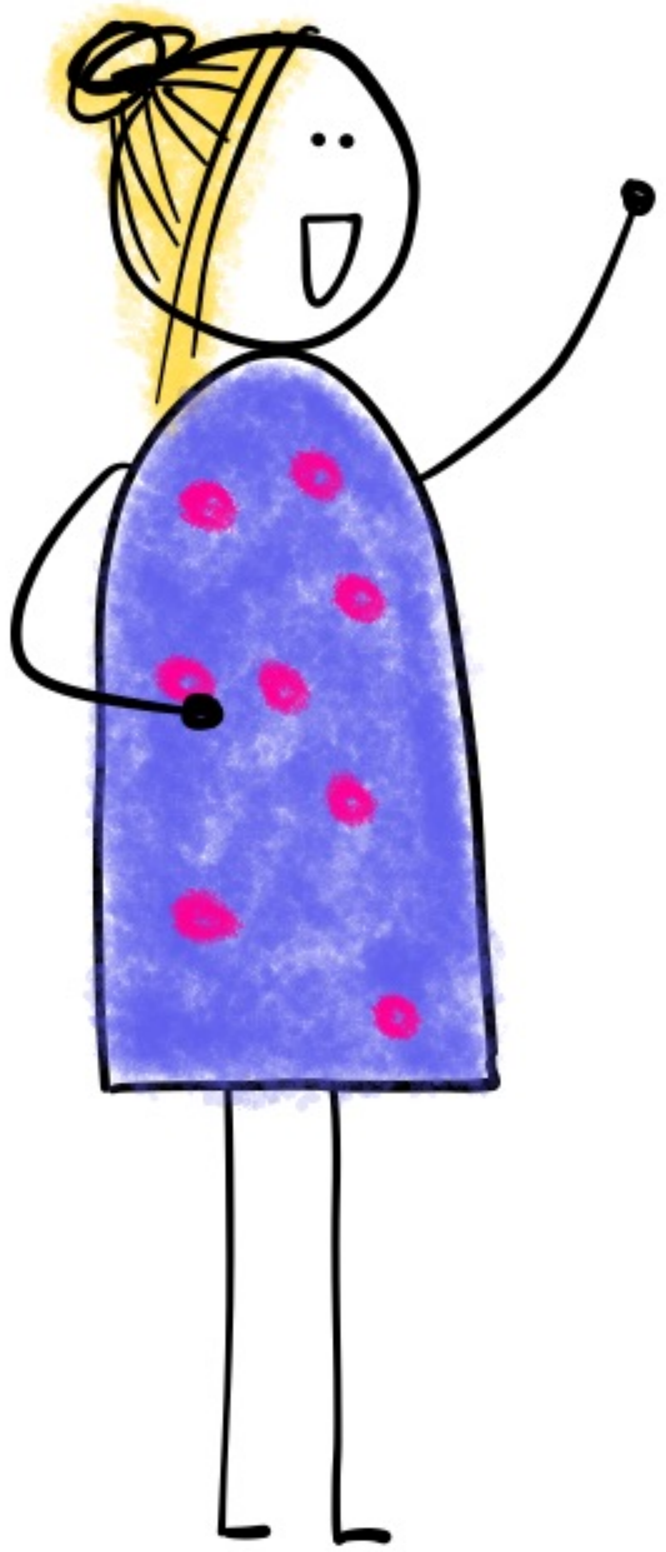
```
adelante 20
girar derecha
adelante 20
girar izquierda
adelante 20
```

```
adelante 20
girar derecha
adelante 20
girar izquierda
adelante 20
```

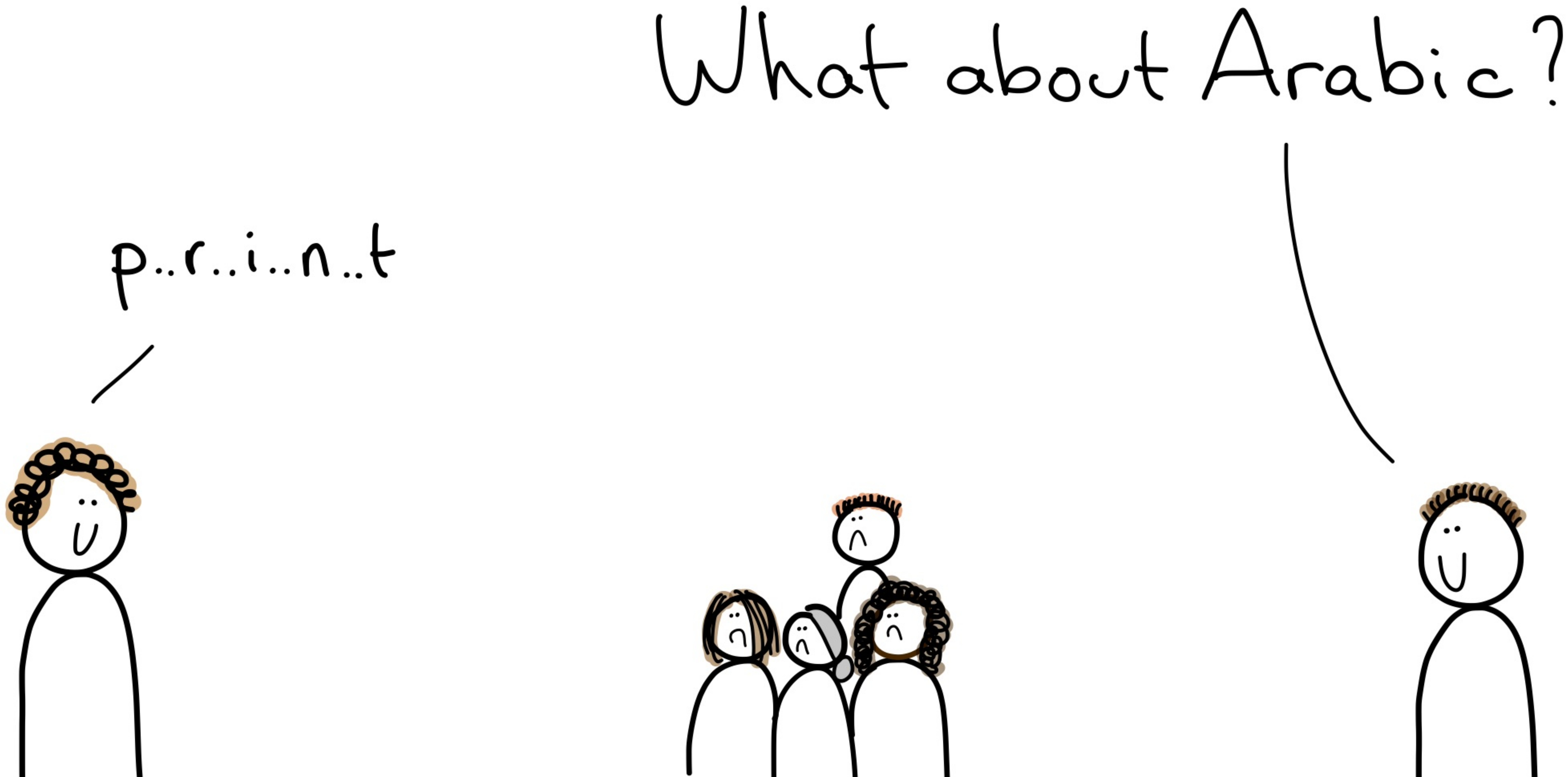


Ejecutar código
Depurar
Expand output
Save drawing
Choose a voice

More adventures

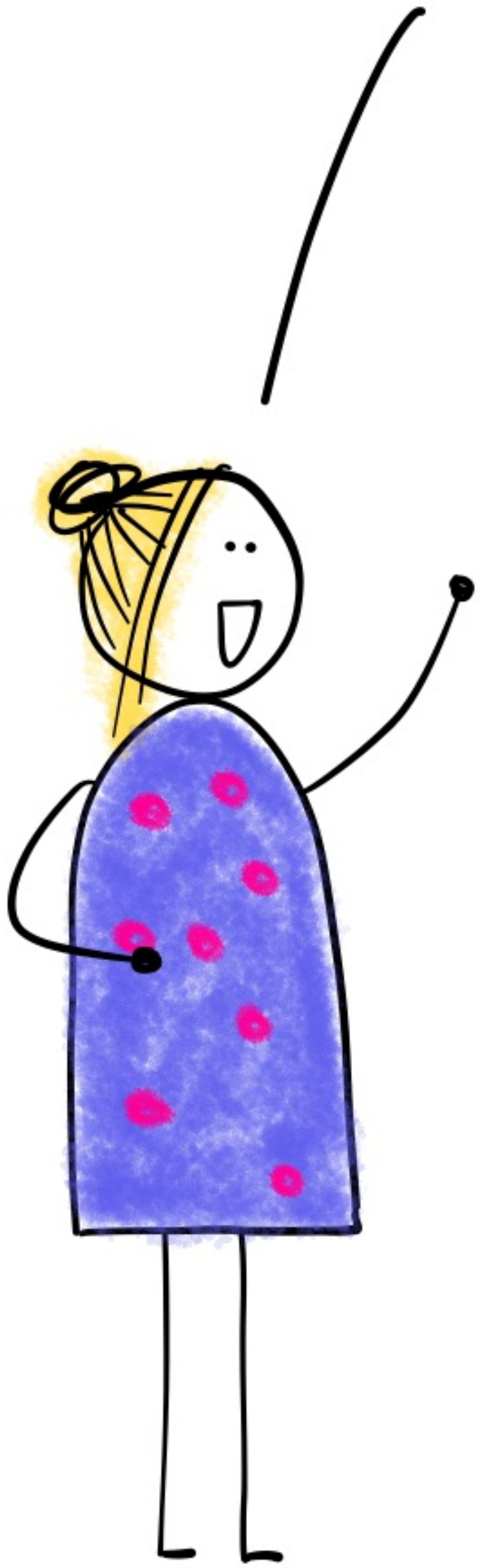


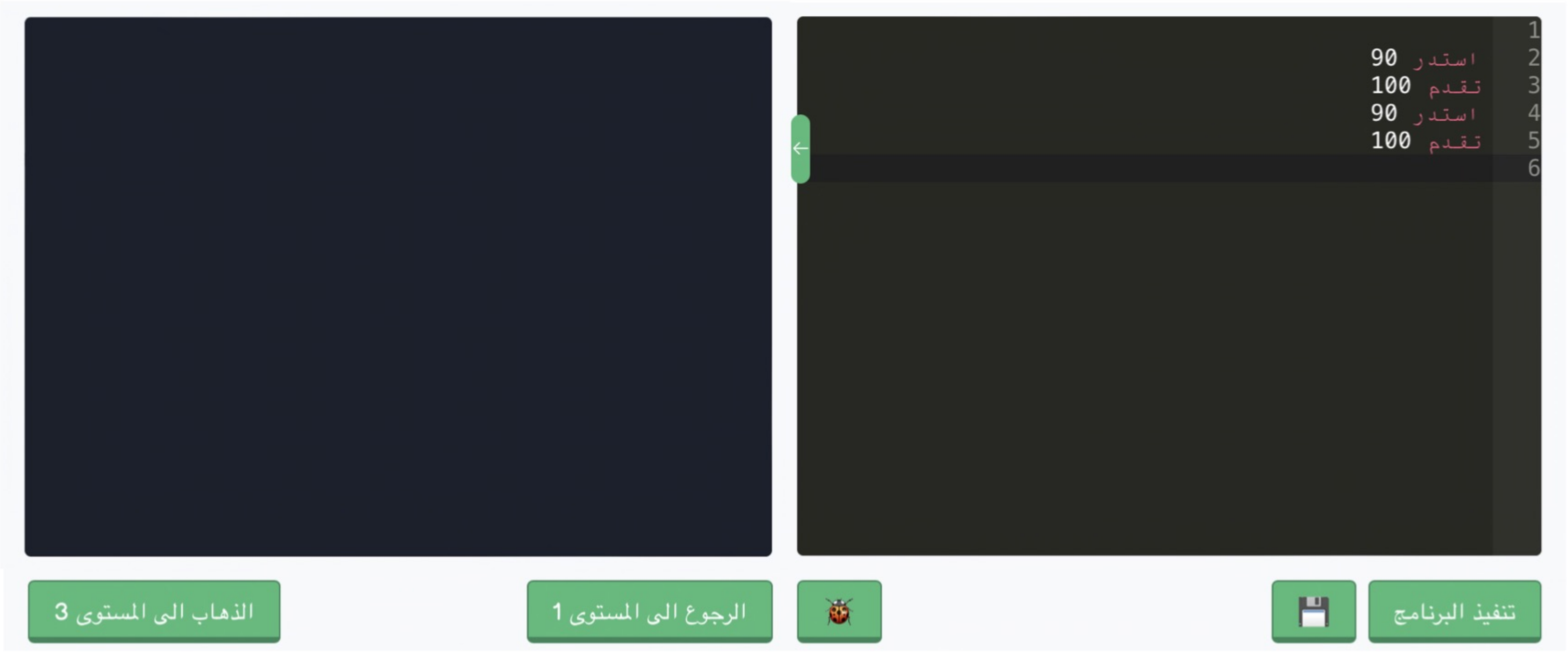

What about Arabic?


p..r..i..n..t
What about Arabic?

What about Arabic?
p..r..i..n..t
What is a p?

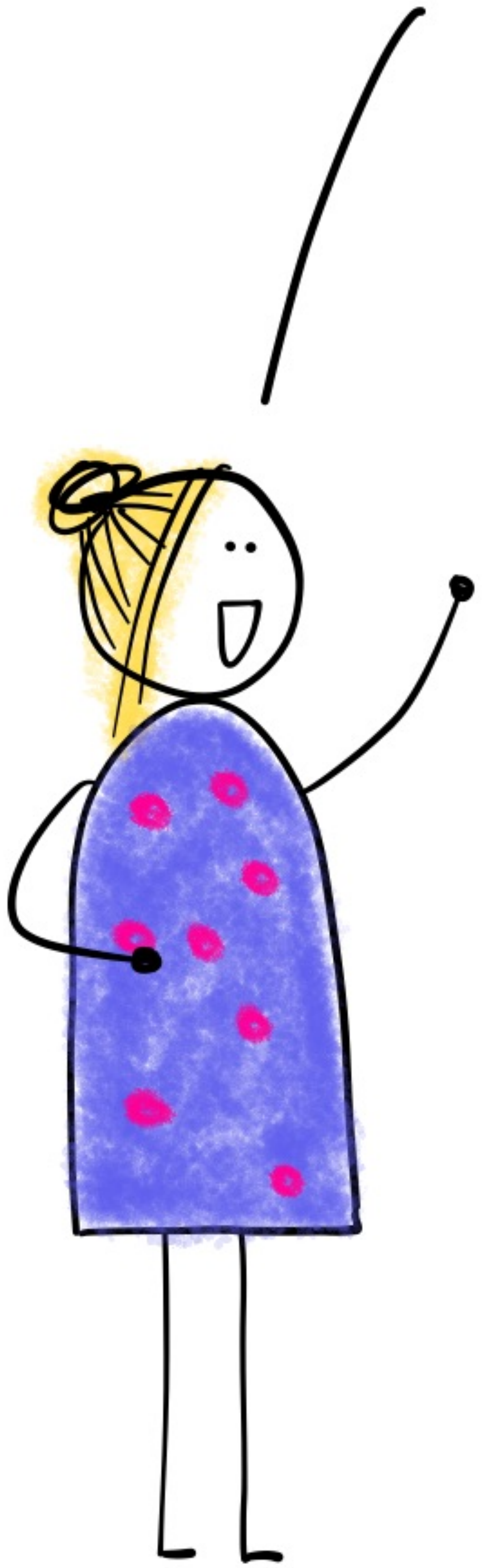
Arabic!

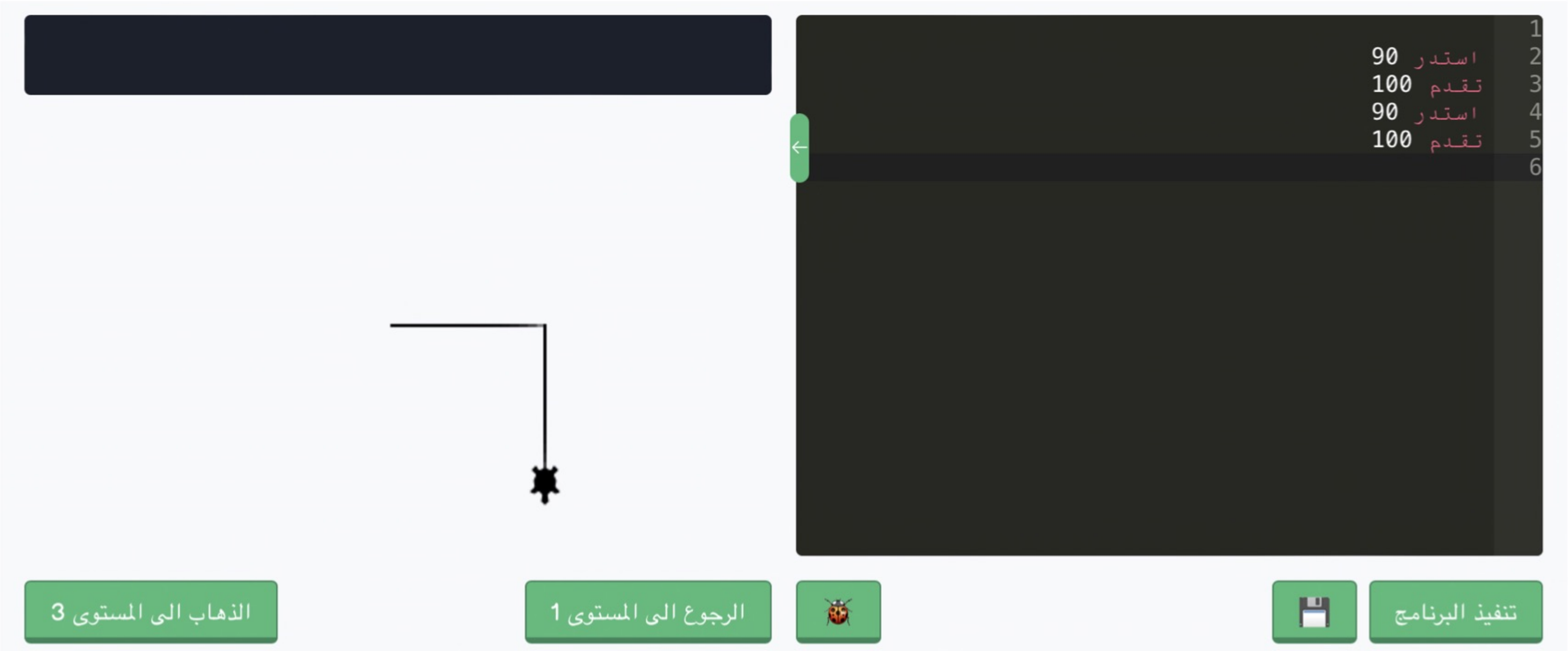




استدر 90
تقدم 100
استدر 90
تقدم 100
الذهاب الى المستوى 3
الرجوع الى المستوى 1
تنفيذ البرنامج

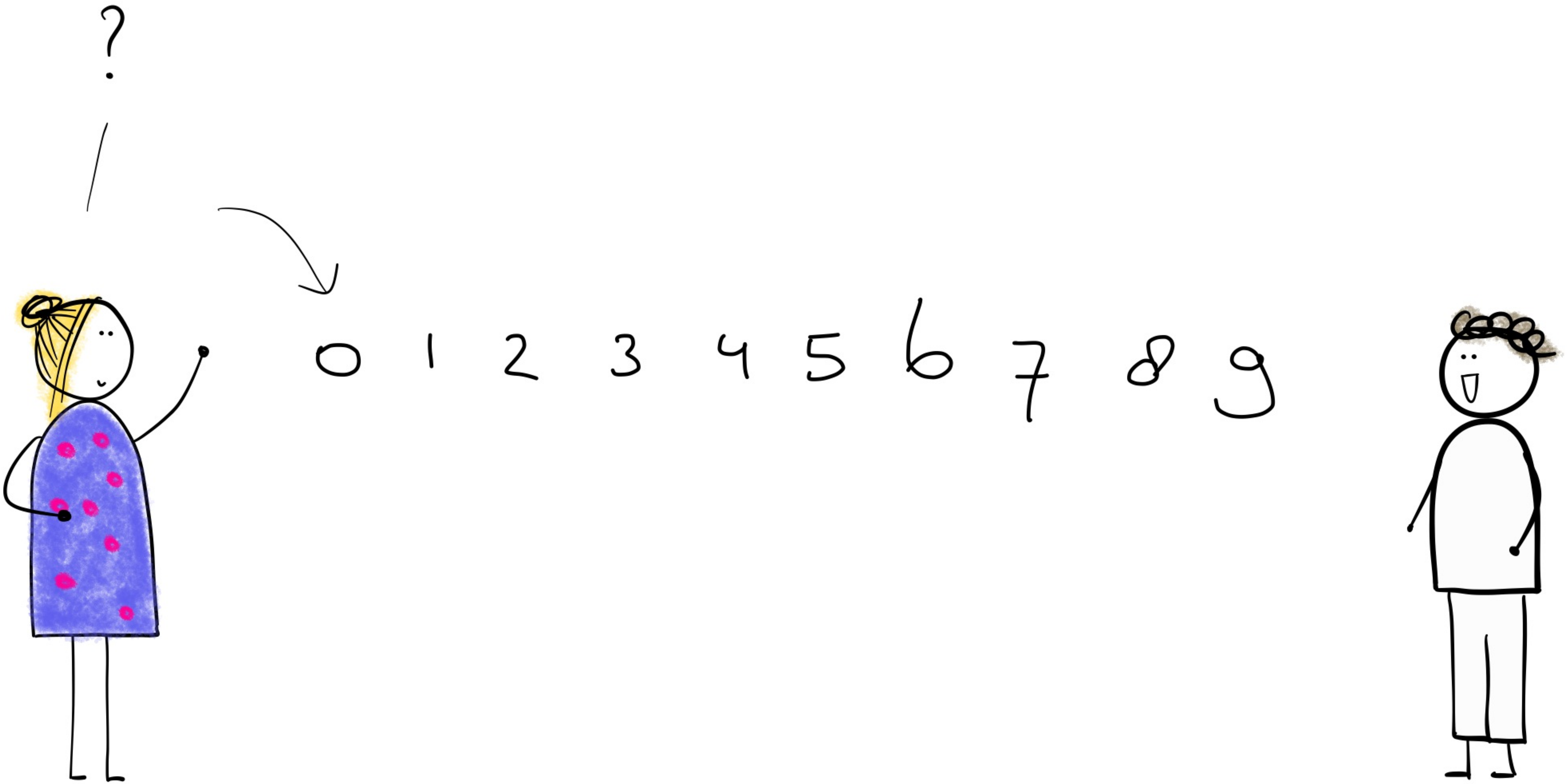
Arabic !

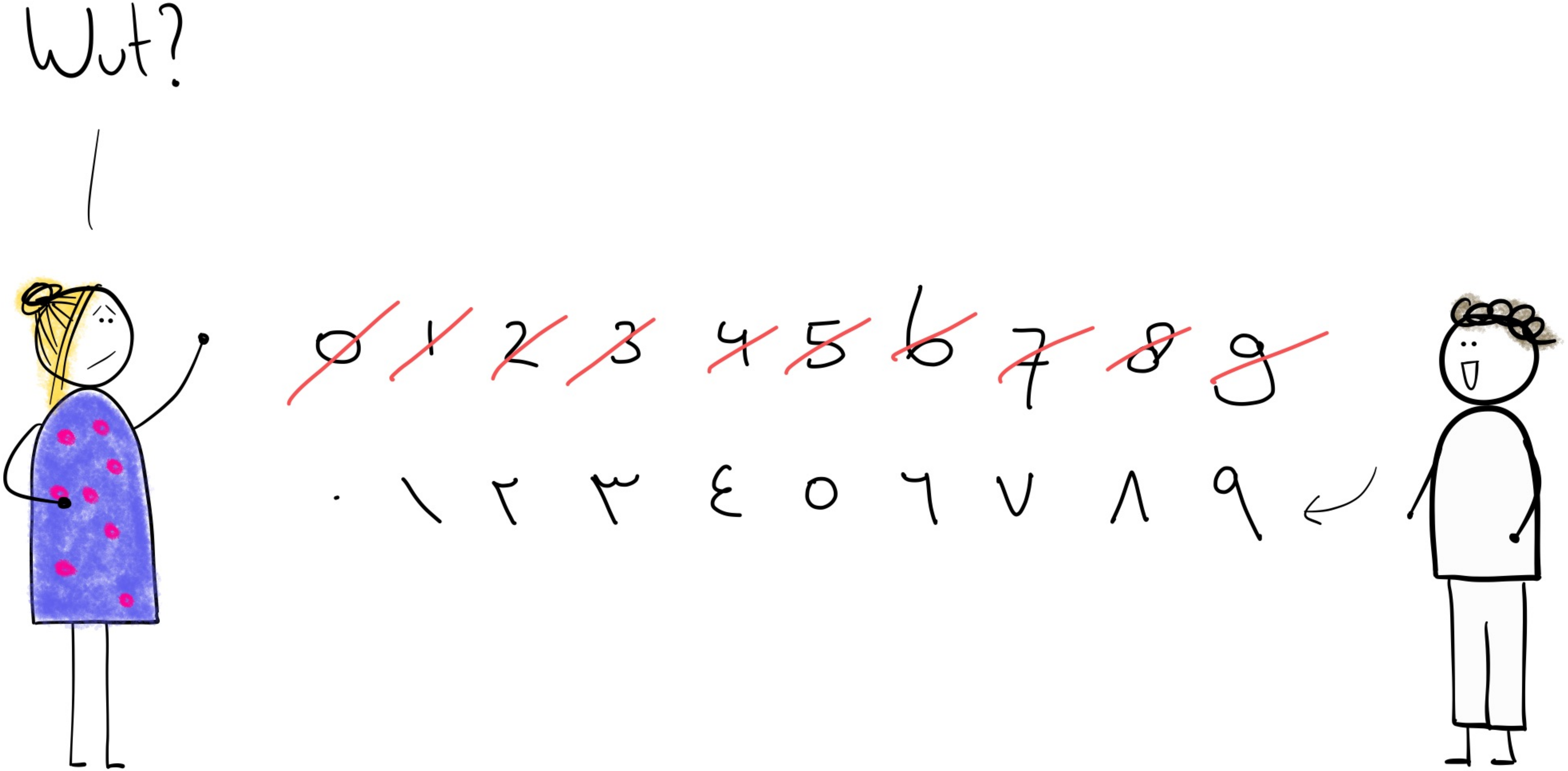




استدر 90
تقدم 100
استدر 90
تقدم 100
الذهاب الى المستوى 3
الرجوع الى المستوى 1
تنفيذ البرنامج

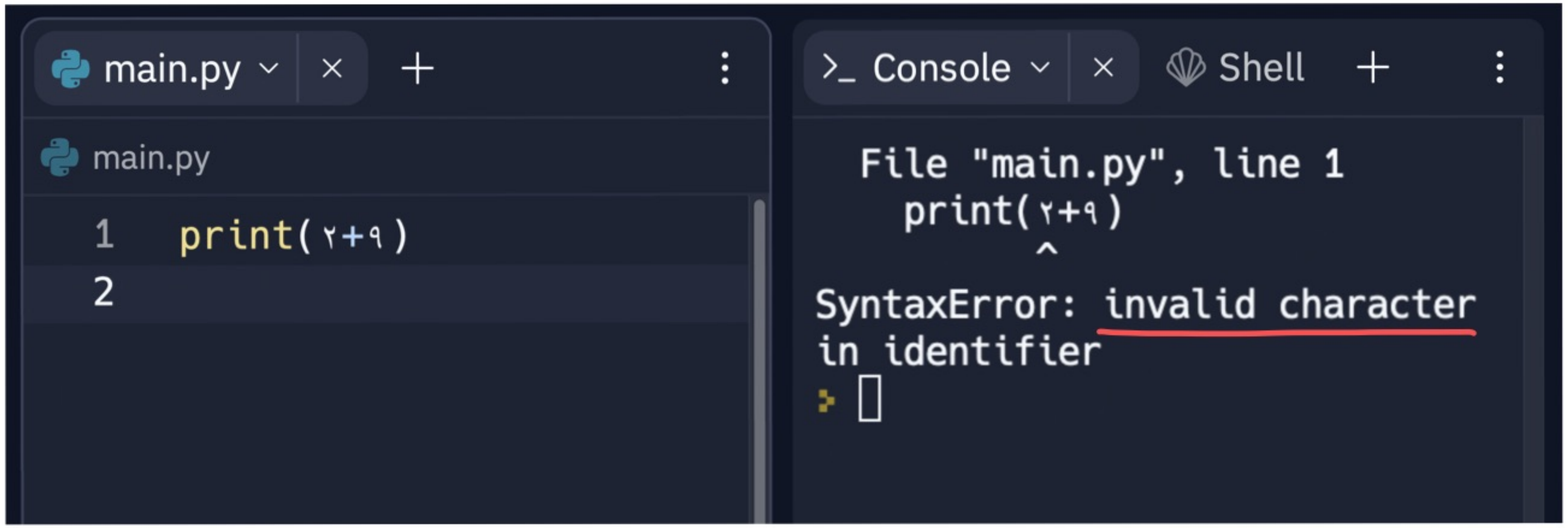

Arabic!
Cool! Can you add Arabic numerals?

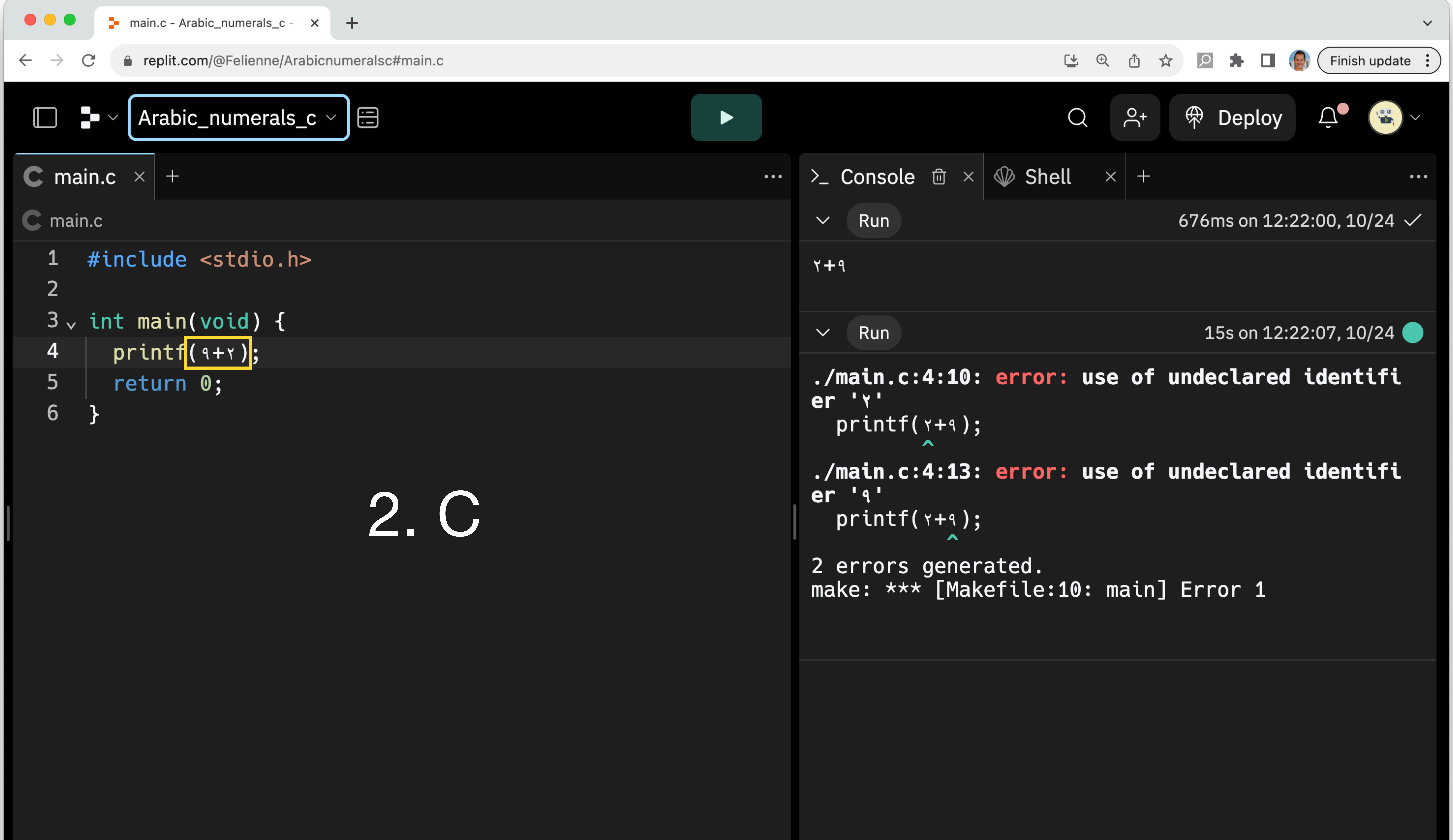

?
0 1 2 3 4 5 6 7 8 9

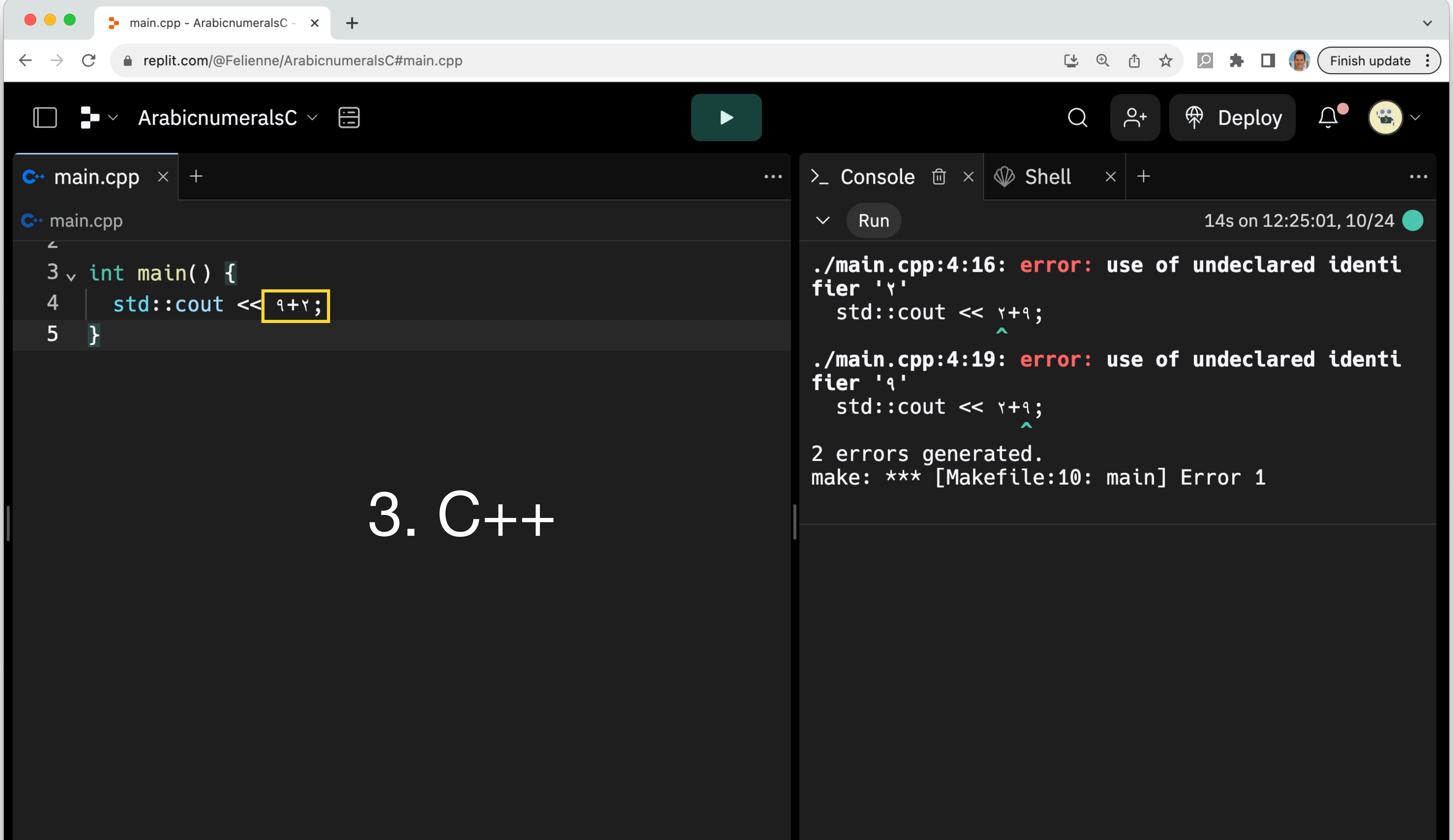

Wut?
~~0 1 2 3 4 5 6 7 8 9~~
٠ ١ ٢ ٣ ٤ ٥ ٦ ٧ ٨ ٩

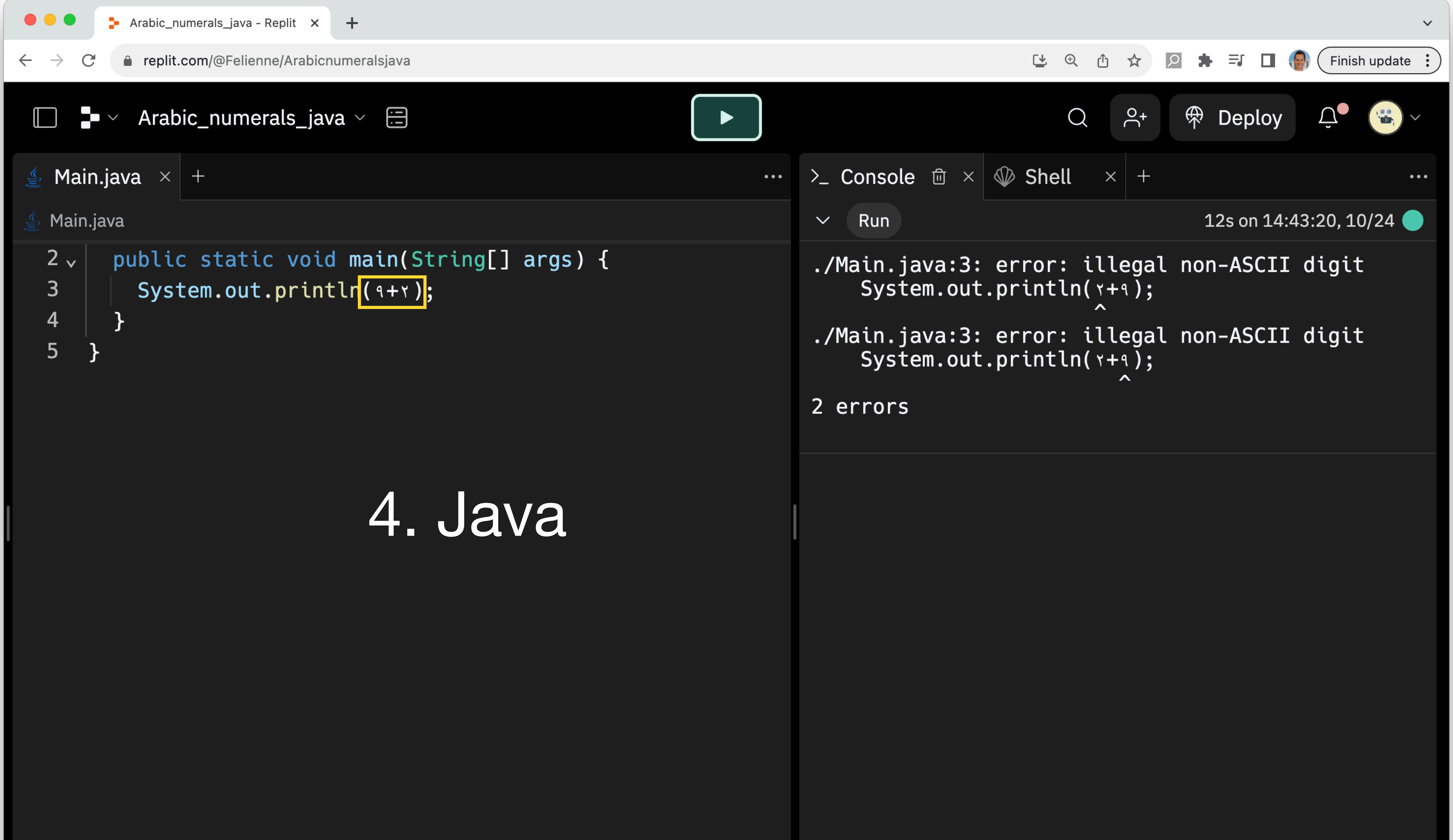

main.py
main.py
print(2+9)
Console
Shell
11


main.py
main.py
1 print(٢+٩)
2
Console
Shell
11


main.py
main.py
print(٢+٩)
Console
Shell
File "main.py", line 1
print(٢+٩)
^
SyntaxError: invalid character in identifier


main.c - Arabic_numerals_c -
replit.com/@Felienne/Arabicnumeralsc#main.c
Finish update
Arabic_numerals_c
Deploy
main.c
Console
Shell
main.c
#include <stdio.h>
int main(void) {
printf(٩+٢);
return 0;
}
2. C
Run
676ms on 12:22:00, 10/24
٢+٩
Run
15s on 12:22:07, 10/24
./main.c:4:10: error: use of undeclared identifier '٢'
printf(٢+٩);
./main.c:4:13: error: use of undeclared identifier '٩'
printf(٢+٩);
2 errors generated.
make: *** [Makefile:10: main] Error 1


main.cpp - ArabicnumeralsC
replit.com/@Felienne/ArabicnumeralsC#main.cpp
Finish update
ArabicnumeralsC
Deploy
main.cpp
Console
Shell
main.cpp
Run
14s on 12:25:01, 10/24
int main() {
std::cout << ٩+٢;
}
./main.cpp:4:16: error: use of undeclared identifier '٢'
std::cout << ٢+٩;
./main.cpp:4:19: error: use of undeclared identifier '٩'
std::cout << ٢+٩;
2 errors generated.
make: *** [Makefile:10: main] Error 1
3. C++



Arabic_numerals_java - Replit
replit.com/@Felienne/Arabicnumeralsjava
Finish update
Arabic_numerals_java
Deploy
Main.java
Console
Shell
Main.java
Run
12s on 14:43:20, 10/24
public static void main(String[] args) {
System.out.println(٩+٢);
}
}
./Main.java:3: error: illegal non-ASCII digit
System.out.println(٢+٩);
./Main.java:3: error: illegal non-ASCII digit
System.out.println(٢+٩);
2 errors
4. Java

main.cs - Arabic_numerals_C#

replit.com/@Felienne/ArabicnumeralsC-1#main.cs

Arabic_numerals_C# (1)

main.cs

```csharp
using System;

class Program {
  public static void Main (string[] args) {
    Console.WriteLine(٩+٢);
  }
}
```

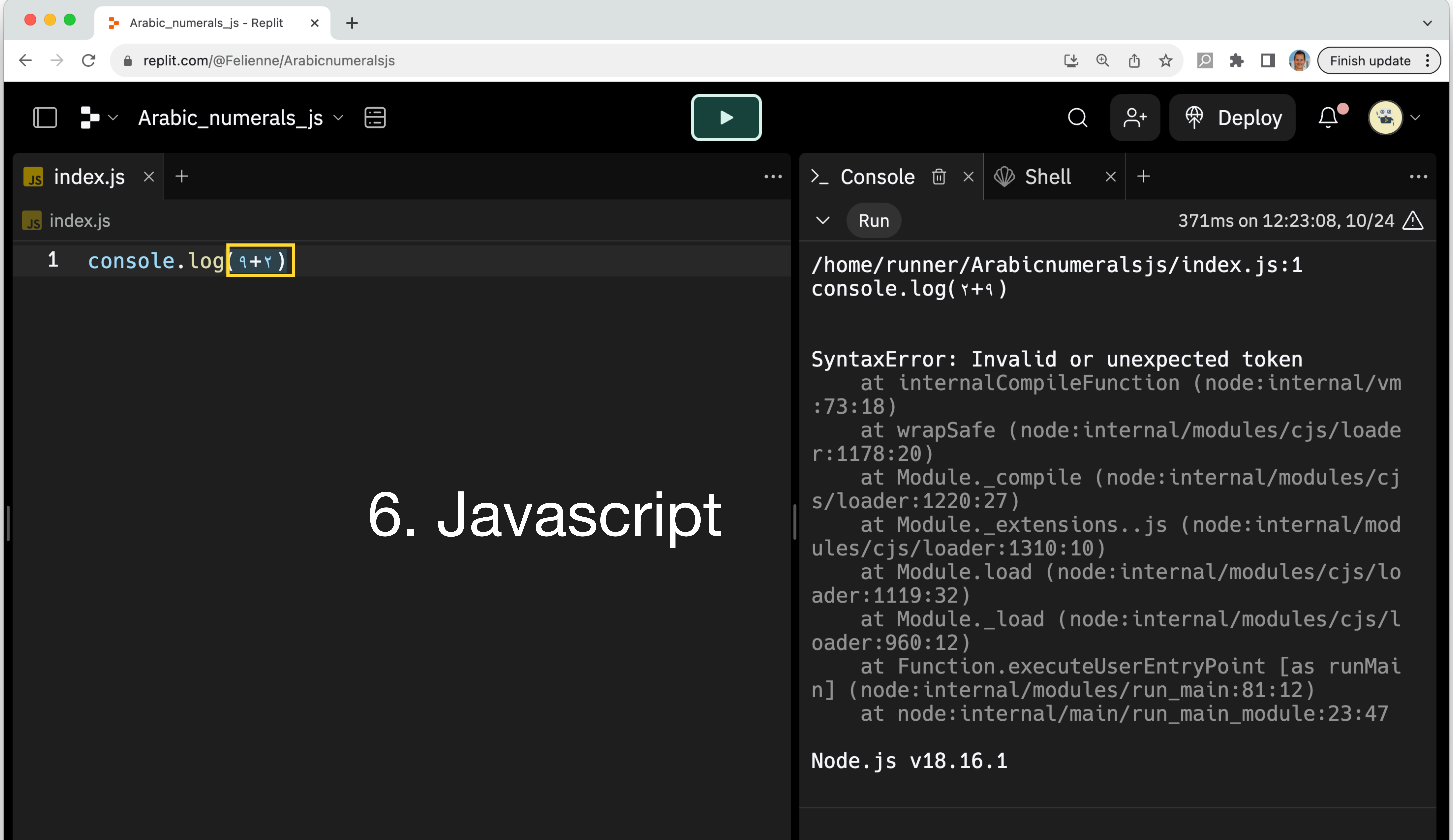
5. C#

Console

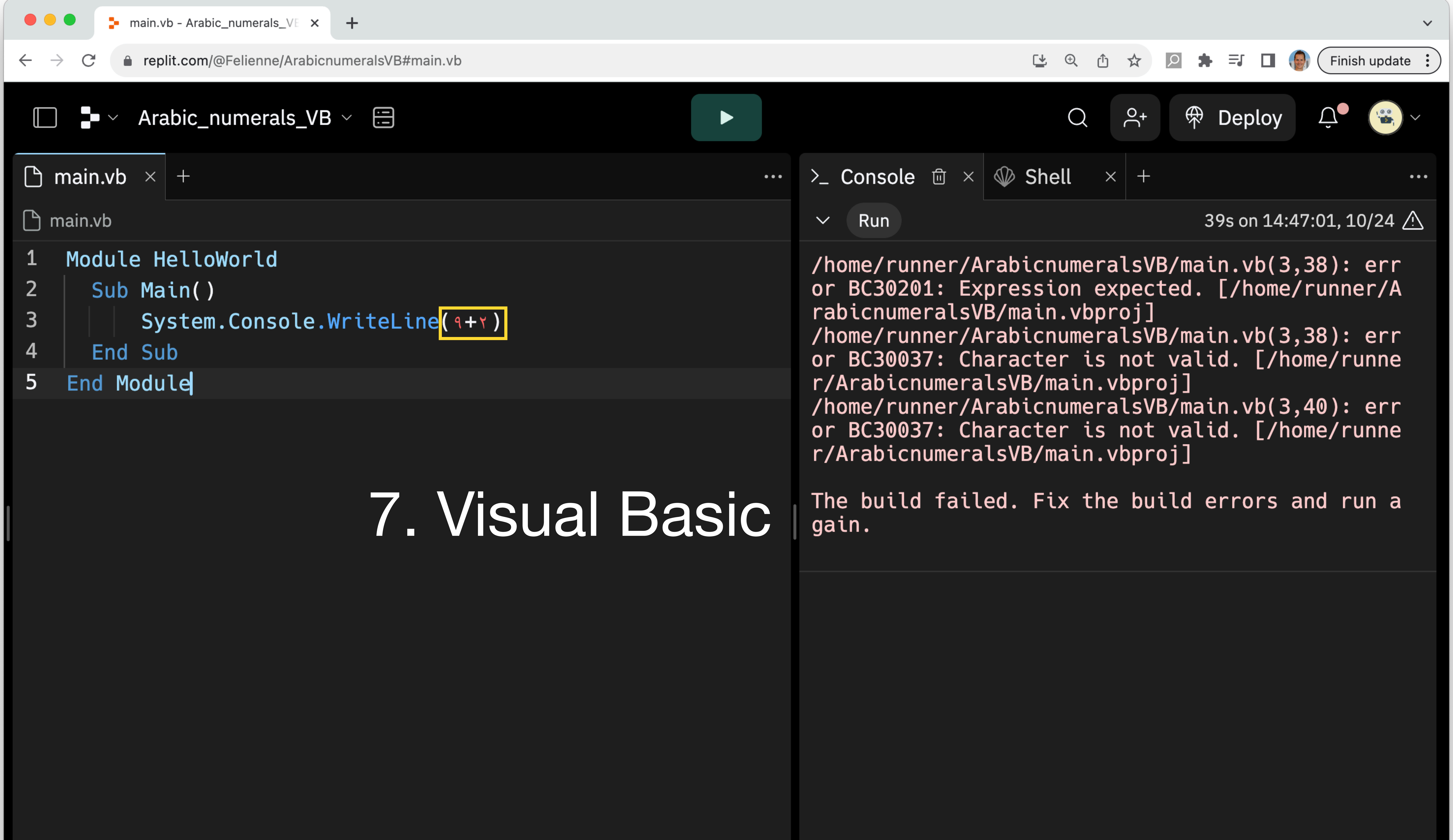
Run 12s on 14:44:37, 10/24

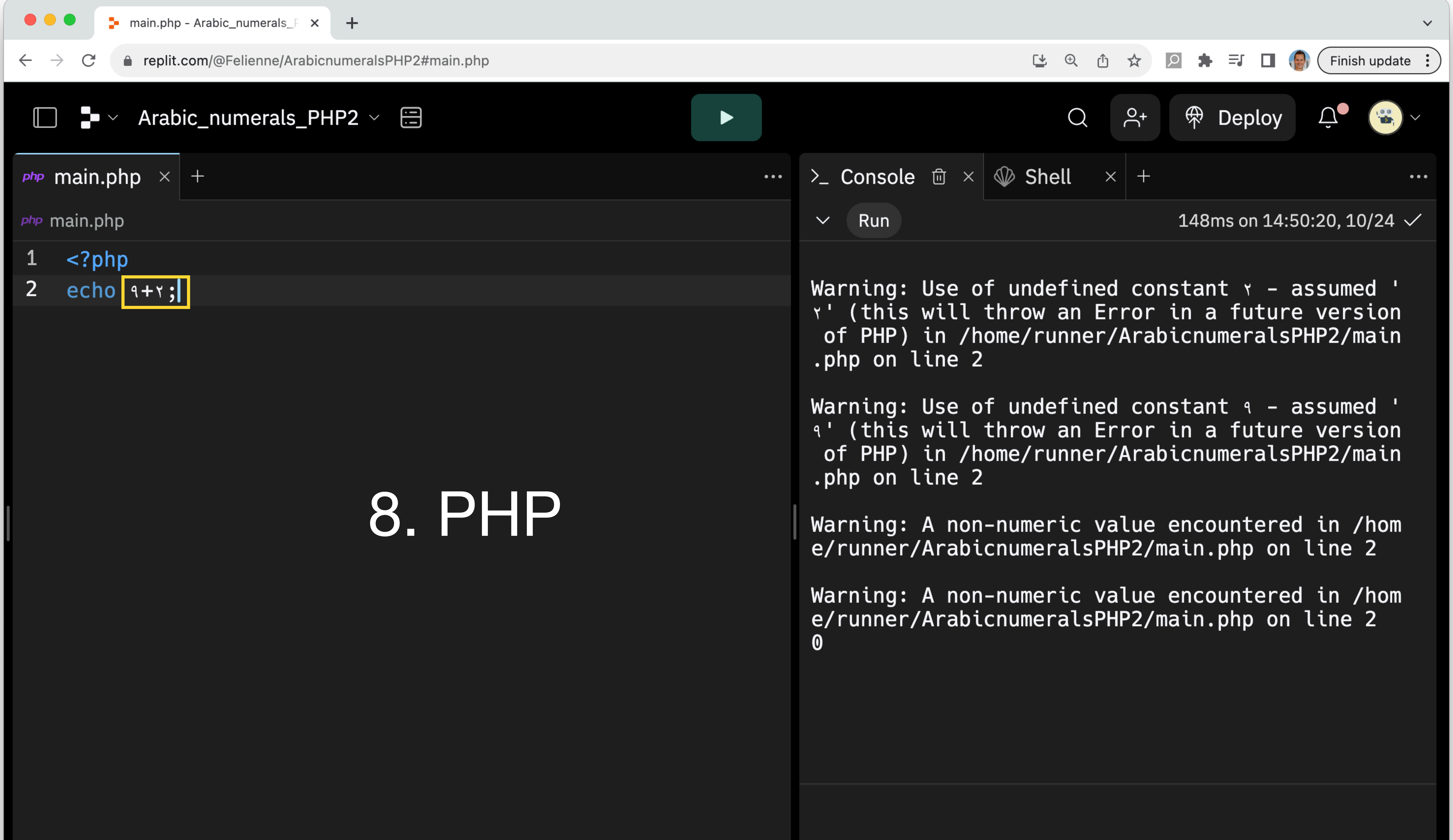
```
/home/runner/ArabicnumeralsC-1/main.cs(5,23): error CS1056: Unexpected character '٢' [/home/runner/ArabicnumeralsC-1/main.csproj]
/home/runner/ArabicnumeralsC-1/main.cs(5,25): error CS1525: Invalid expression term '' [/home/runner/ArabicnumeralsC-1/main.csproj]
/home/runner/ArabicnumeralsC-1/main.cs(5,25): error CS1056: Unexpected character '٩' [/home/runner/ArabicnumeralsC-1/main.csproj]

The build failed. Fix the build errors and run again.
```

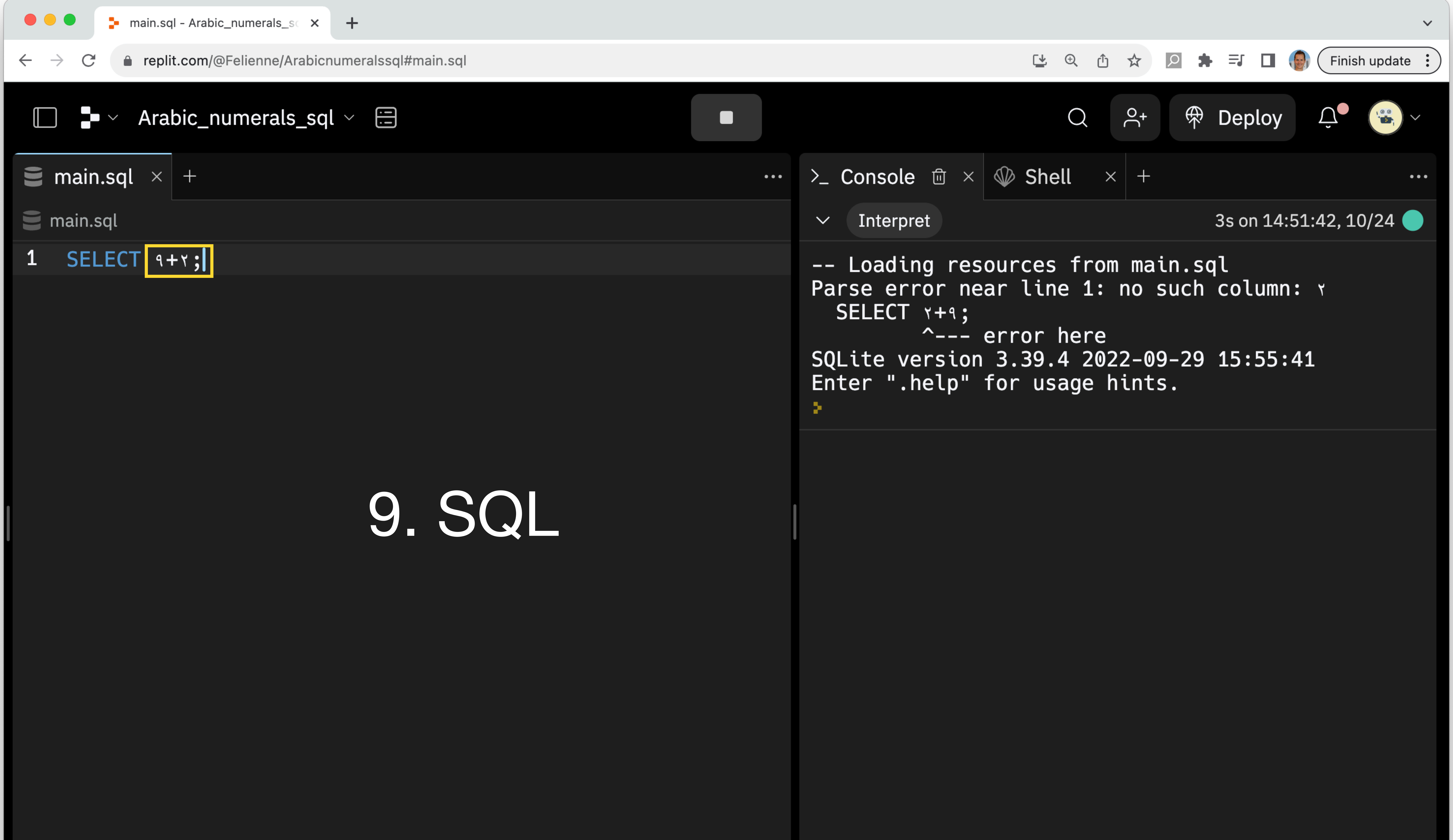


Arabic_numerals_js - Replit
replit.com/@Felienne/Arabicnumeralsjs
Finish update
Arabic_numerals_js
Deploy
index.js
index.js
1 console.log(٩+٢)
Console
Shell
Run
371ms on 12:23:08, 10/24
/home/runner/Arabicnumeralsjs/index.js:1
console.log(٢+٩)
SyntaxError: Invalid or unexpected token
at internalCompileFunction (node:internal/vm:73:18)
at wrapSafe (node:internal/modules/cjs/loader:1178:20)
at Module._compile (node:internal/modules/cjs/loader:1220:27)
at Module._extensions..js (node:internal/modules/cjs/loader:1310:10)
at Module.load (node:internal/modules/cjs/loader:1119:32)
at Module._load (node:internal/modules/cjs/loader:960:12)
at Function.executeUserEntryPoint [as runMain] (node:internal/modules/run_main:81:12)
at node:internal/main/run_main_module:23:47
Node.js v18.16.1
6. Javascript

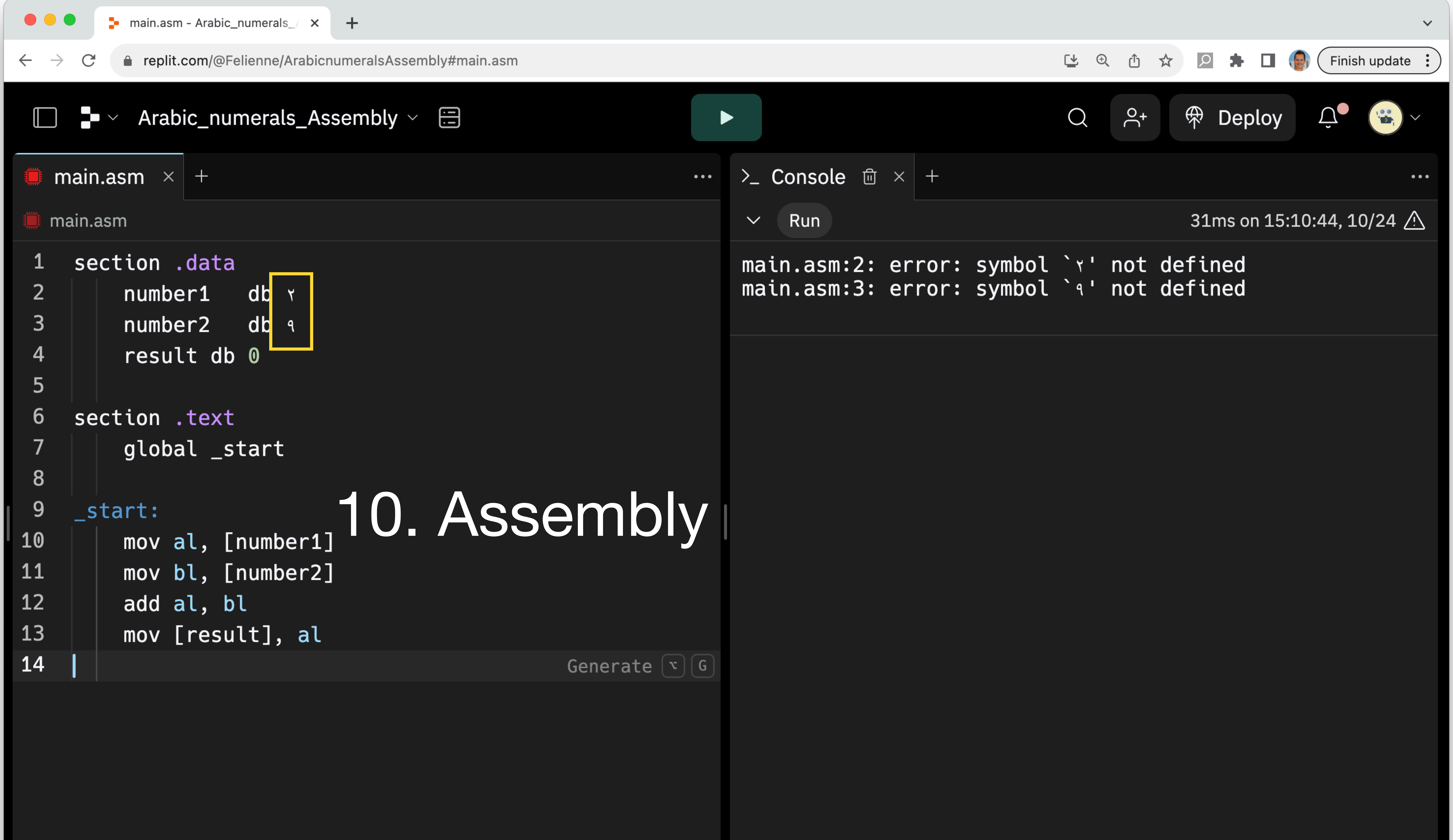

main.vb - Arabic_numerals_VB
replit.com/@Felienne/ArabicnumeralsVB#main.vb
Finish update
Arabic_numerals_VB
Deploy
main.vb
Console
Shell
main.vb
Run
39s on 14:47:01, 10/24
Module HelloWorld
Sub Main()
System.Console.WriteLine(٩+٢)
End Sub
End Module
/home/runner/ArabicnumeralsVB/main.vb(3,38): error BC30201: Expression expected. [/home/runner/ArabicnumeralsVB/main.vbproj]
/home/runner/ArabicnumeralsVB/main.vb(3,38): error BC30037: Character is not valid. [/home/runner/ArabicnumeralsVB/main.vbproj]
/home/runner/ArabicnumeralsVB/main.vb(3,40): error BC30037: Character is not valid. [/home/runner/ArabicnumeralsVB/main.vbproj]
The build failed. Fix the build errors and run again.
7. Visual Basic



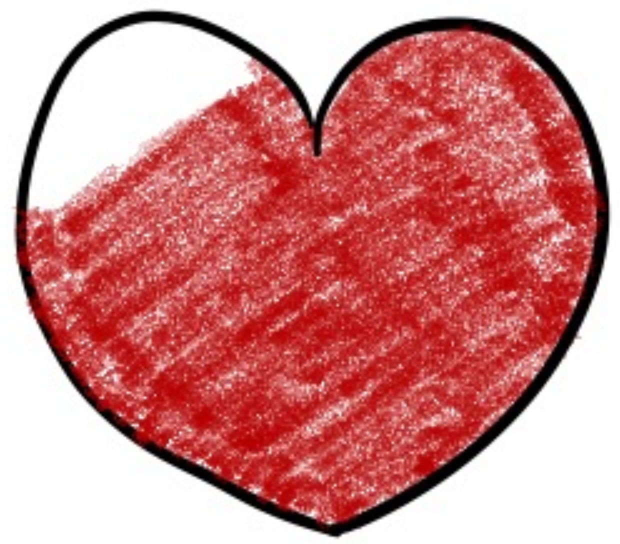
main.php - Arabic_numerals_
replit.com/@Felienne/ArabicnumeralsPHP2#main.php
Finish update
Arabic_numerals_PHP2
Deploy
main.php
Console
Shell
main.php
Run
148ms on 14:50:20, 10/24
<?php
echo ٩+٢;
Warning: Use of undefined constant ٢ - assumed '٢' (this will throw an Error in a future version of PHP) in /home/runner/ArabicnumeralsPHP2/main.php on line 2
Warning: Use of undefined constant ٩ - assumed '٩' (this will throw an Error in a future version of PHP) in /home/runner/ArabicnumeralsPHP2/main.php on line 2
Warning: A non-numeric value encountered in /home/runner/ArabicnumeralsPHP2/main.php on line 2
Warning: A non-numeric value encountered in /home/runner/ArabicnumeralsPHP2/main.php on line 2
0
8. PHP

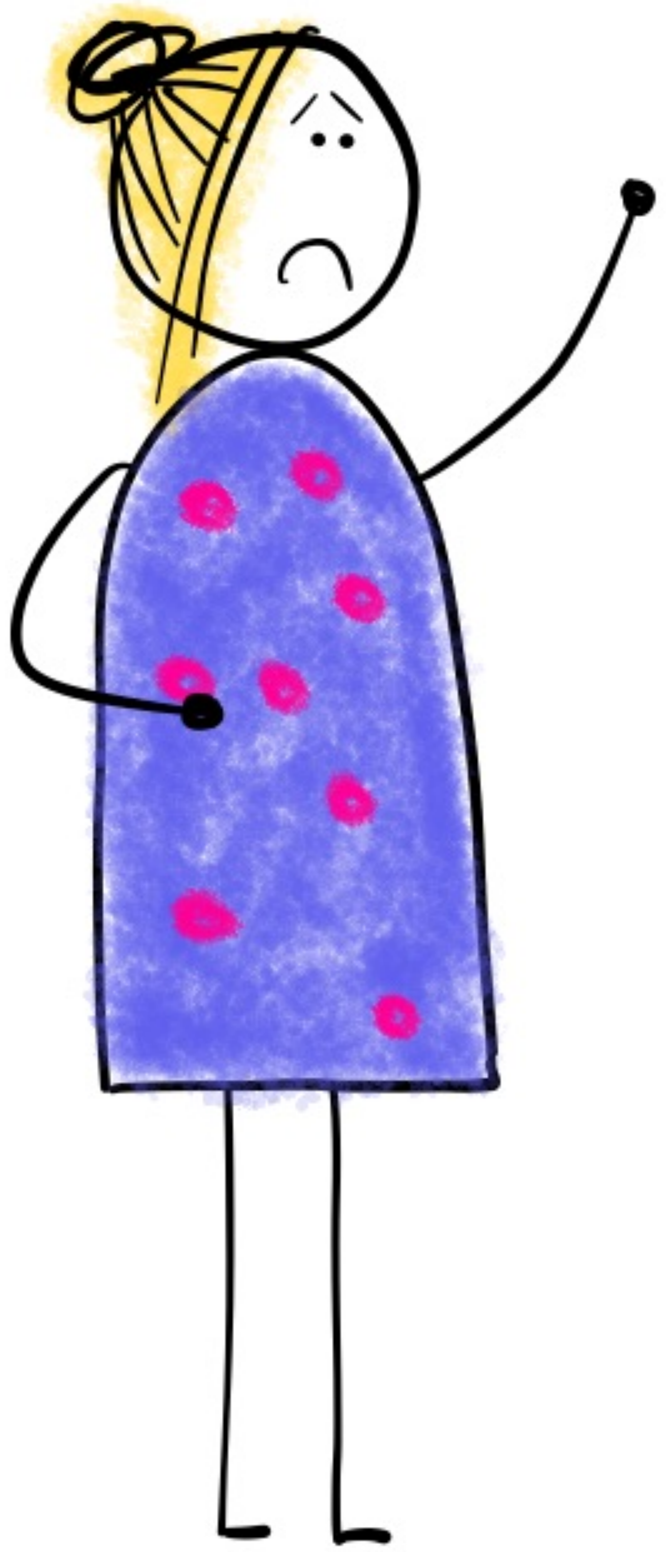


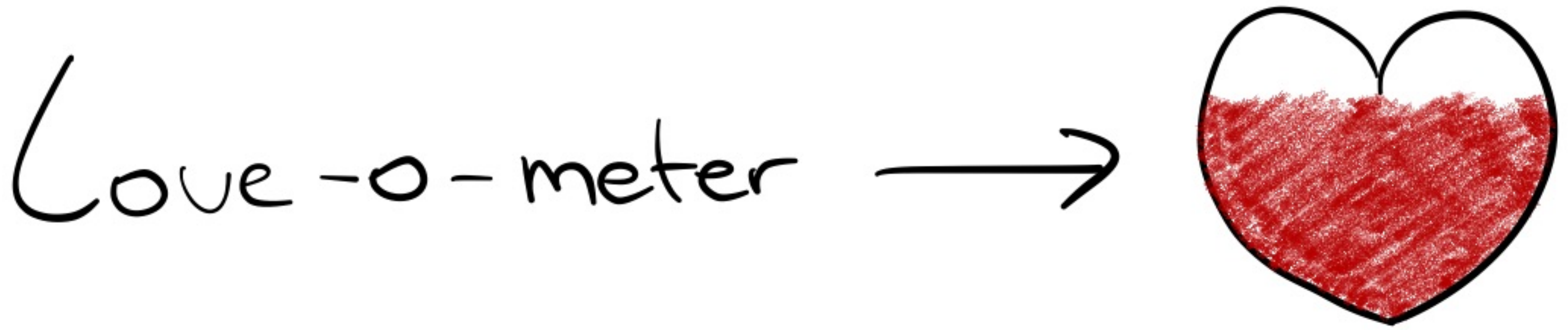
main.sql - Arabic_numerals_s
replit.com/@Felienne/Arabicnumeralssql#main.sql
Finish update
Arabic_numerals_sql
Deploy
main.sql
main.sql
1 SELECT ٩+٢;
Console
Shell
Interpret
3s on 14:51:42, 10/24
-- Loading resources from main.sql
Parse error near line 1: no such column: ٢
SELECT ٢+٩;
^--- error here
SQLite version 3.39.4 2022-09-29 15:55:41
Enter ".help" for usage hints.
9. SQL

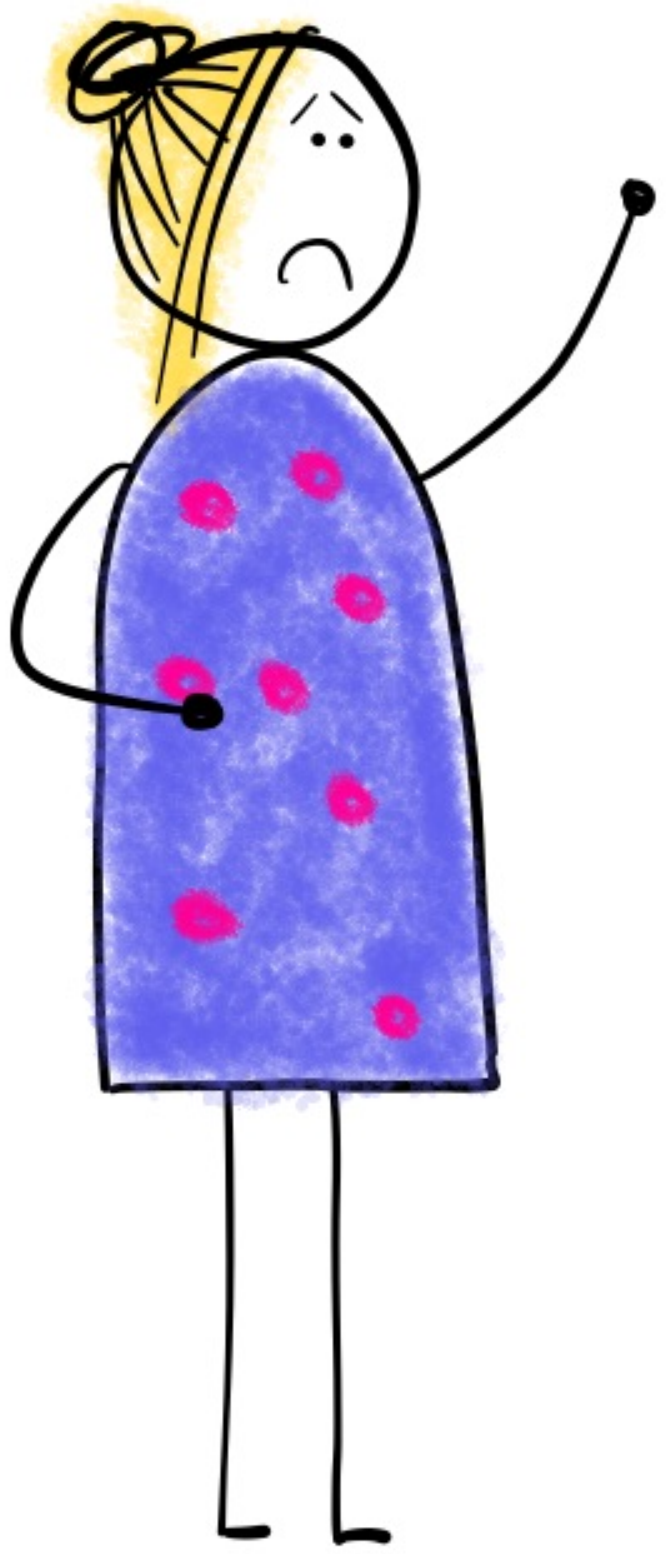

main.asm - Arabic_numerals_
replit.com/@Felienne/ArabicnumeralsAssembly#main.asm
Finish update
Arabic_numerals_Assembly
Deploy
main.asm
Console
Run
31ms on 15:10:44, 10/24
section .data
number1 db ٢
number2 db ٩
result db 0
section .text
global _start
_start:
mov al, [number1]
mov bl, [number2]
add al, bl
mov [result], al
Generate
main.asm:2: error: symbol `٢' not defined
main.asm:3: error: symbol `٩' not defined
10. Assembly

Love-o-meter






Love-o-meter



```
قول ٢+٩
```

```
قول ٢+٩
```

```
١١
```

```
لكل دورة في نطاق ١ الى ٥
    قول دورة
```

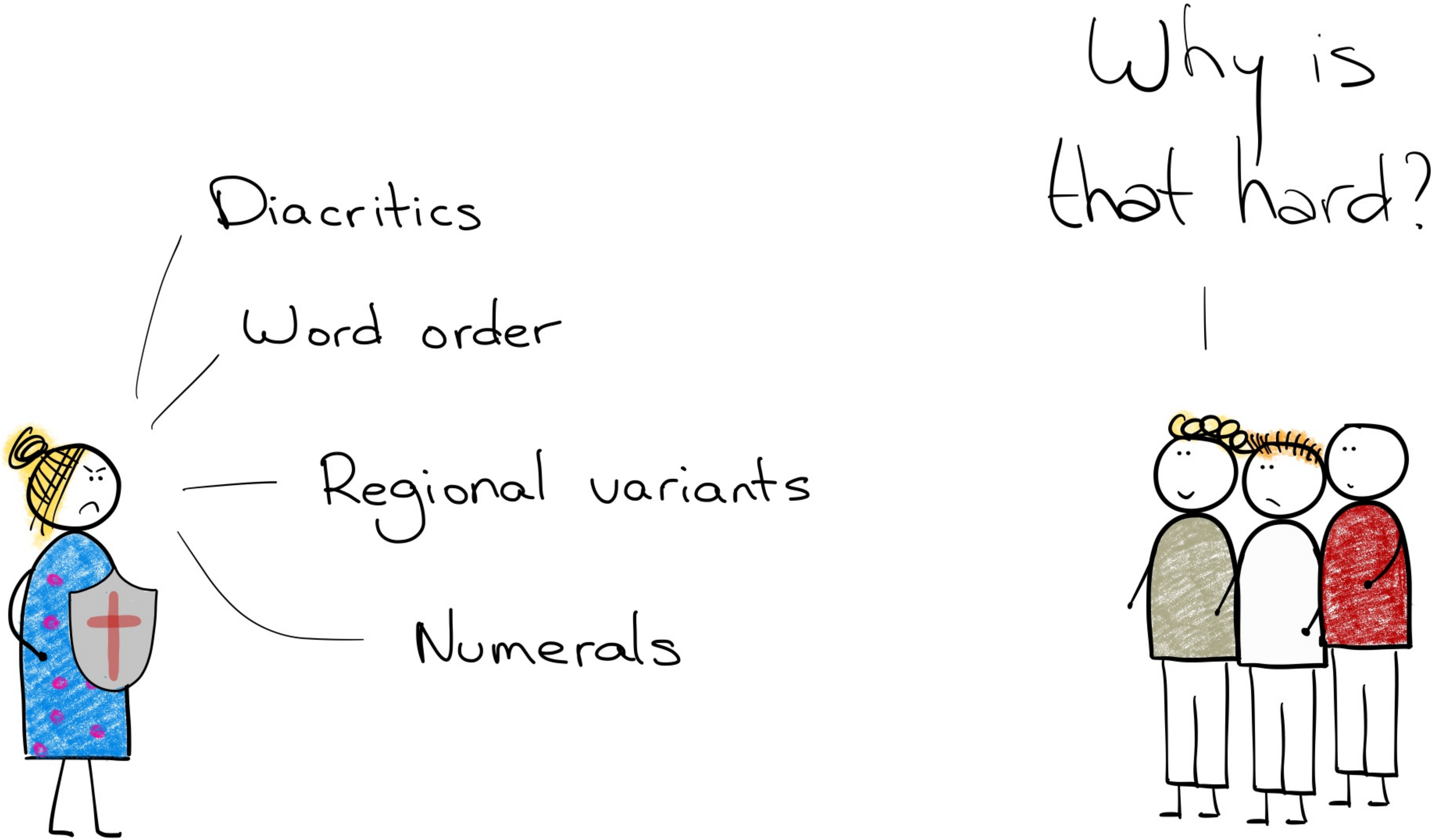
```
لكل دورة في نطاق ١ الى ٥
    قول دورة
```

```
١
٢
٣
٤
٥
```


I made a programming language

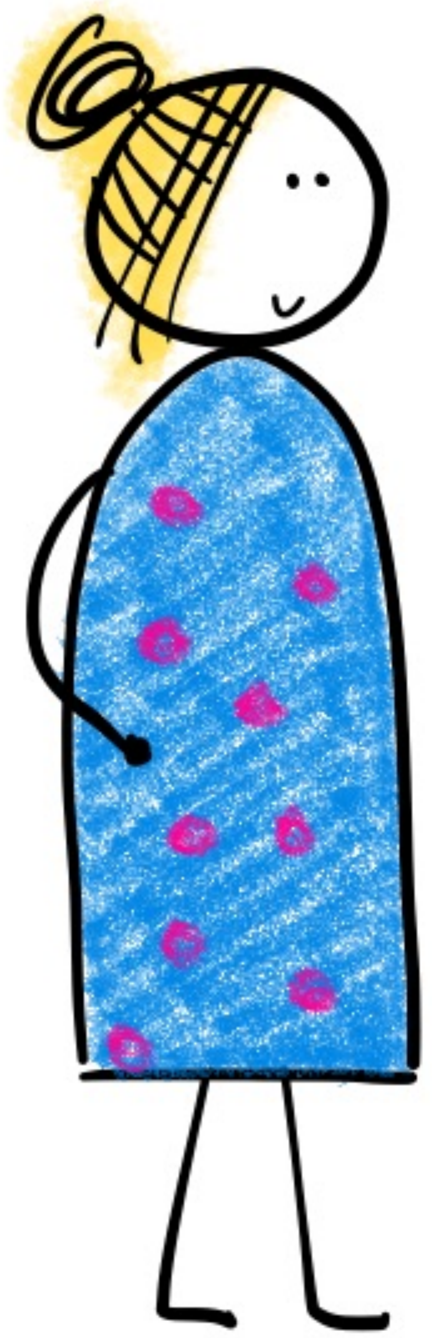

I made a programming language
Why?


I made a programming language
Why is that hard?

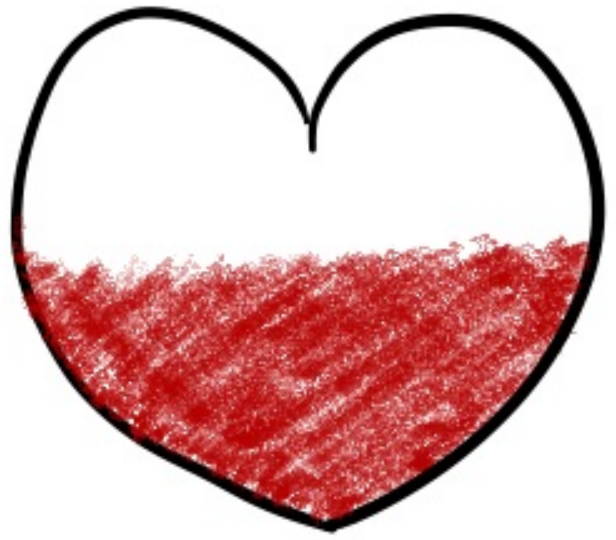

Why is that hard?
Diacritics
Word order
Regional variants
Numerals

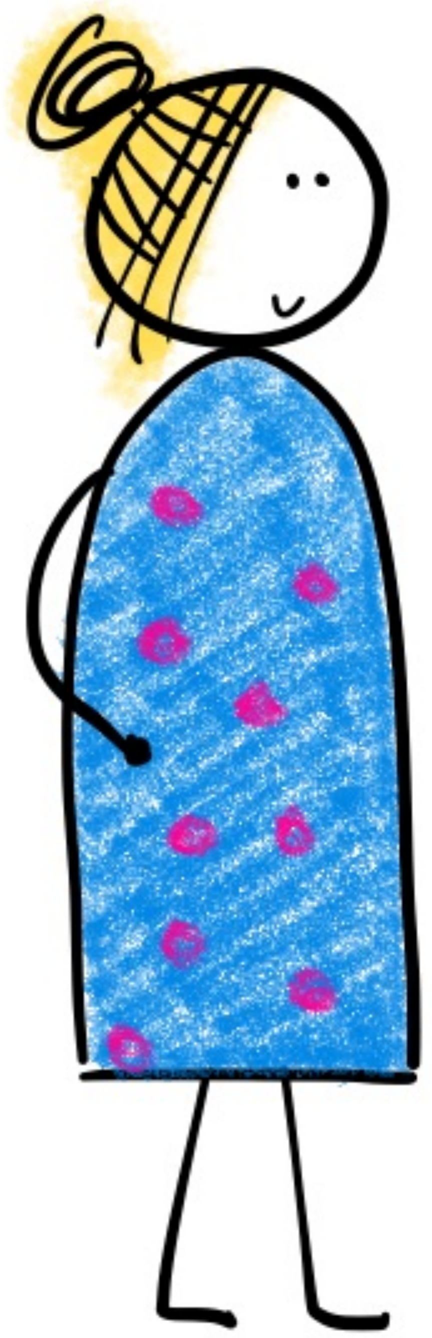

Diacritics
Word order
Regional variants
Numerals
Why is that hard?

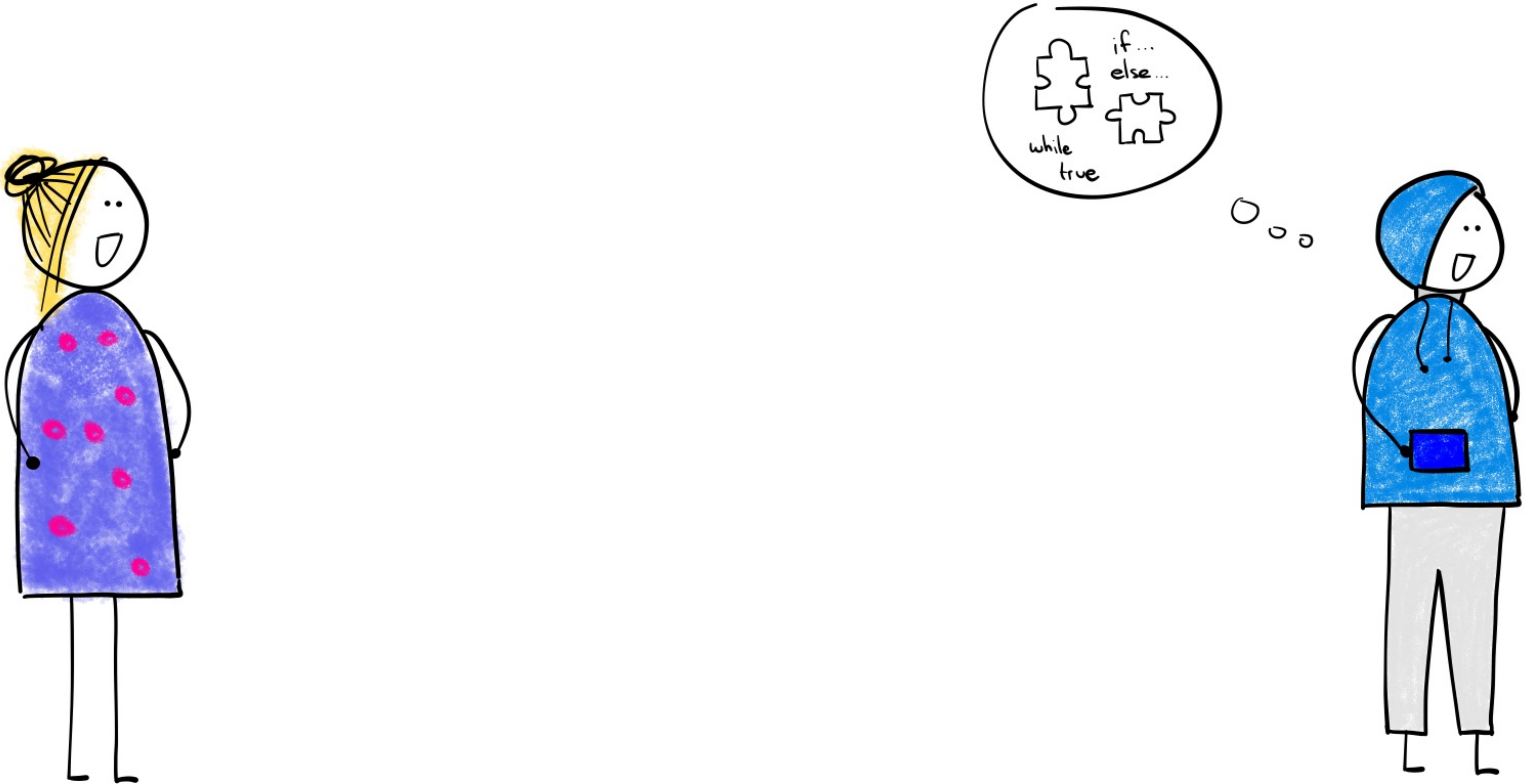
Love-o-meter 

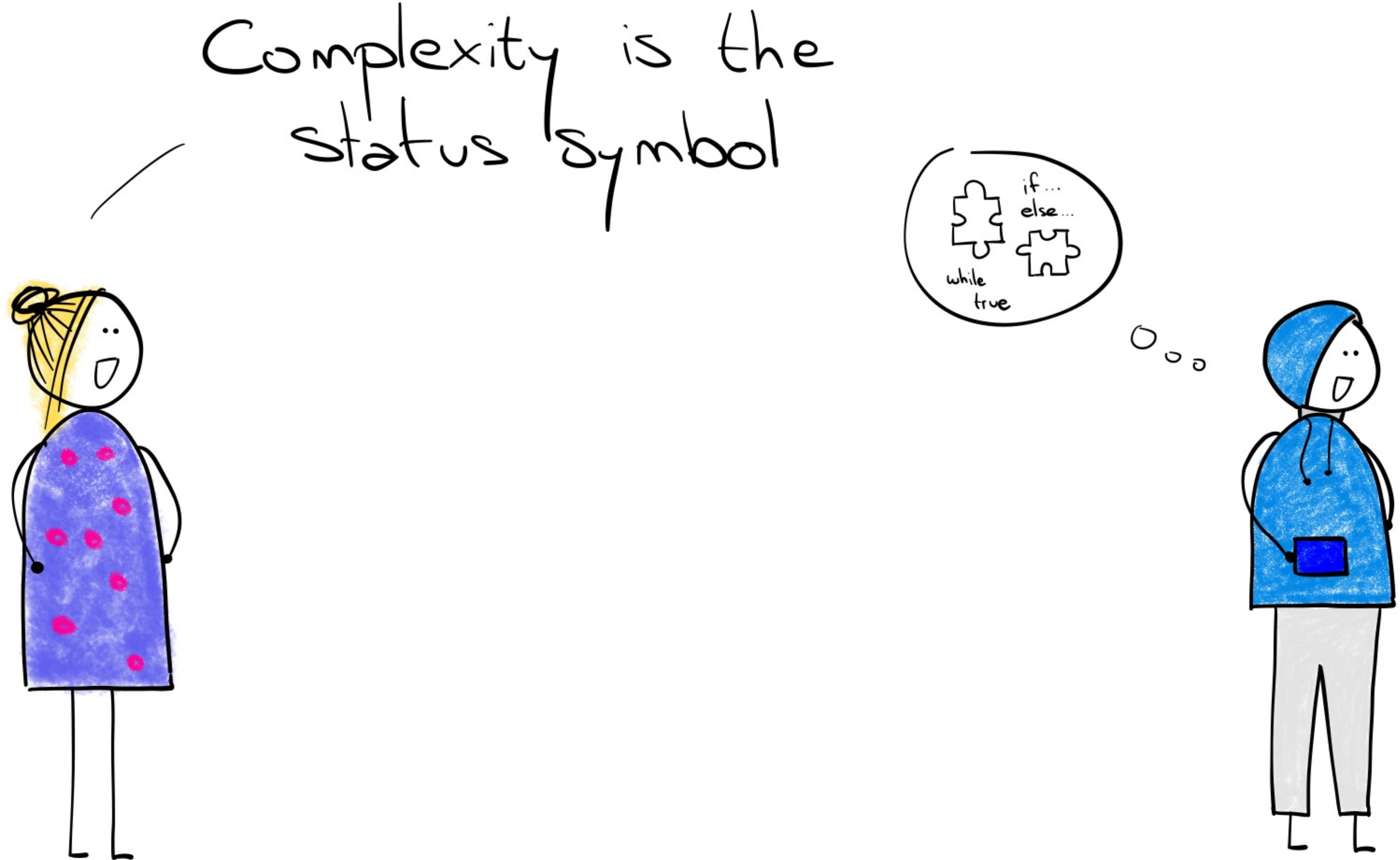


Love-o-meter

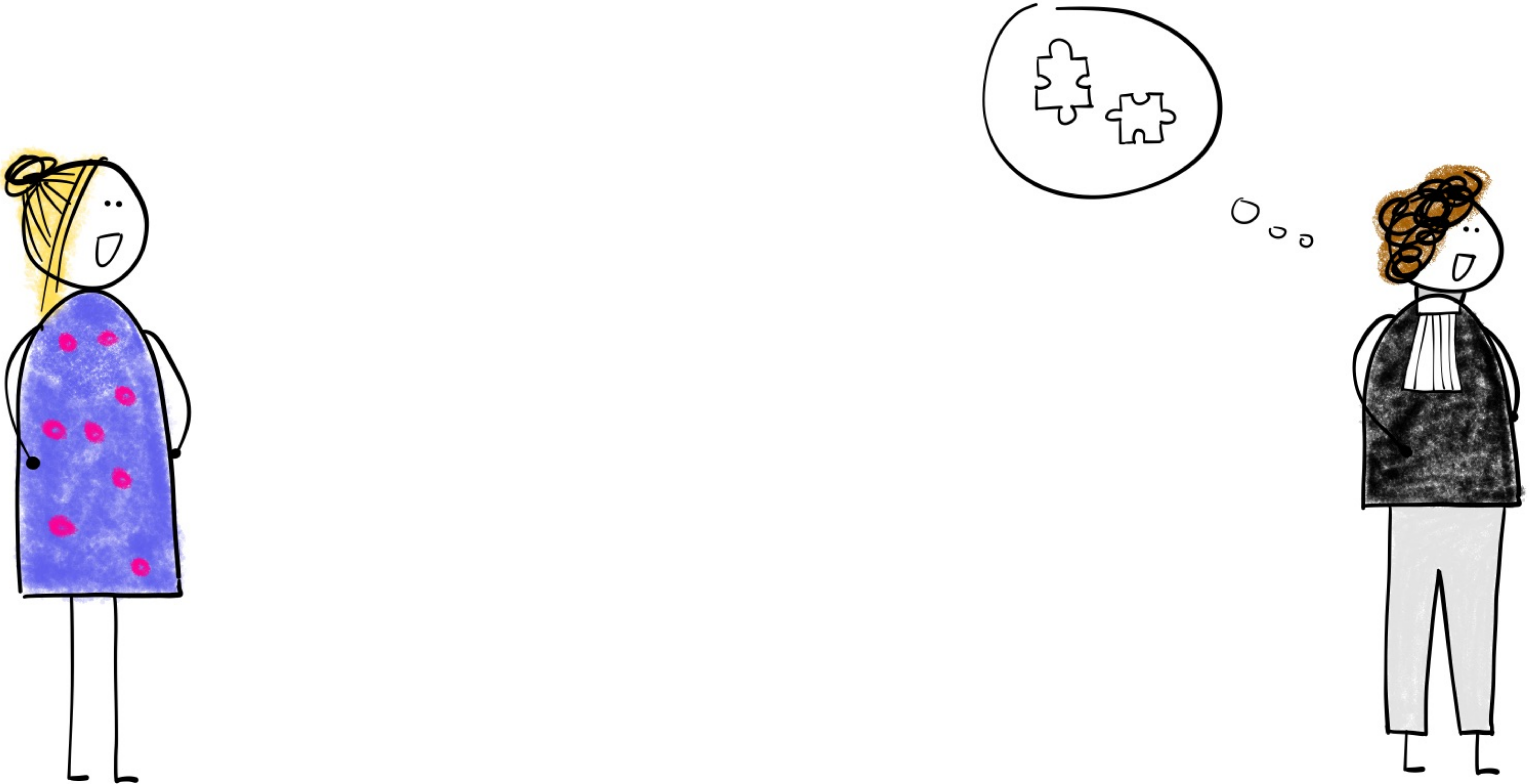


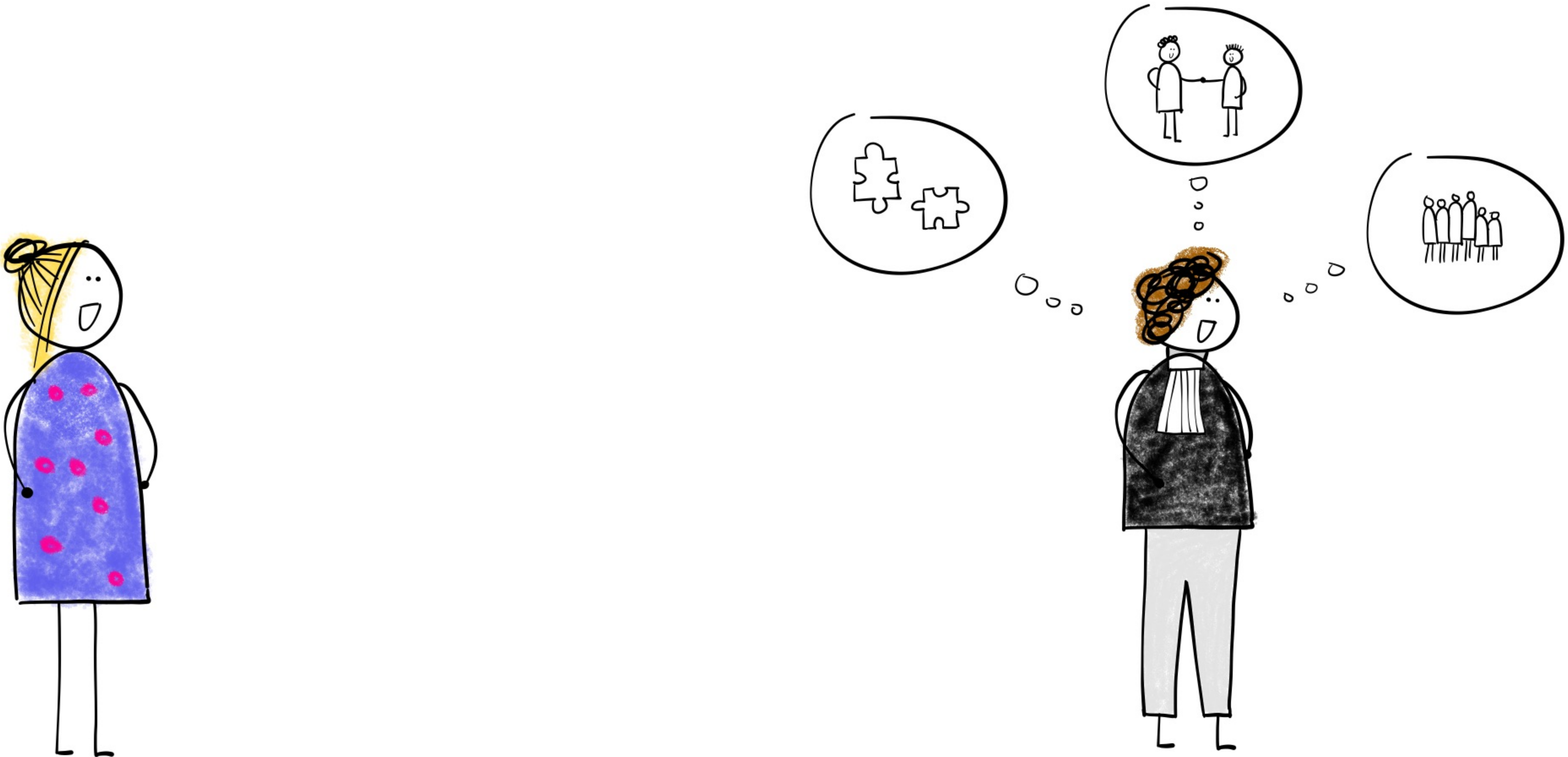


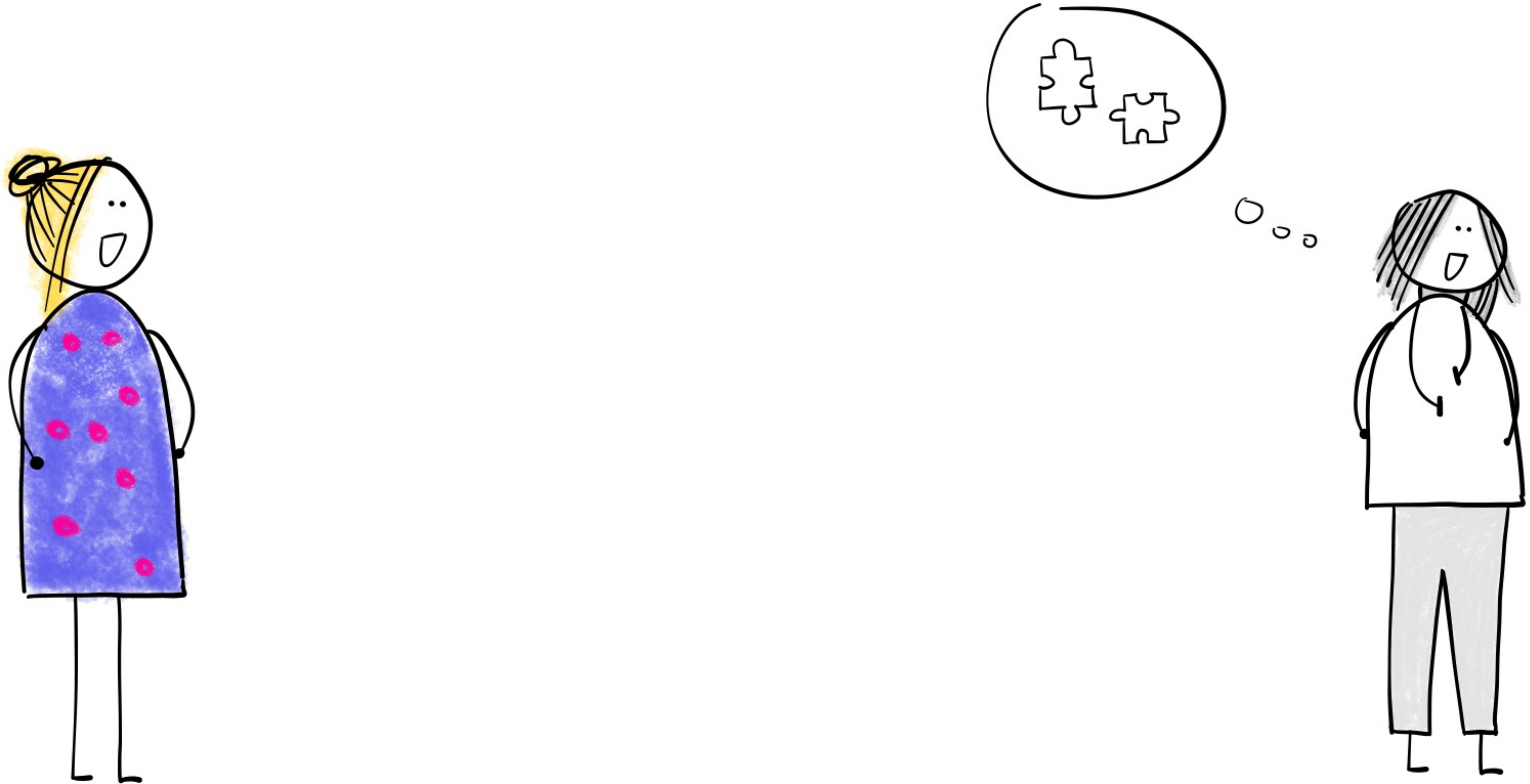

if...
else...
while
true

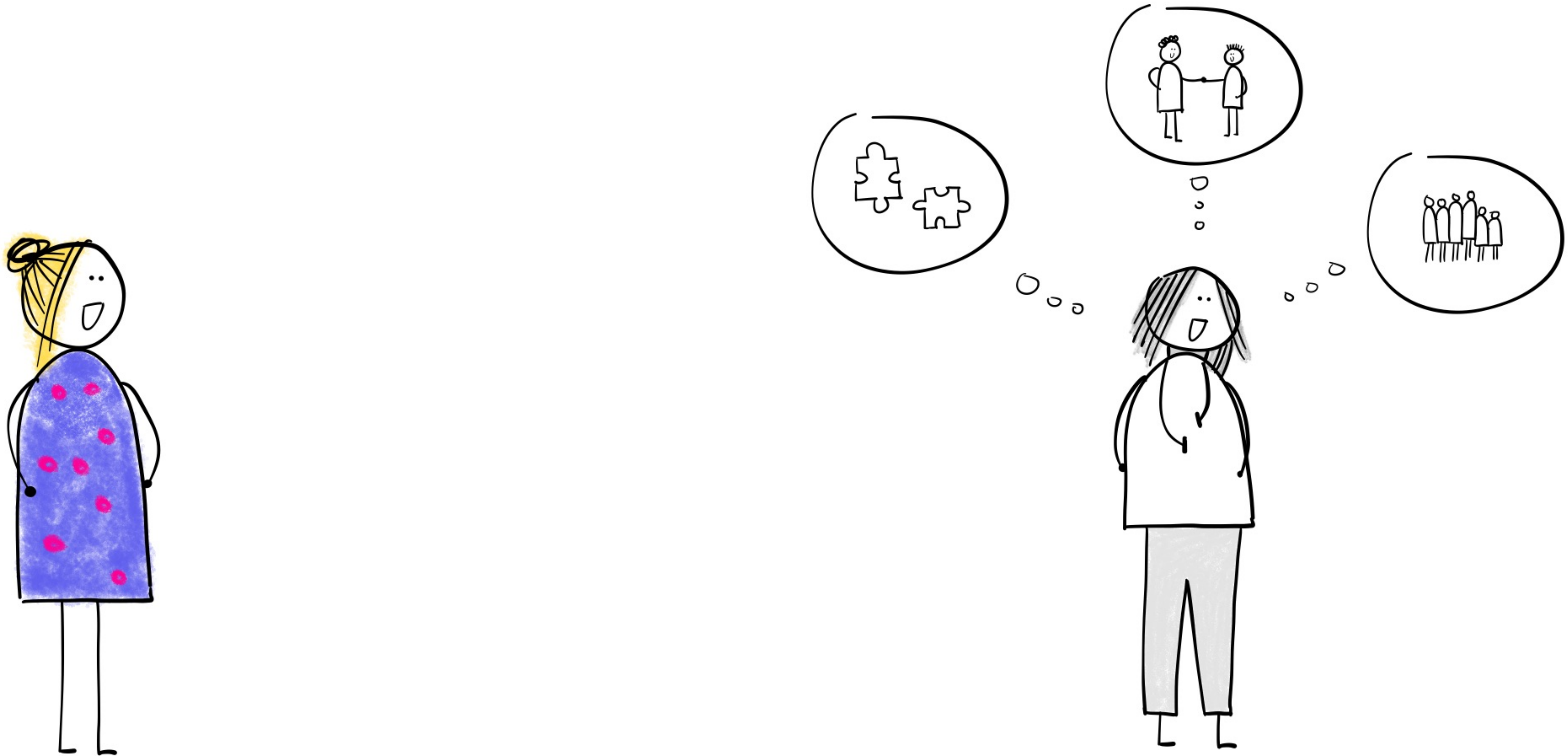


Complexity is the status symbol
if...
else...
while true

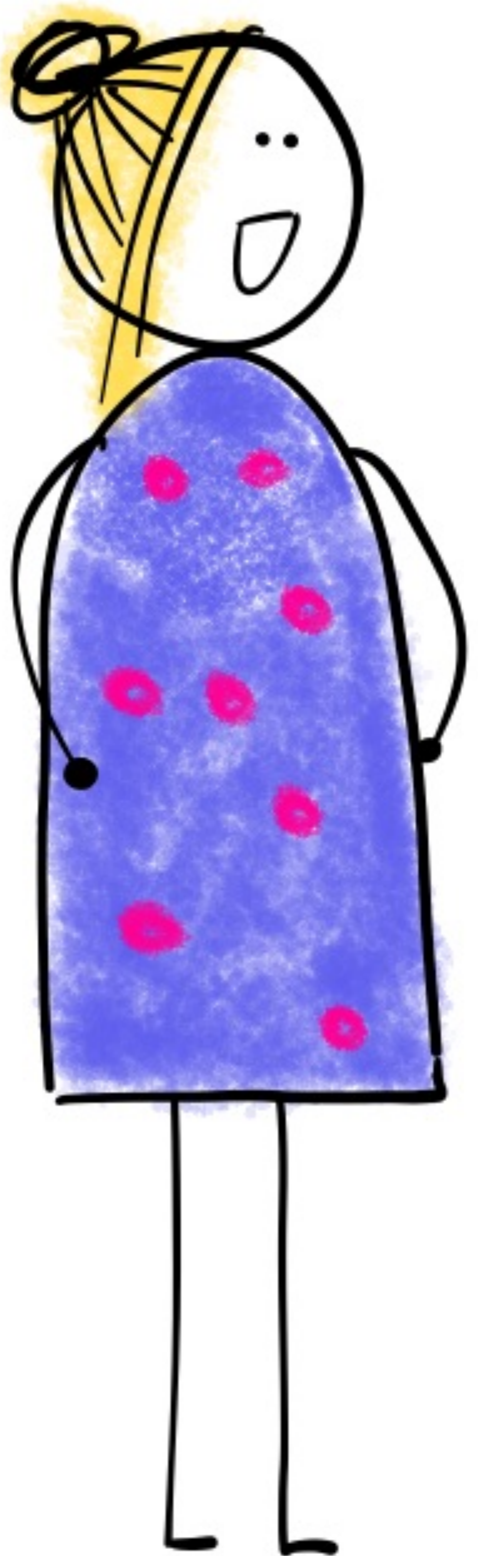


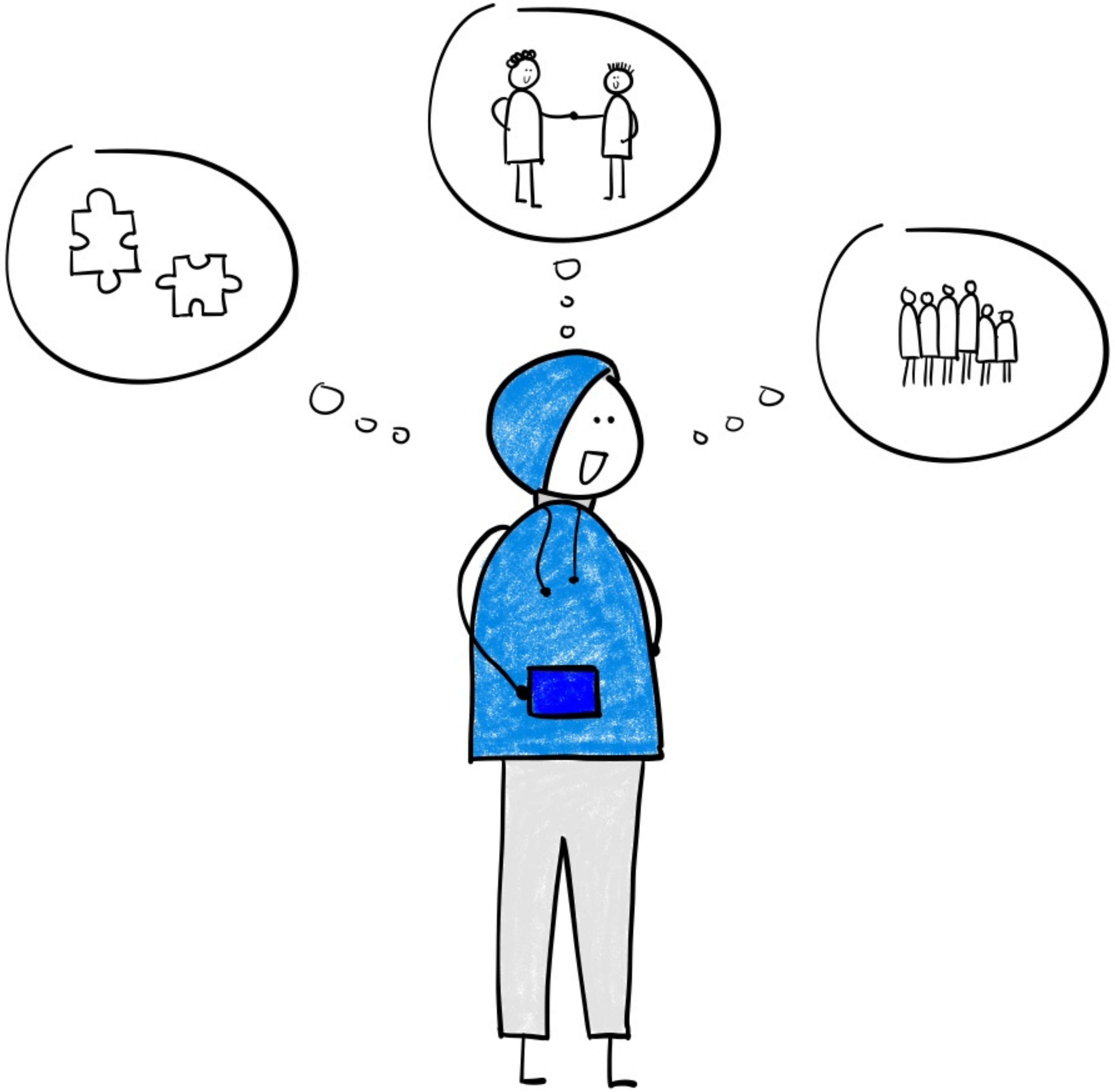




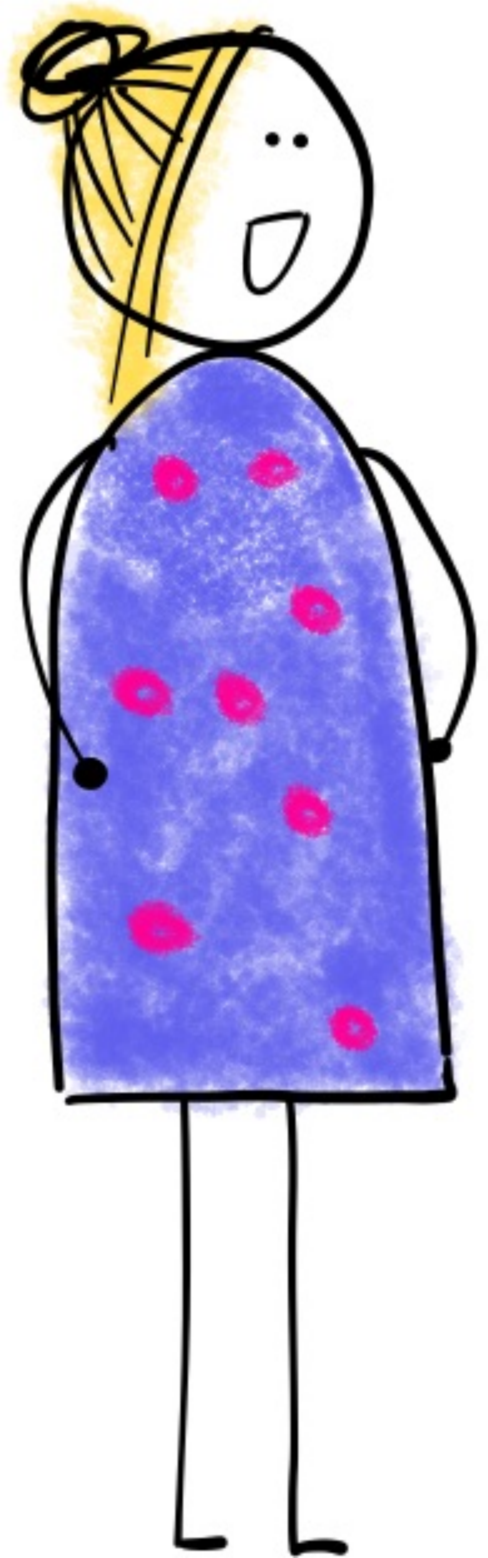


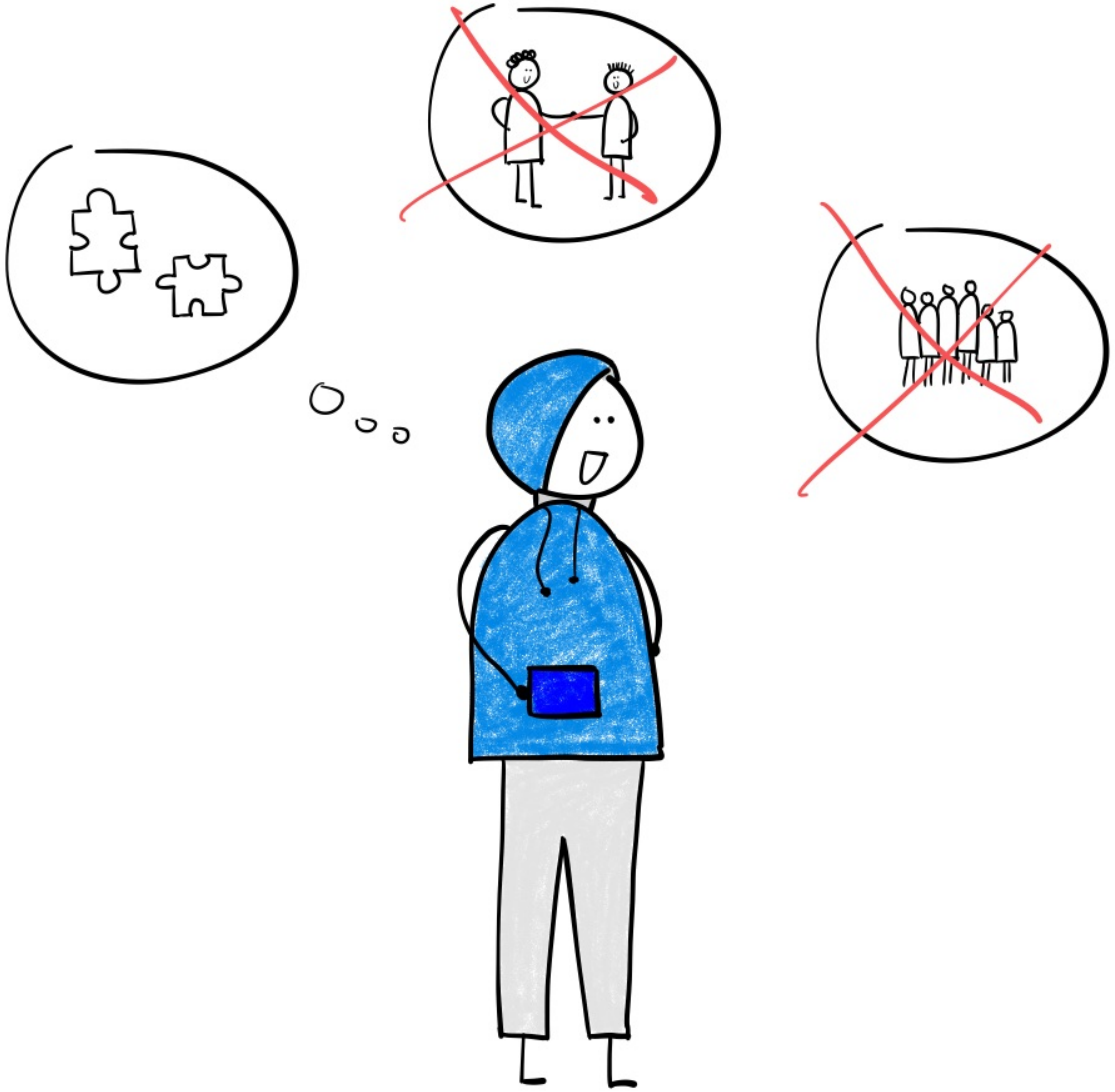
Complexity is the status symbol

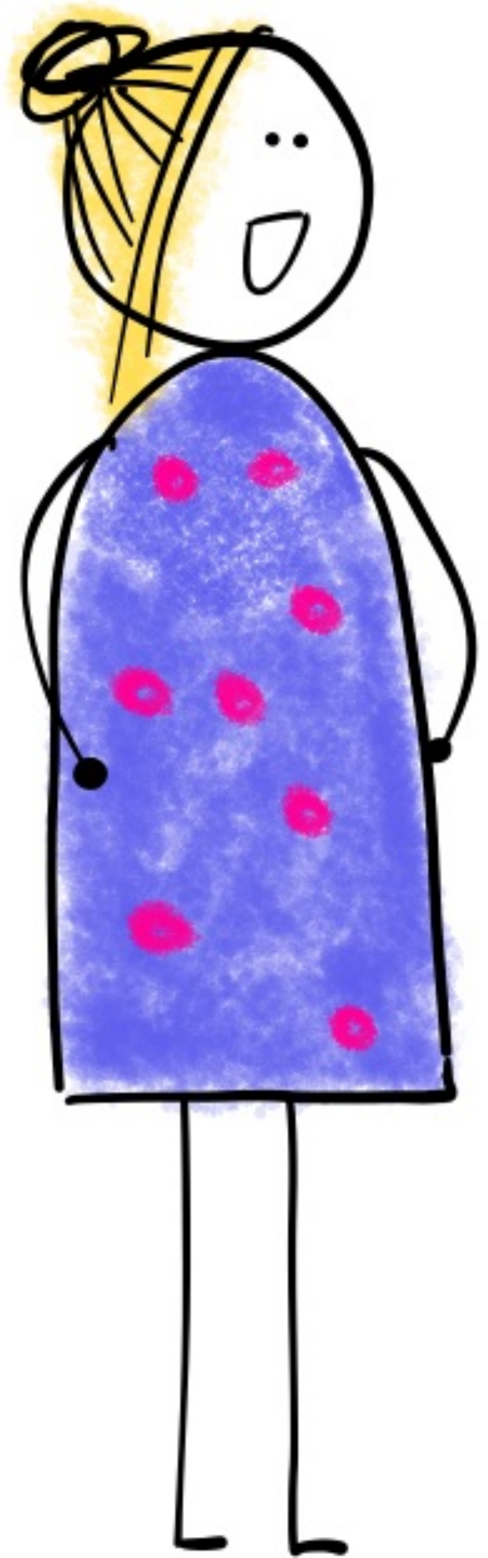


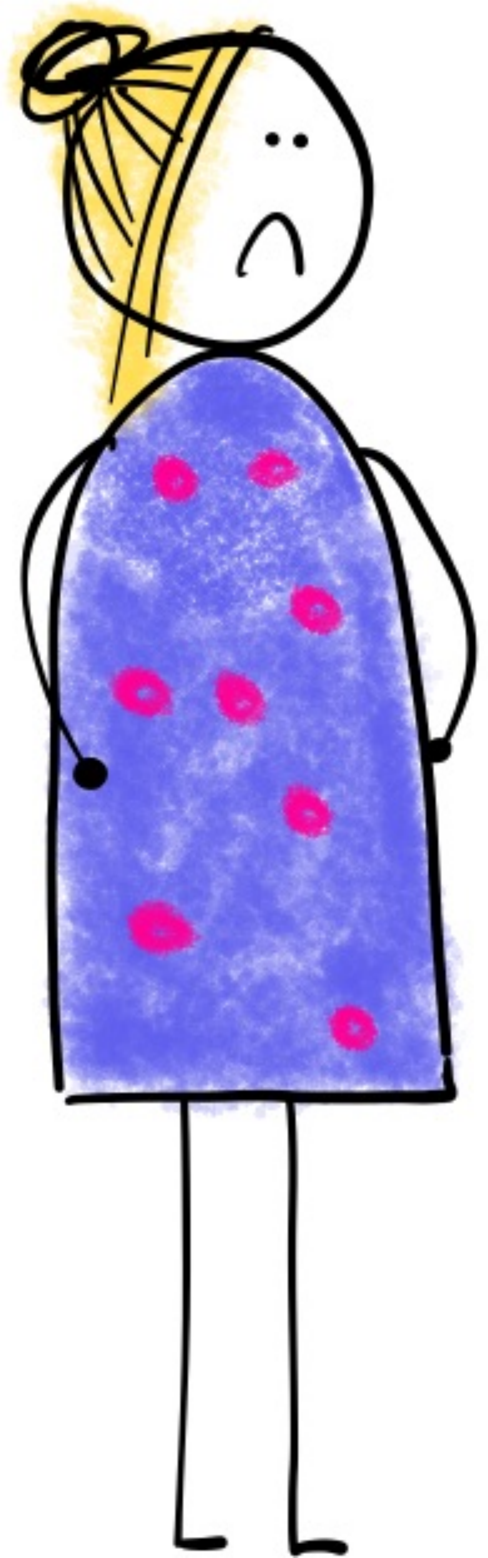


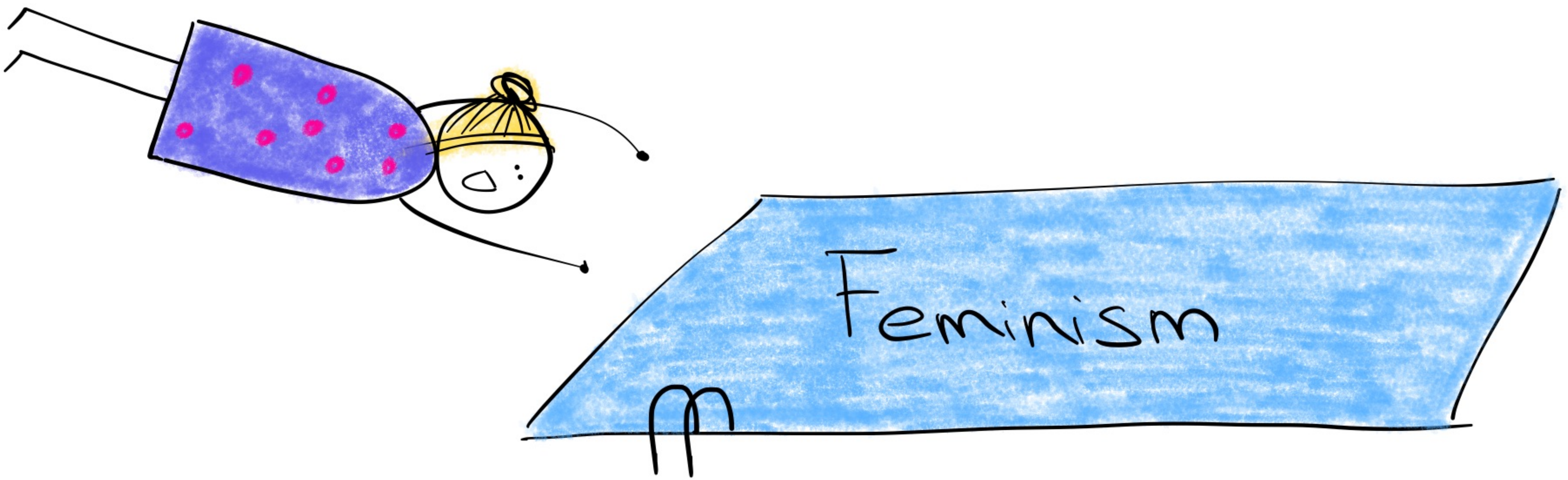
Complexity is the status symbol

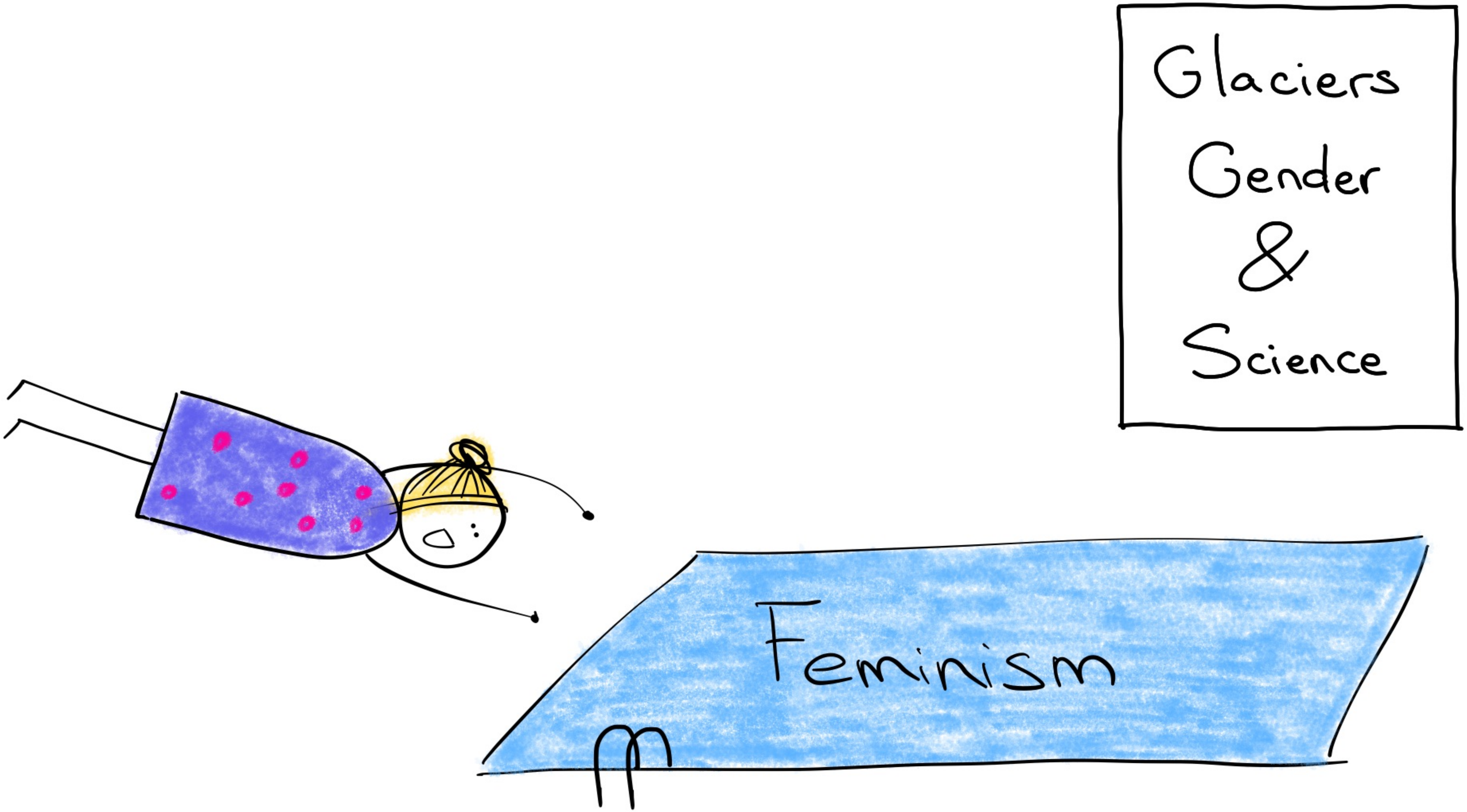


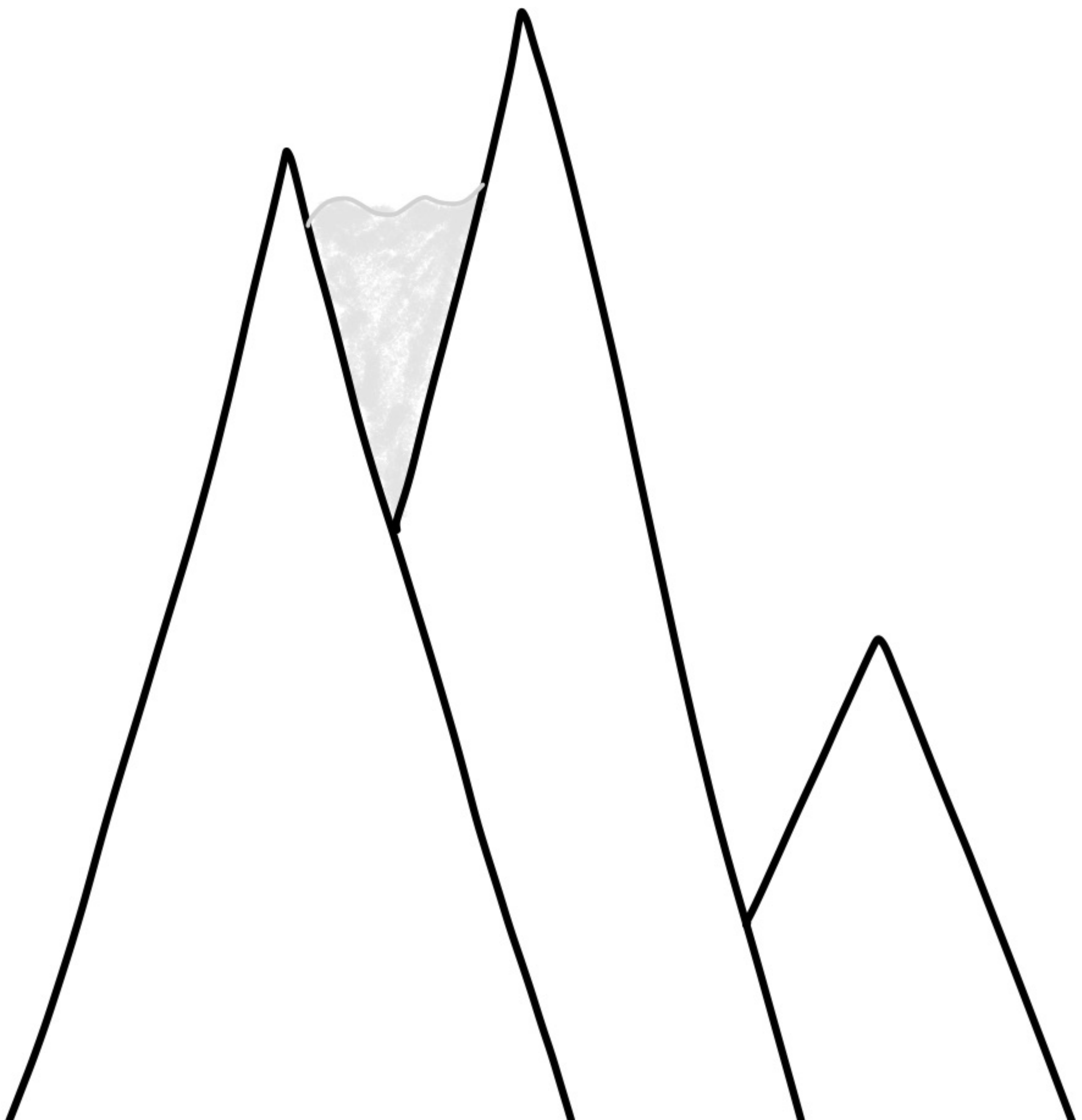




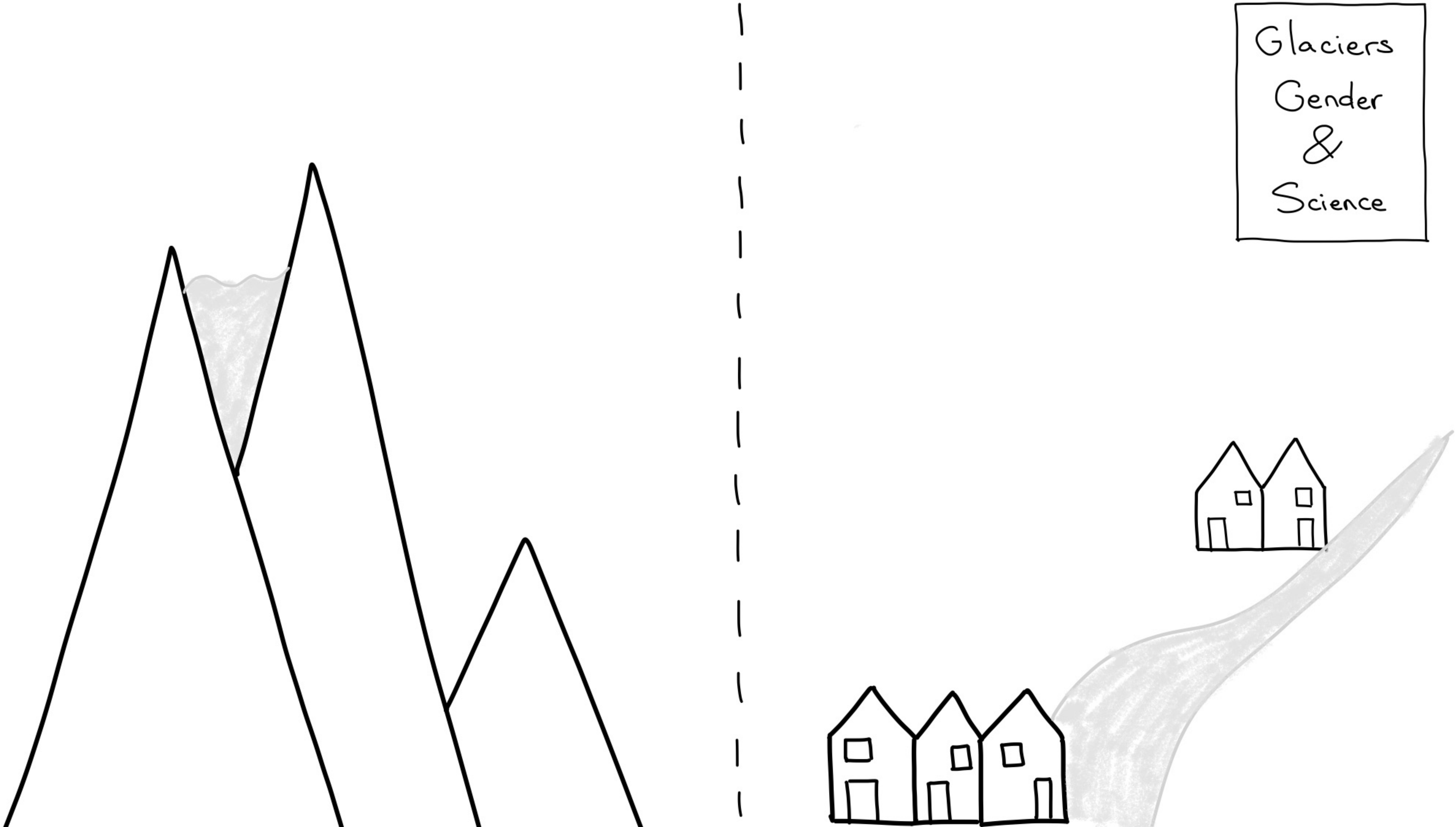



Feminism

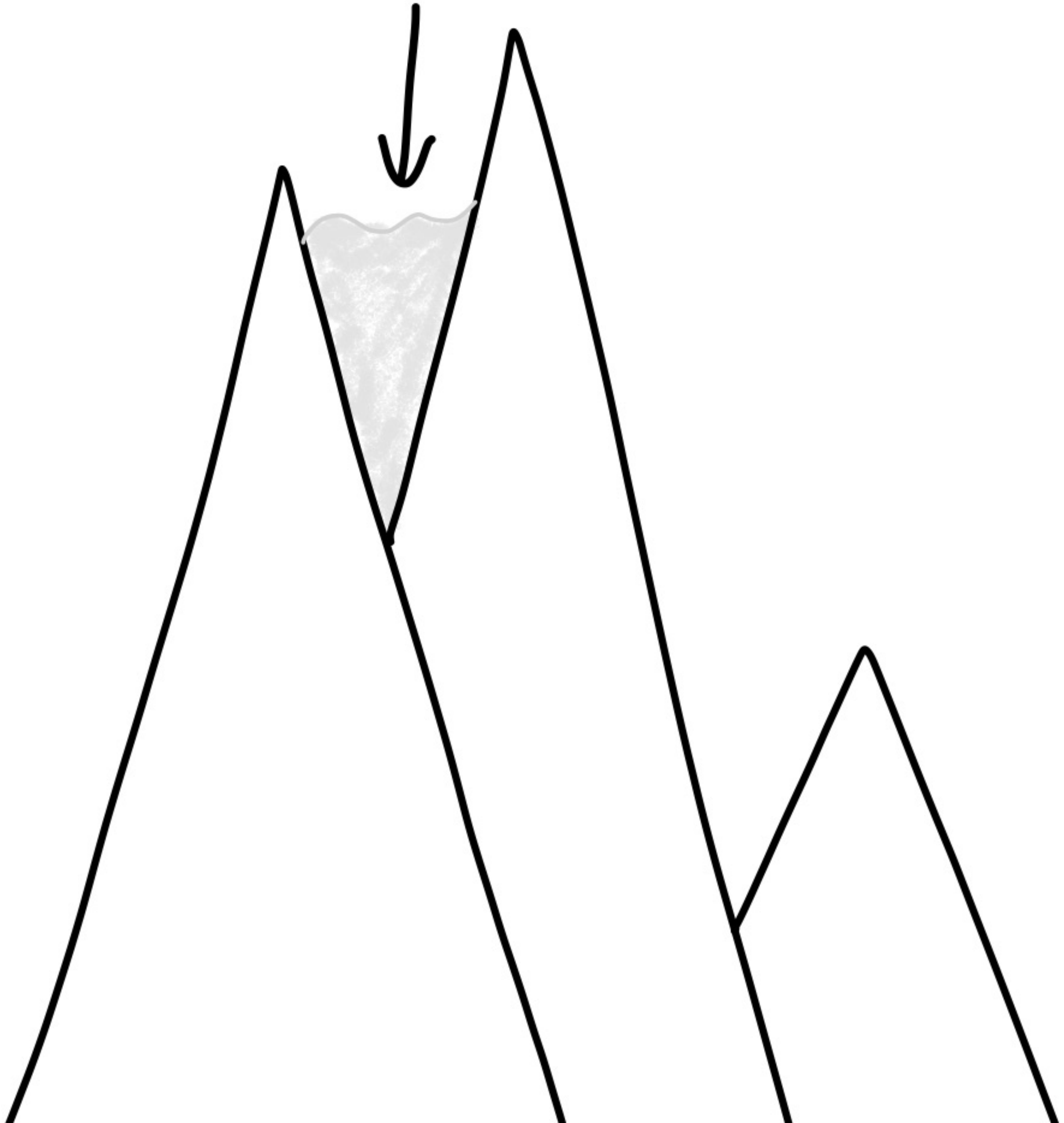

Glaciers
Gender
&
Science
Feminism

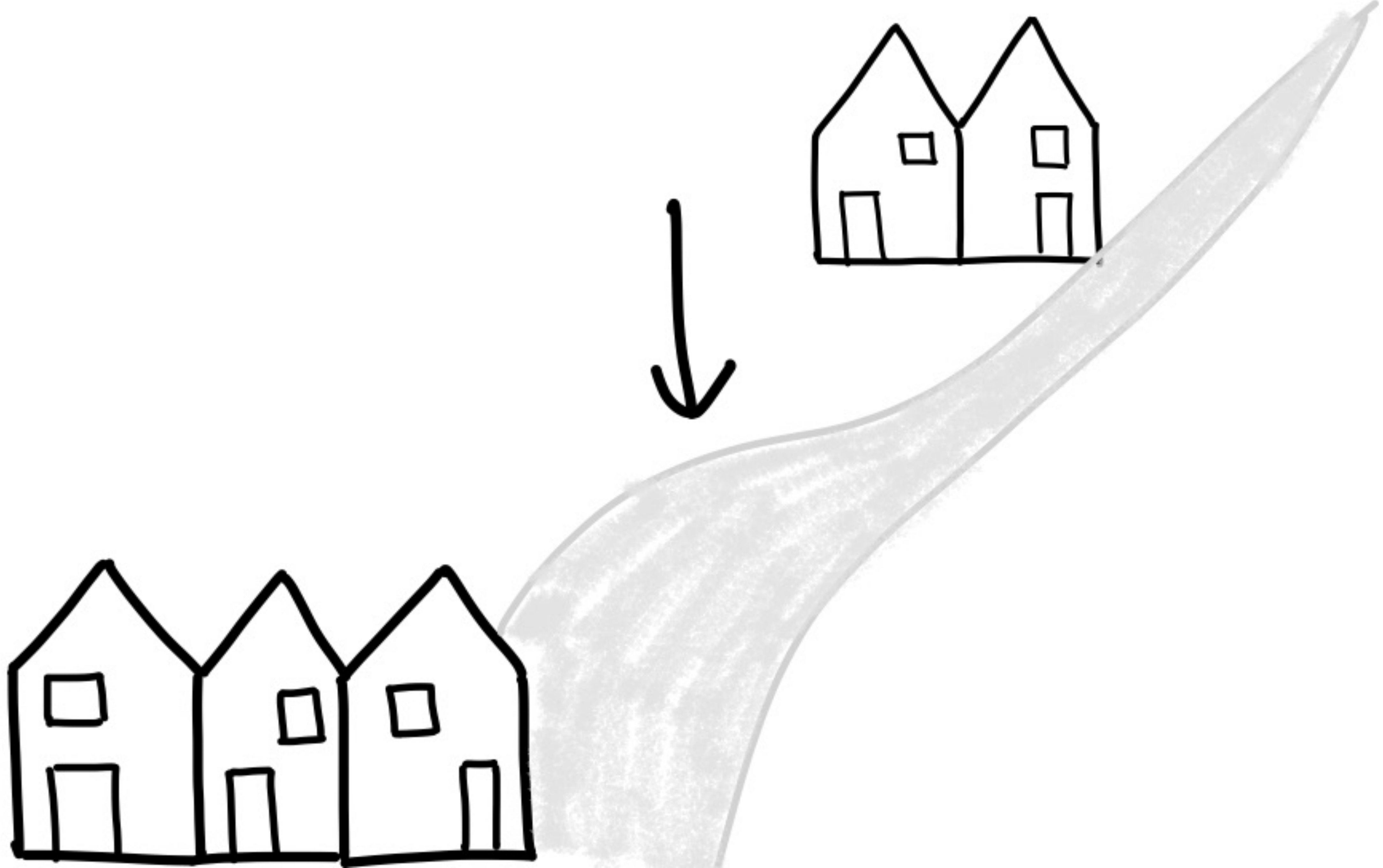


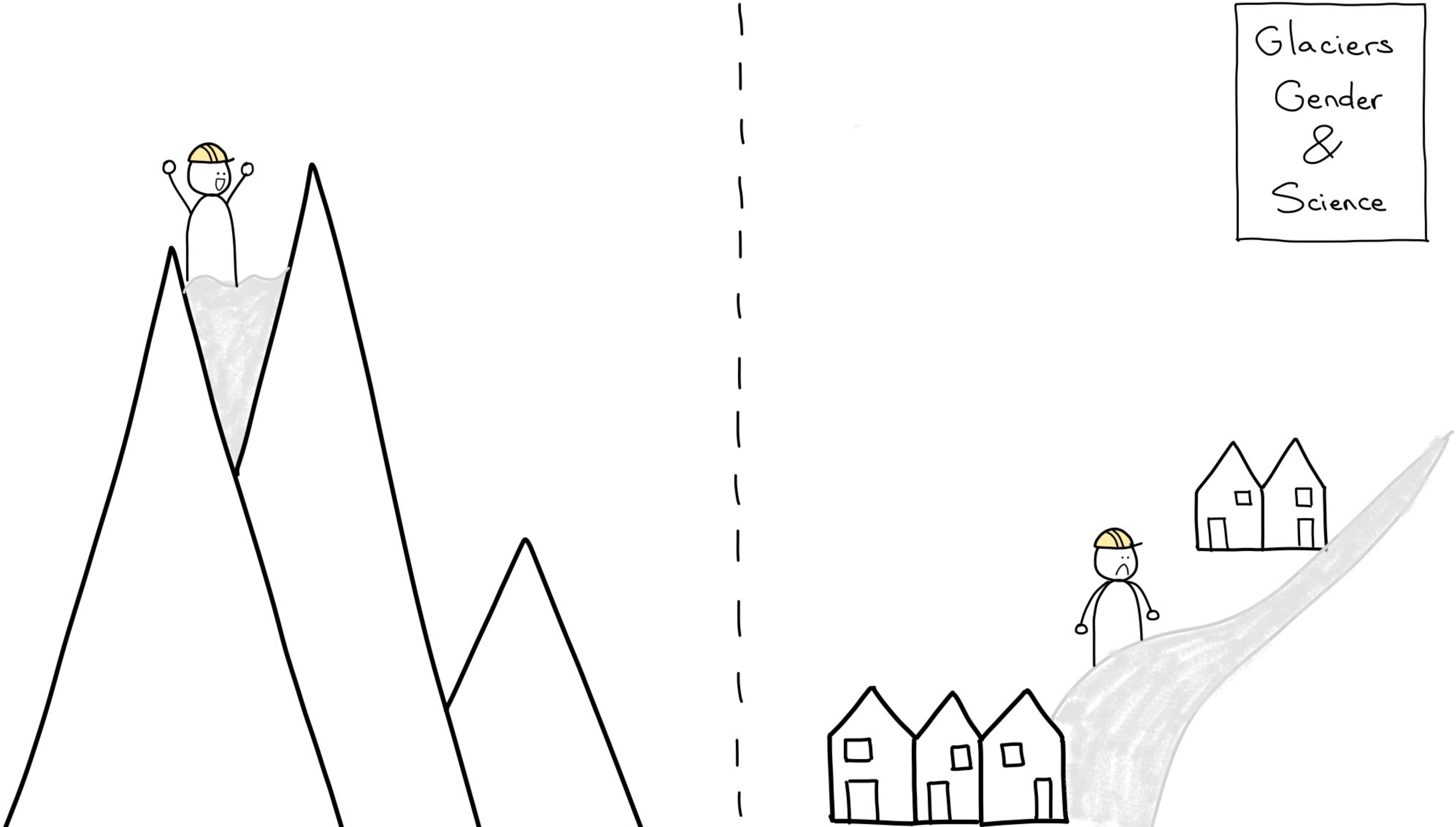
Glaciers
Gender
&
Science

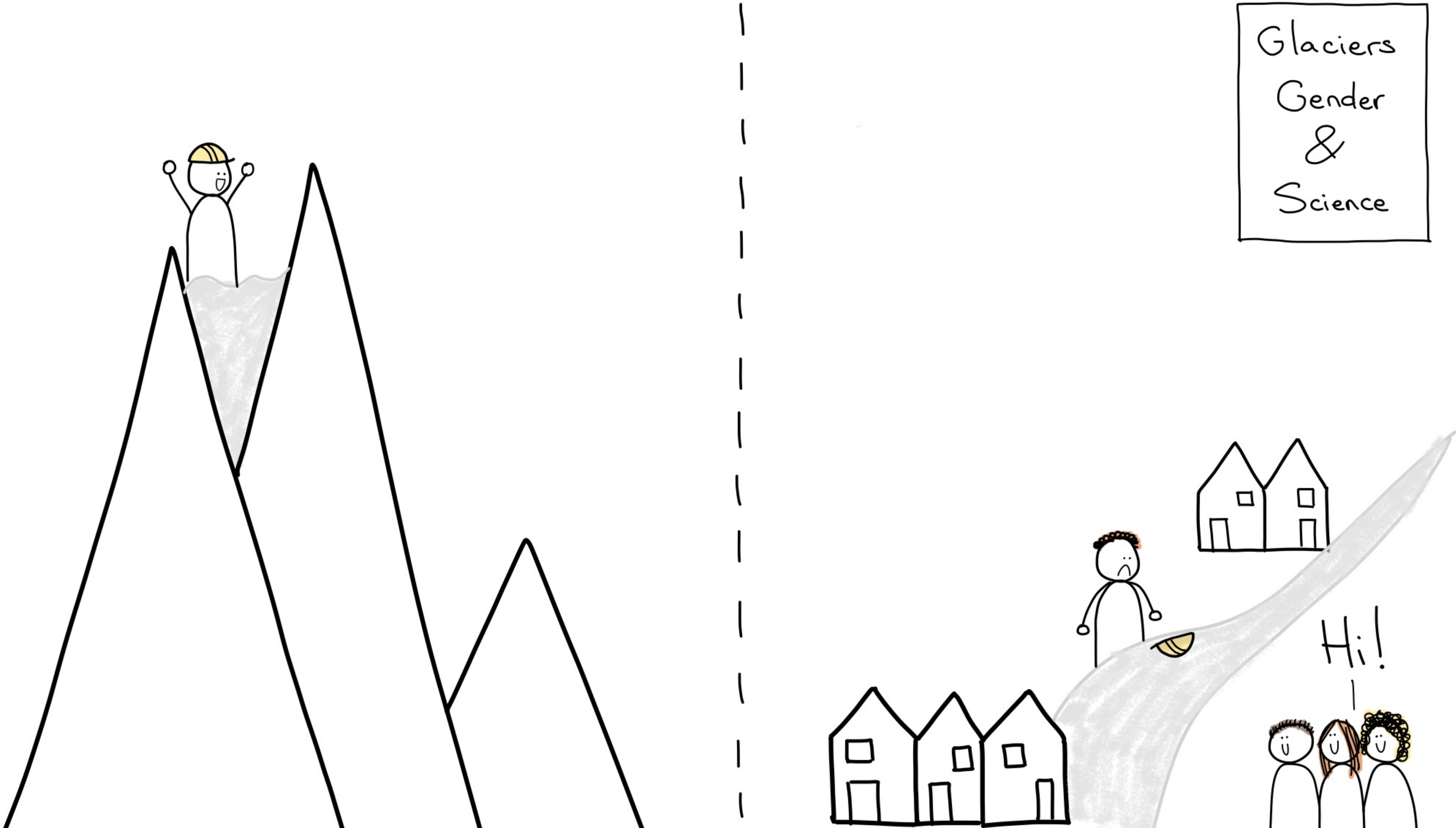

Glaciers
Gender
&
Science

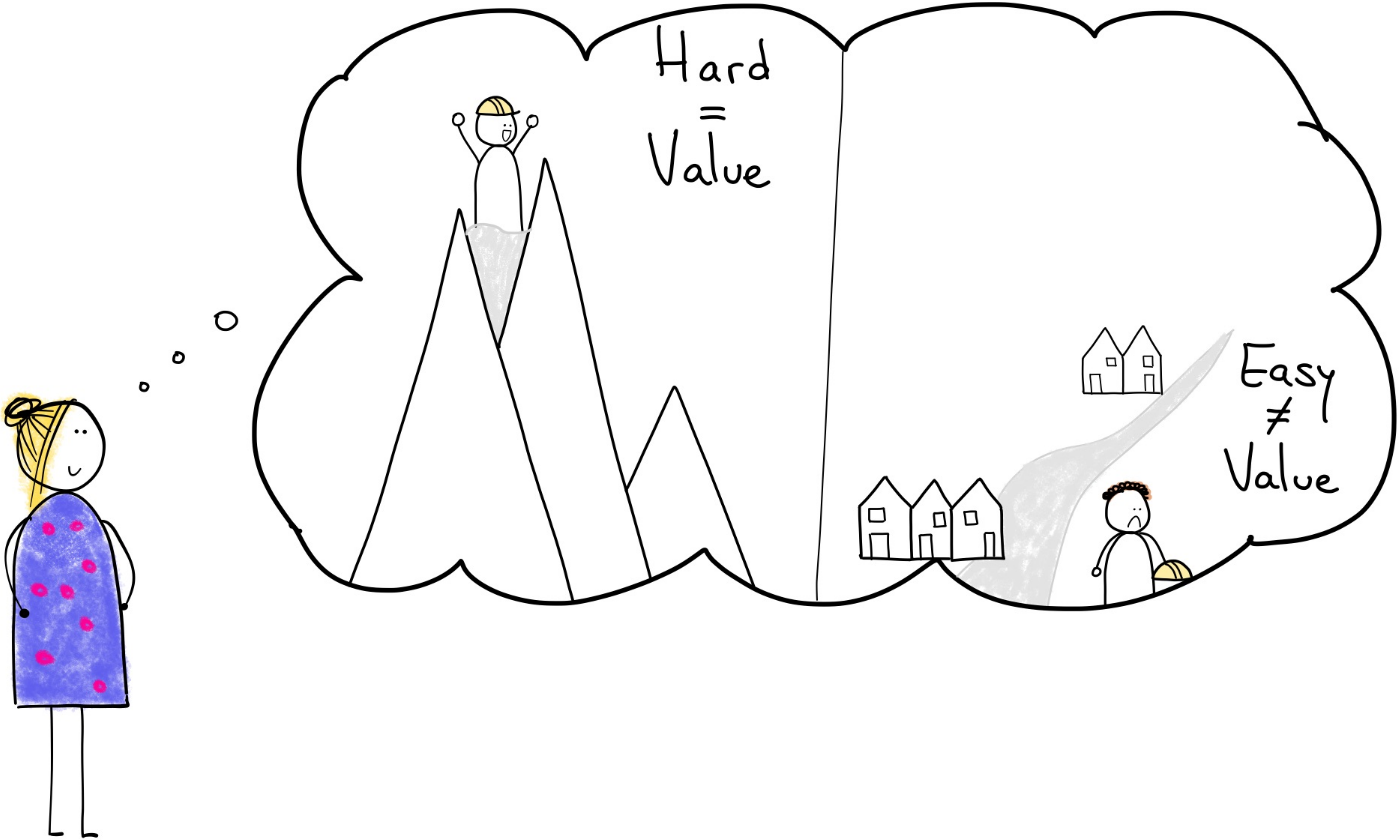
Glaciers
Gender
&
Science



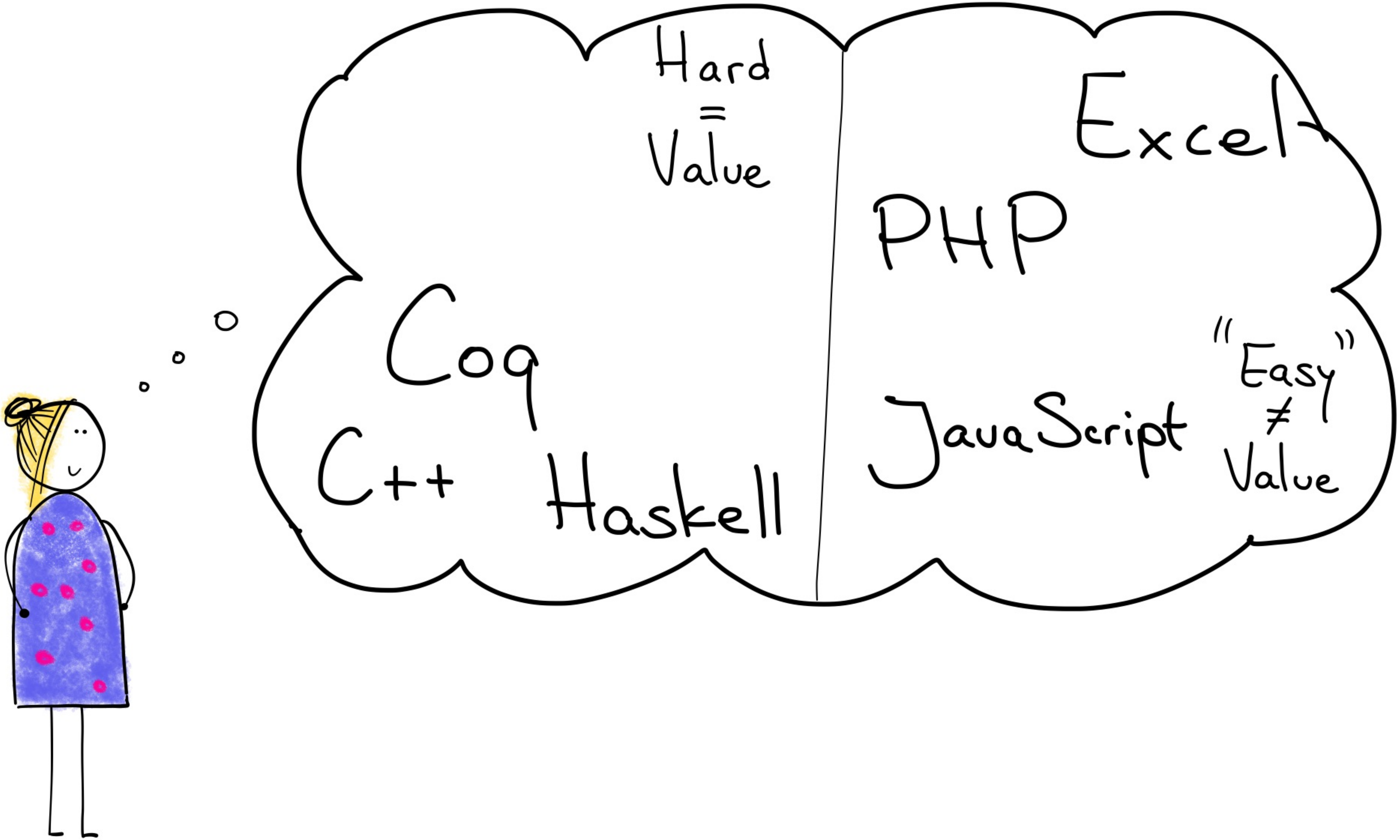



Glaciers
Gender
&
Science

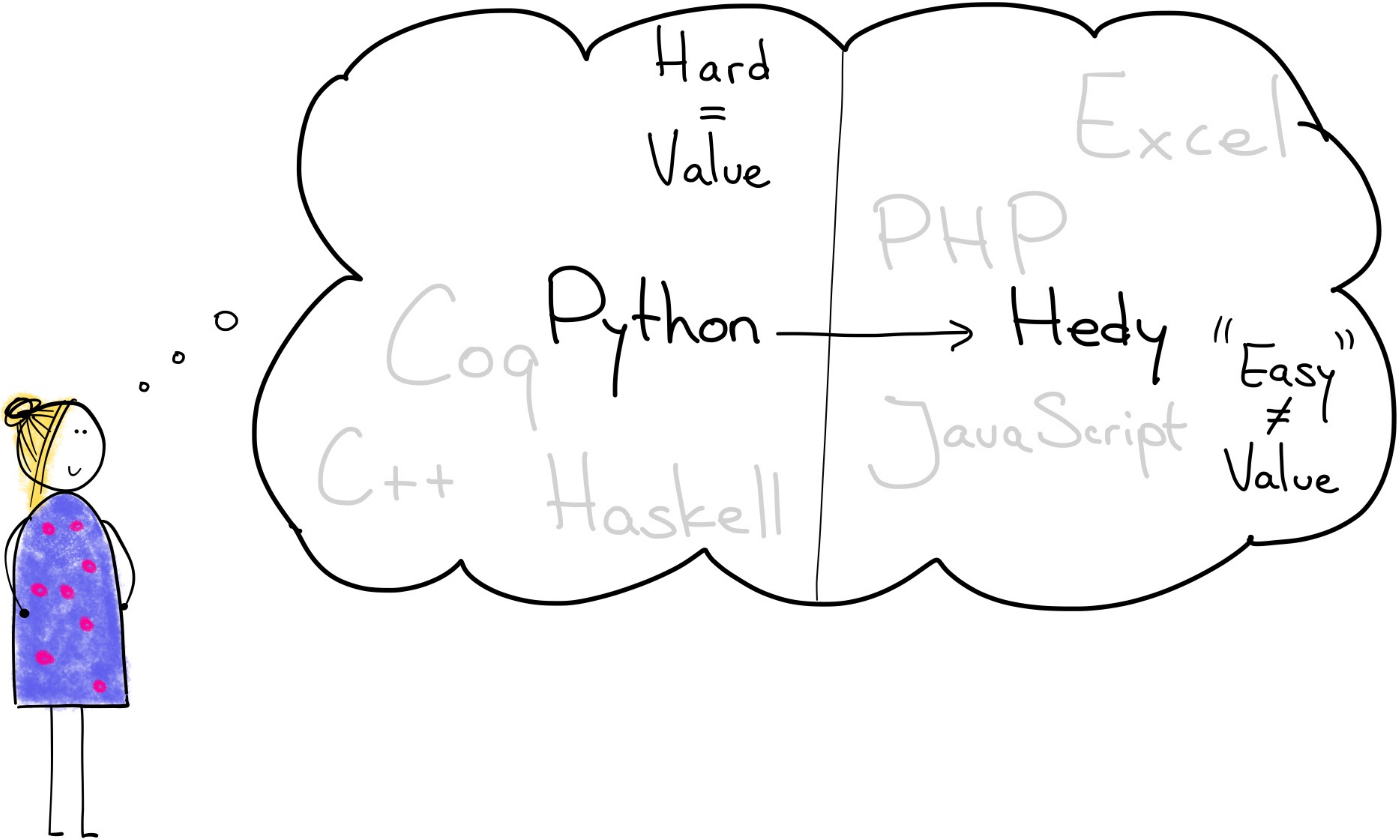

Glaciers
Gender
&
Science
Hi!



Hard
=
Value
Easy
≠
Value



Hard
=
Value
Coq
C++
Haskell
Excel
PHP
JavaScript
"Easy"
≠
Value


Hard
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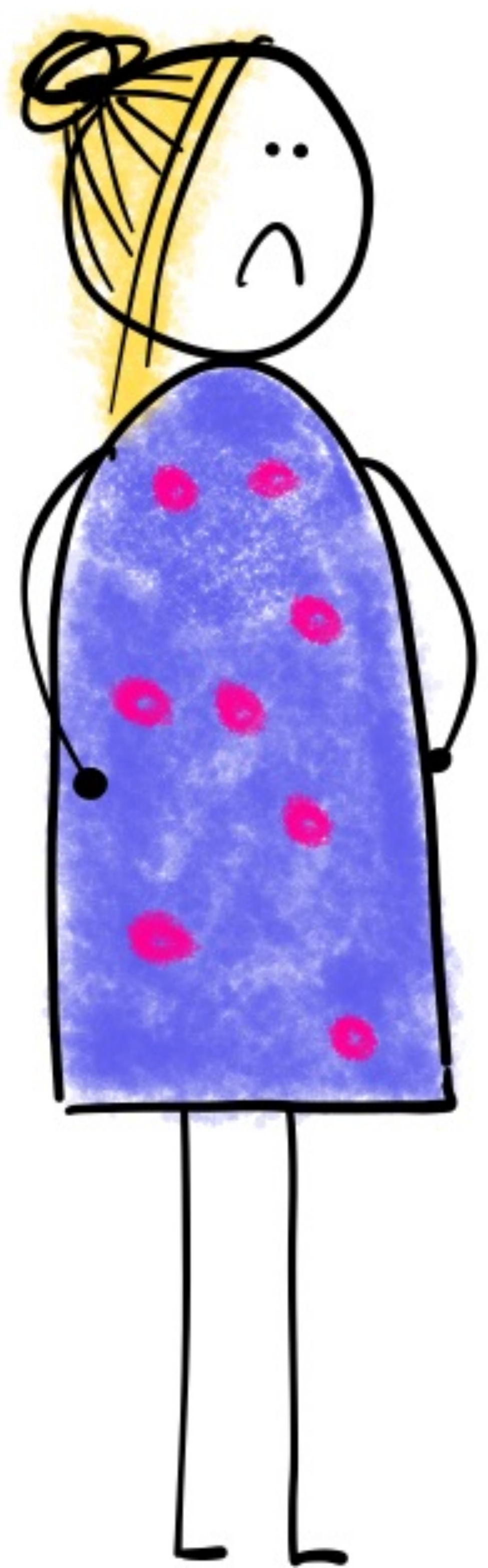
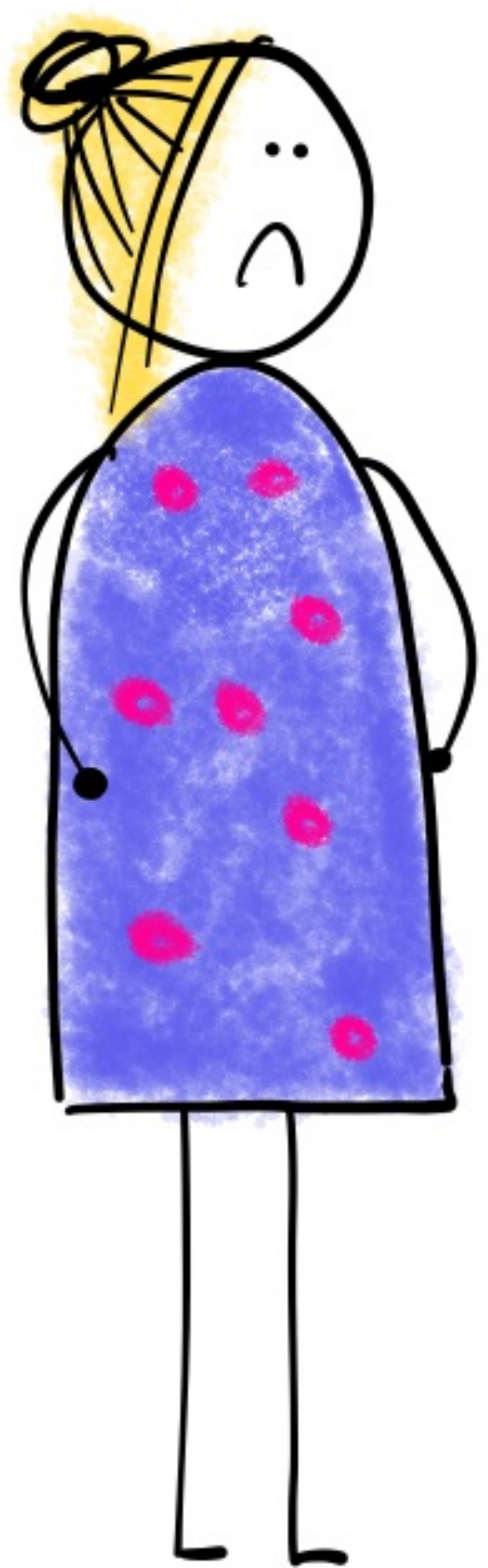
Value
C++
Haskell
JavaScript

Science is not neutral





Computer Science Curricula 2023

Version Beta

March 2023

The Joint Task Force on Computing Curricula

Association for Computing Machinery

(ACM)

IEEE-Computer Society

(IEEE-CS)

Association for Advancement of Artificial Intelligence

(AAAI)

Knowledge Areas of CS2023:

- Algorithmic Foundations (AL)
- Architecture and Organization (AR)
- Artificial Intelligence (AI)
- Data Management (DM)
- Foundations of Programming Languages (FPL)
- Graphics and Interactive Techniques (GIT)
- Human-Computer Interaction (HCI)
- Mathematical and Statistical Foundations (MSF)
- Networking and Communication (NC)
- Operating Systems (OS)
- Parallel and Distributed Computing (PDC)
- Security (SEC)
- Society, Ethics, and the Profession (SEP)
- Software Development Fundamentals (SDF)
- Software Engineering (SE)
- Specialized Platform Development (SPD)
- Systems Fundamentals (SF)

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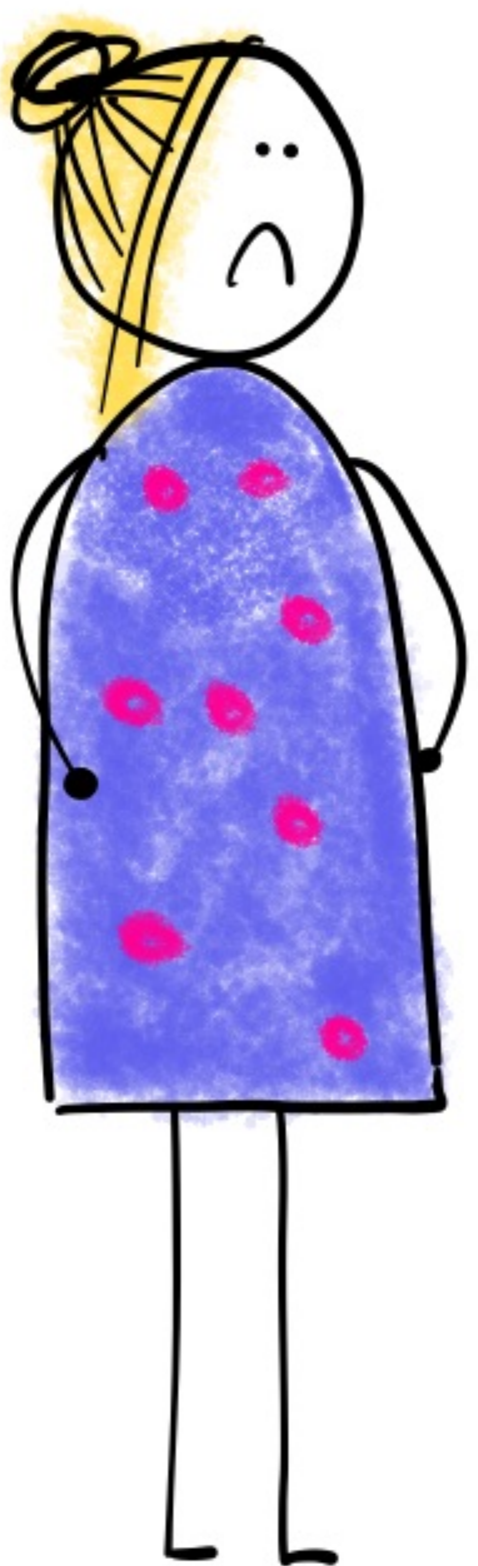
No research methods?

No philosophy of science?



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I. Have demonstrated knowledge and understanding in a field of study that builds upon their general secondary education, and is typically at a level that, whilst supported by advanced textbooks, includes some aspects that will be informed by knowledge of the forefront of their field of study	**1.Theories and models**	Describe the fundamental concepts, laws, models and theories of classical physics and elements of modern physics, as well as their application across a number of real-life situations.
II. Can apply their knowledge and understanding in a manner that indicates a professional approach to their work or vocation, and have competences typically demonstrated through devising and sustaining arguments and solving problems within their field of study	**2. Mathematical methods**	Name and describe standard mathematical (analytical and numerical) tools and methods and their application in the context of physics theories.
	3. Experimental design and scientific investigation	Describe standard methods, instrumentation, techniques, theories and regulations used in experimental physics.
	4. Problem solving	Link physics concepts and laws with basic strategies, procedures, tools and criteria for framing, representing, solving and validating the results of a problem.
III. Have the ability to gather and interpret relevant data (usually within their field of study) to inform judgements that include reflection on relevant social, scientific or ethical issues	**5. Scientific culture**	Describe the main traits of the historical and epistemological development of physics and relate them to changes and/or issues in technology, society, and the rules of the scientific community.
	6. Work ethic and integrity	State general ethical principles, norms, values, and standards relevant to the work of a physicist, as well as some examples when physics influences health, environment, politics and/or society.
IV. Can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences	**7. Communication**	Describe different methods and tools of communication.
	8. Project Management and Teamwork	Describe strategies for project work and demonstrate attitude to work collaboratively.
V. Have developed those learning skills that are necessary for them to continue to undertake further study with a high degree of autonomy	**9. Professional development**	Identify relevant competences needed for pursuing further studies (career goals), as well as personal strengths, weaknesses and attitudes.

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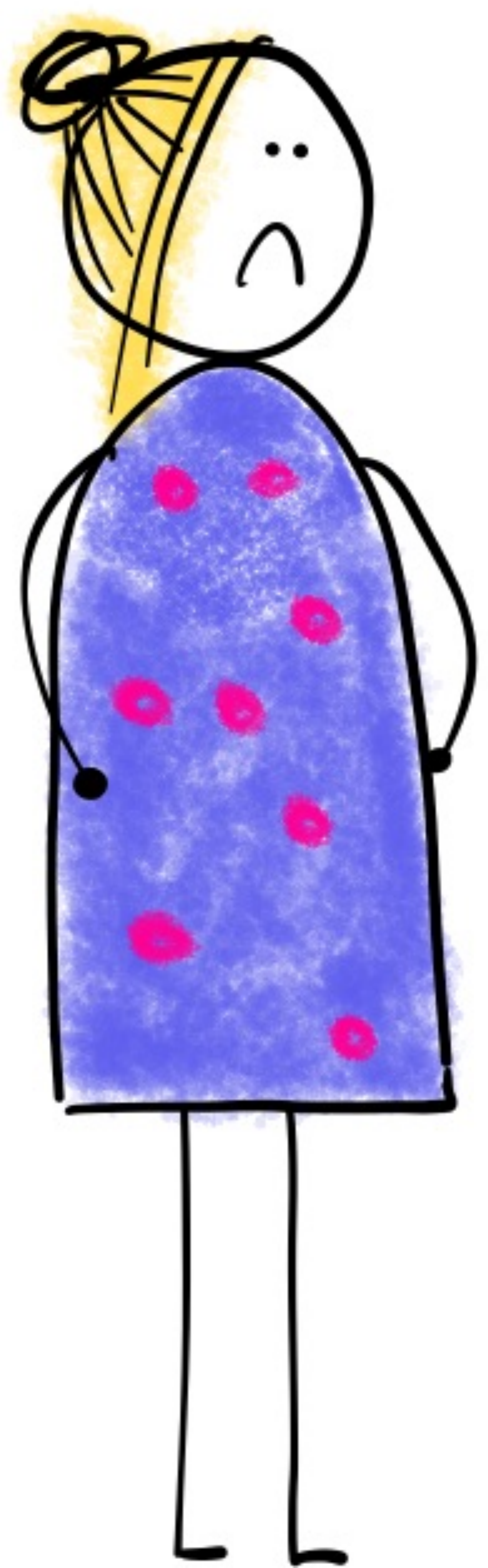
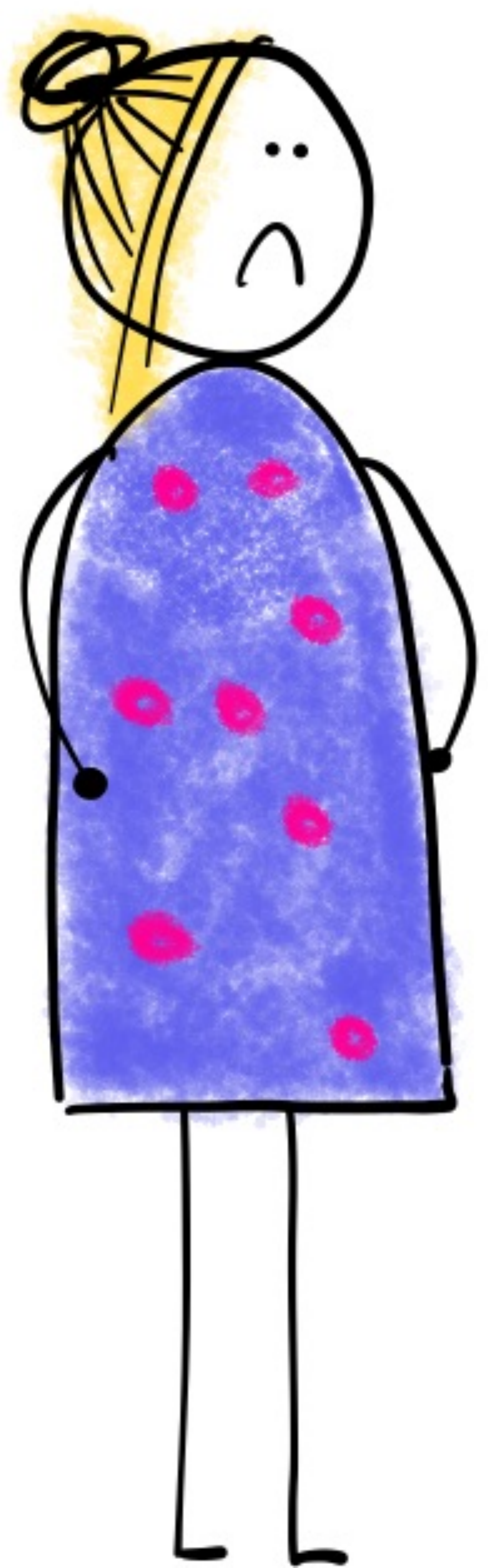
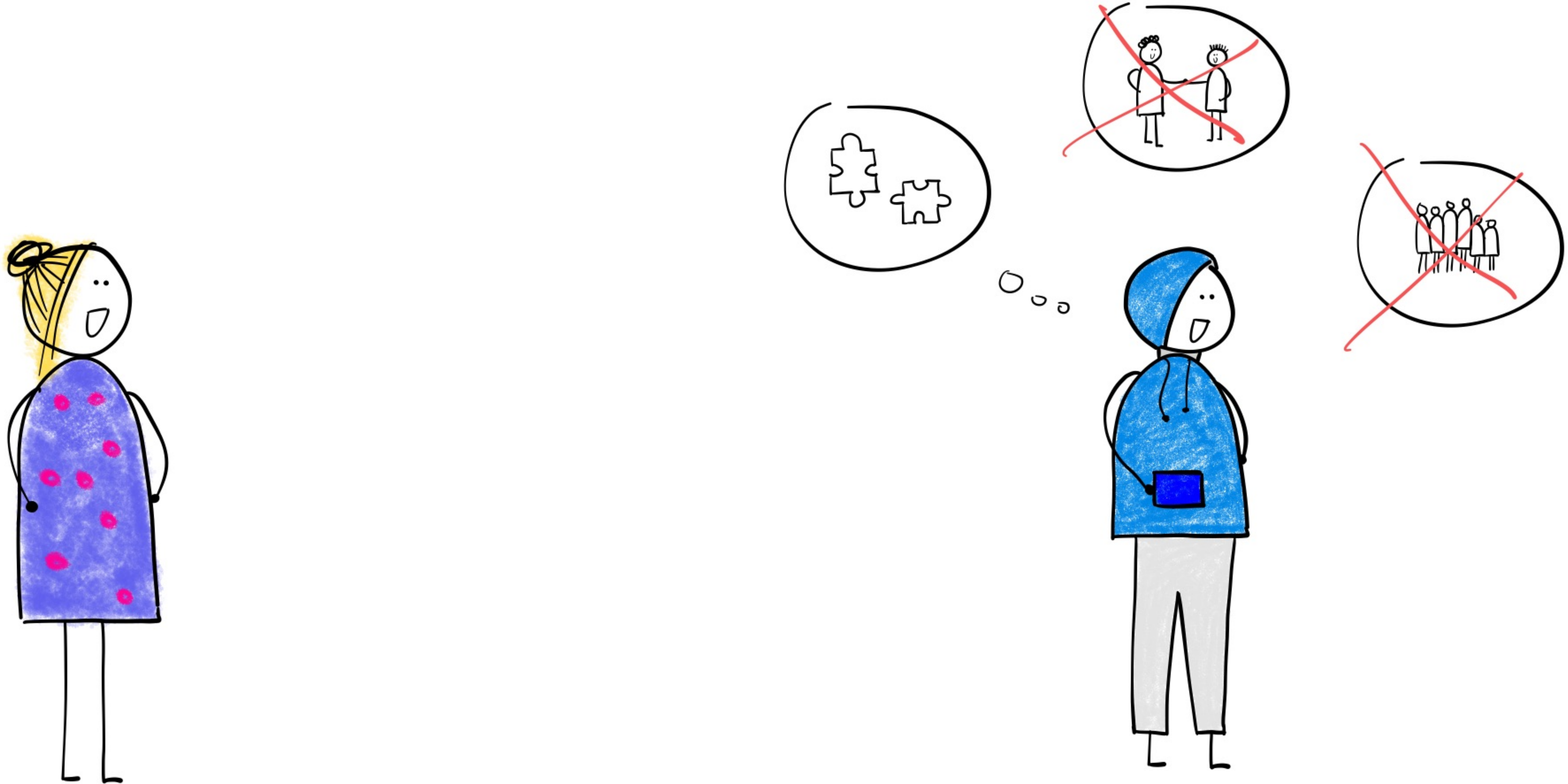
Science is not neutral



Science is not neutral

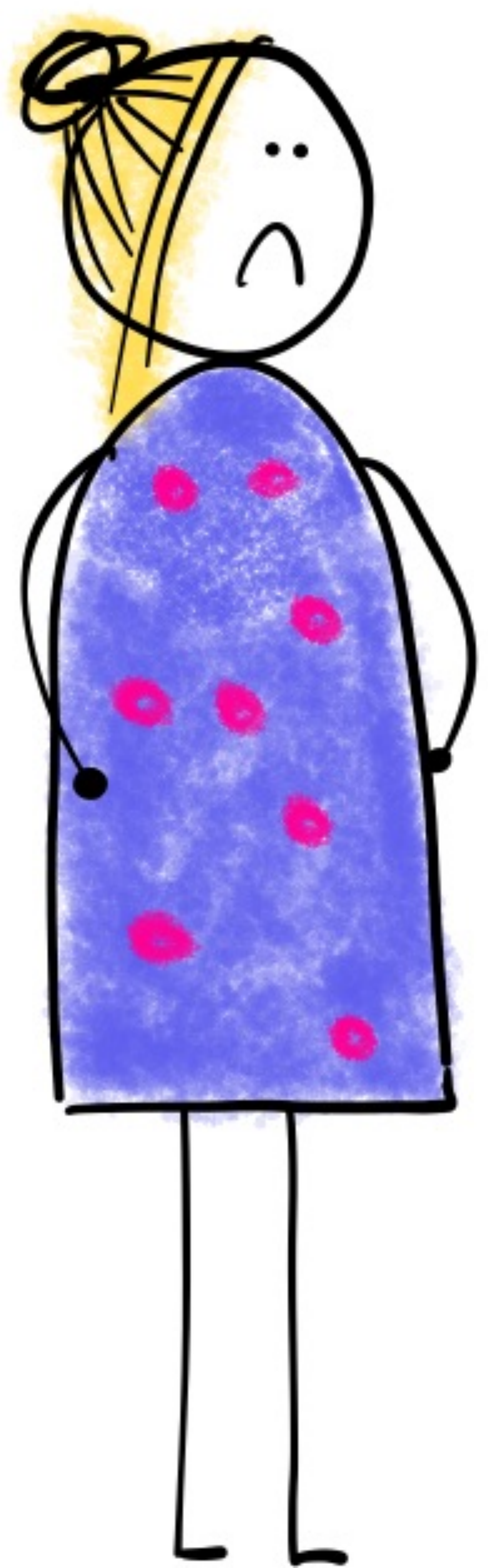


Amateur epistemologist



Science is not neutral

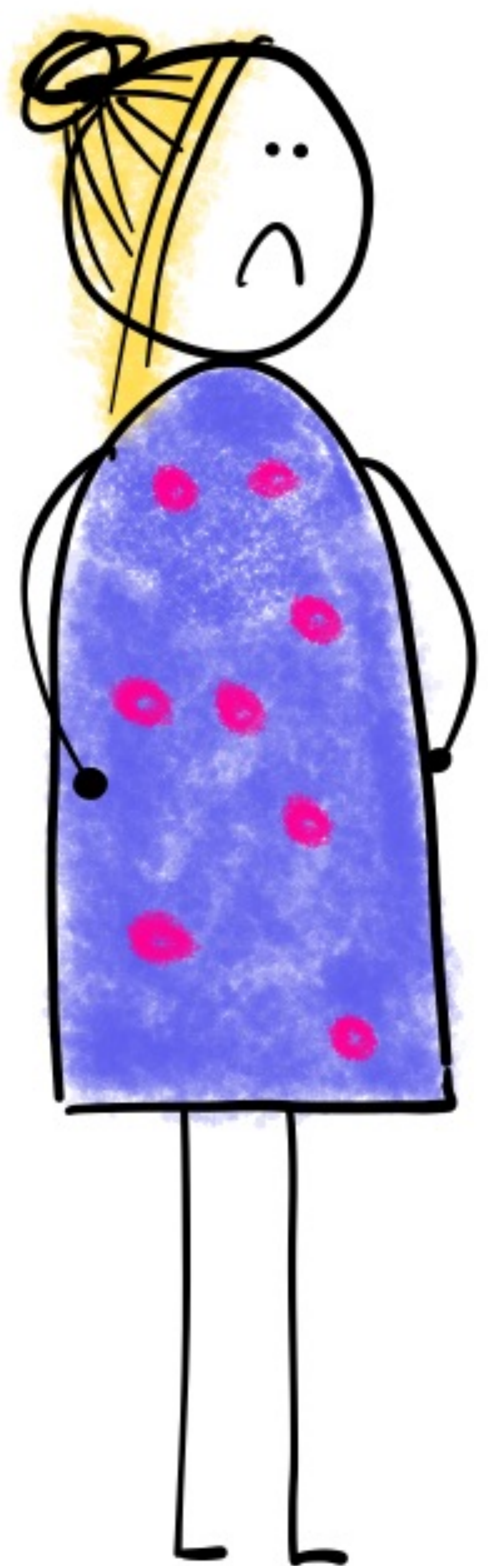
Amateur epistemologist

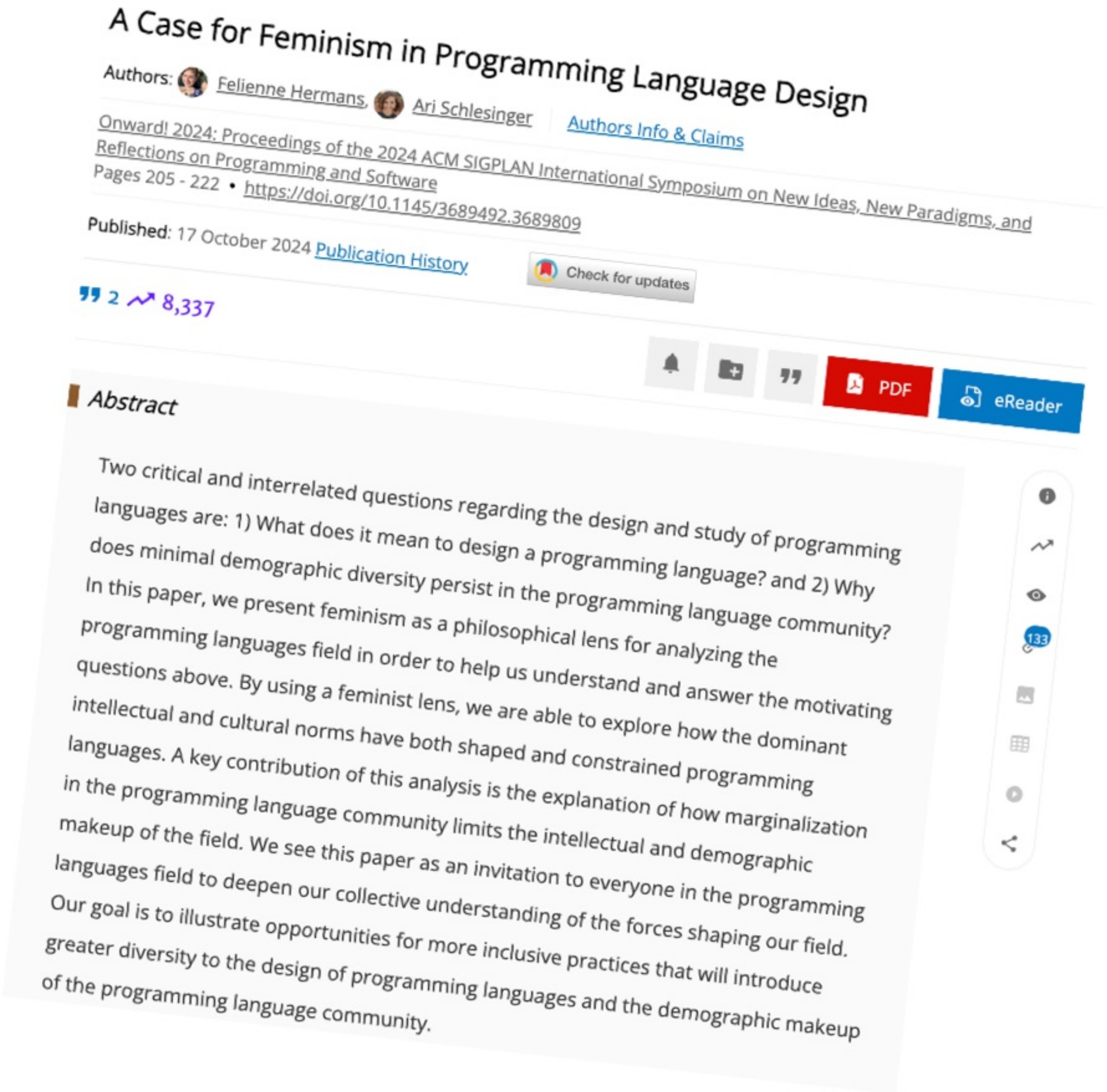


Science is not neutral

~~Amateur~~

Professional





A Case for Feminism in Programming Language Design

Authors: Felienne Hermans, Ari Schlesinger Authors Info & Claims

Onward! 2024: Proceedings of the 2024 ACM SIGPLAN International Symposium on New Ideas, New Paradigms, and Reflections on Programming and Software
Pages 205 - 222 • https://doi.org/10.1145/3689492.3689809

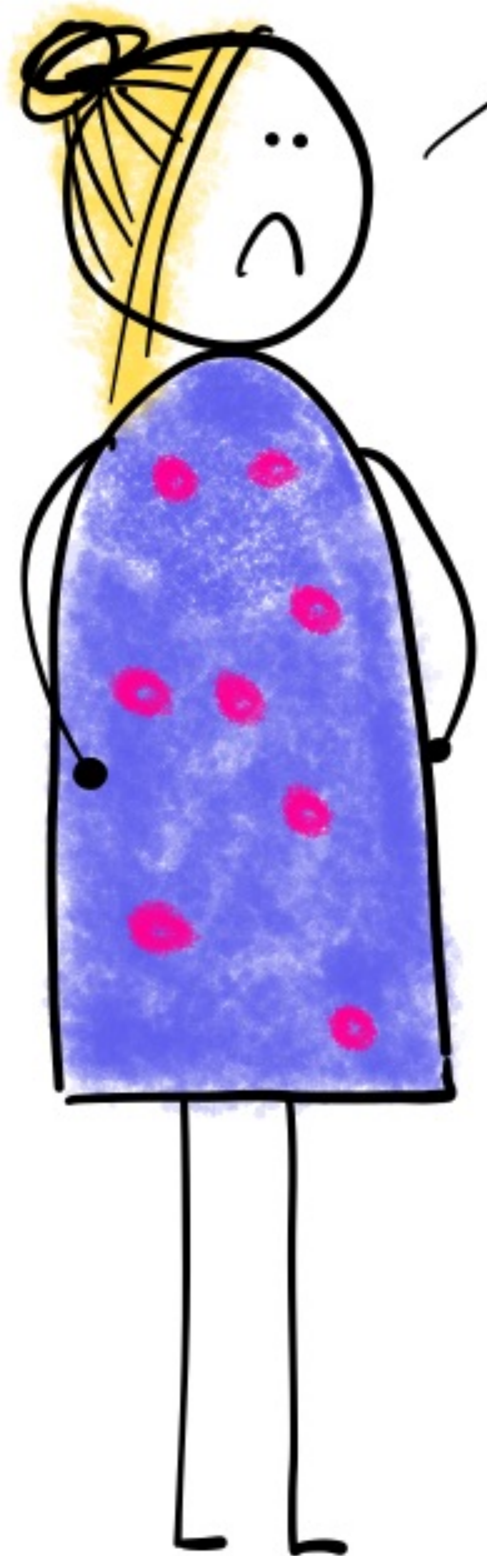
Published: 17 October 2024 Publication History

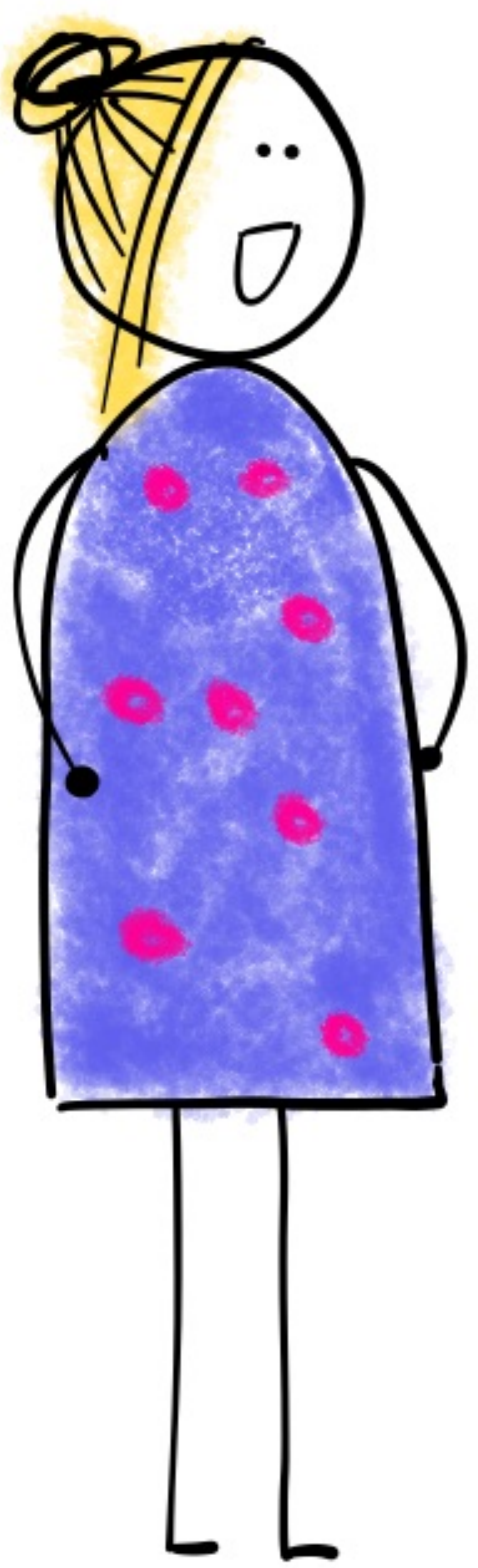
Abstract

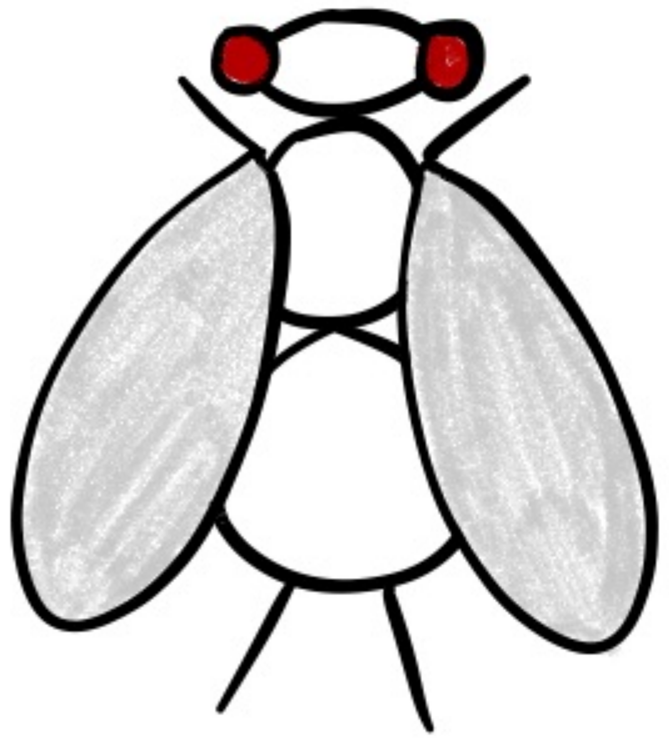
Two critical and interrelated questions regarding the design and study of programming languages are: 1) What does it mean to design a programming language? and 2) Why does minimal demographic diversity persist in the programming language community? In this paper, we present feminism as a philosophical lens for analyzing the programming languages field in order to help us understand and answer the motivating questions above. By using a feminist lens, we are able to explore how the dominant intellectual and cultural norms have both shaped and constrained programming languages. A key contribution of this analysis is the explanation of how marginalization in the programming language community limits the intellectual and demographic makeup of the field. We see this paper as an invitation to everyone in the programming languages field to deepen our collective understanding of the forces shaping our field. Our goal is to illustrate opportunities for more inclusive practices that will introduce greater diversity to the design of programming languages and the demographic makeup of the programming language community.

Science is not neutral

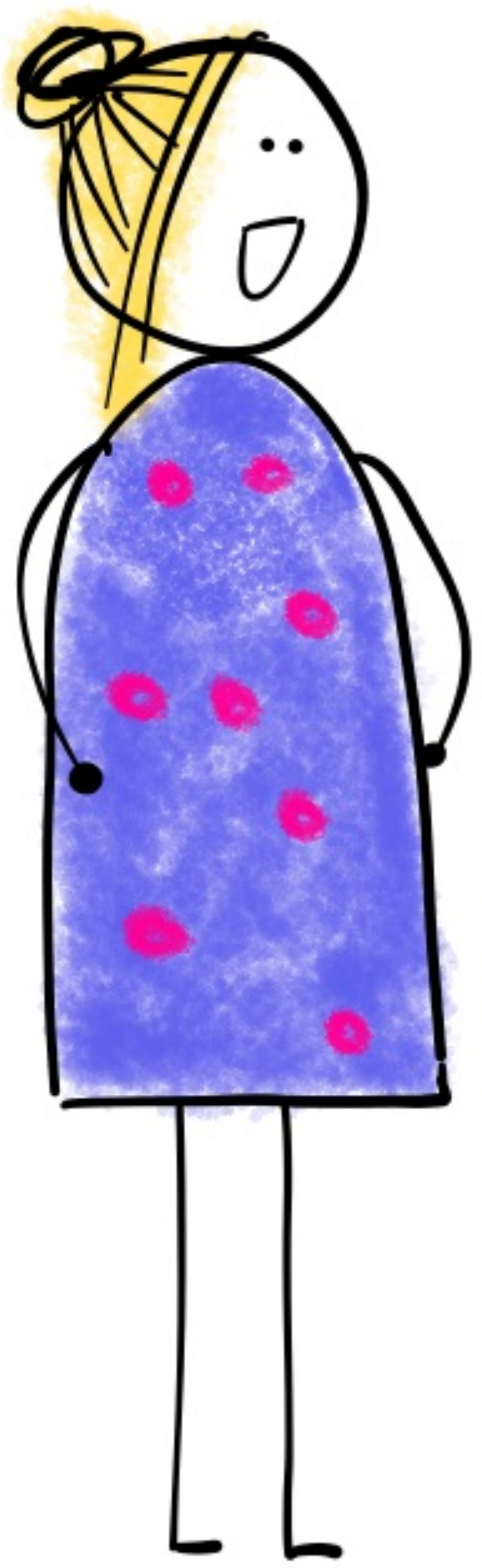
AI hype is the latest example

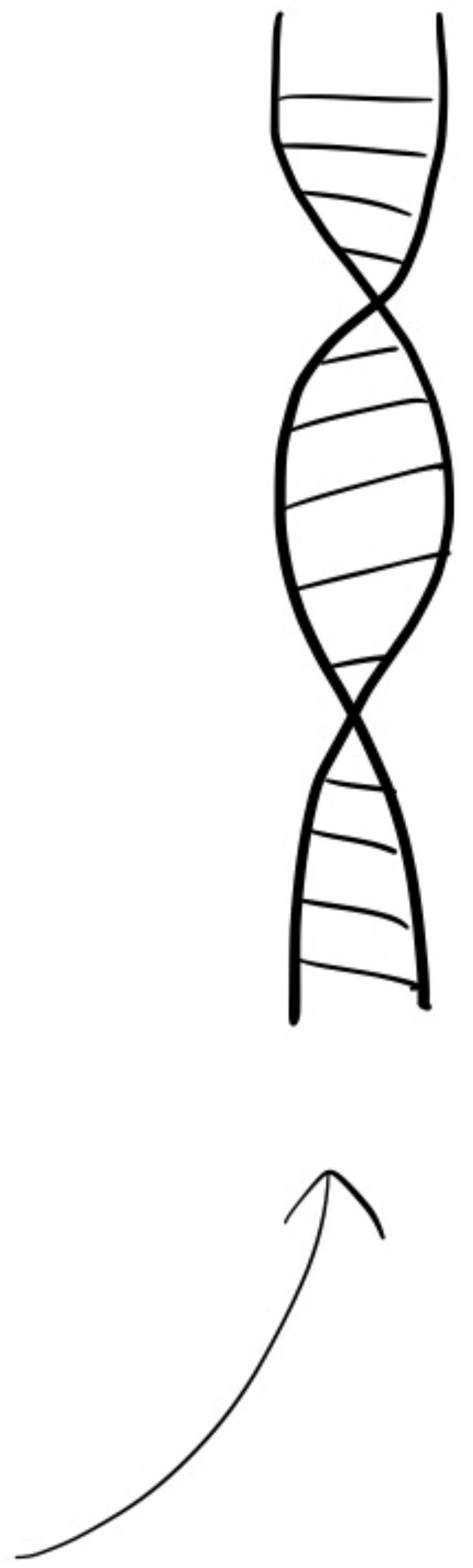


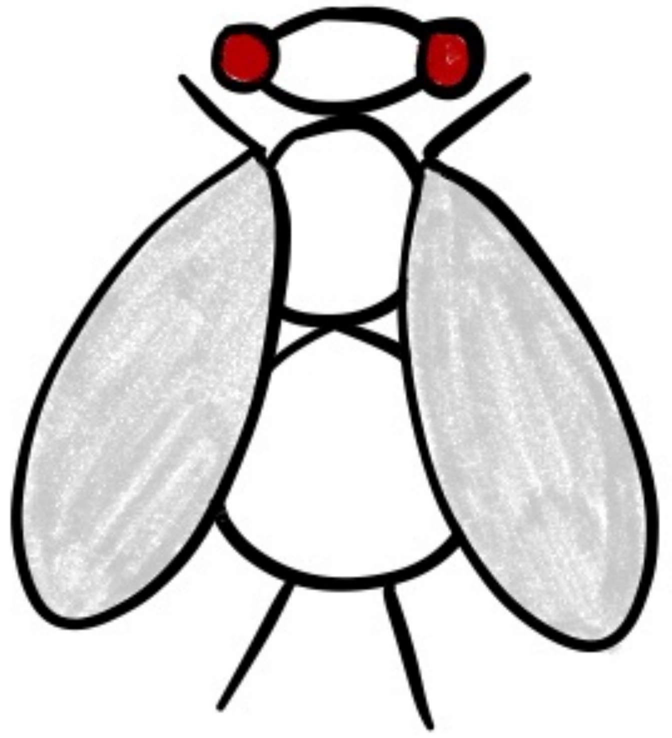




Drosophila (Fruit fly)







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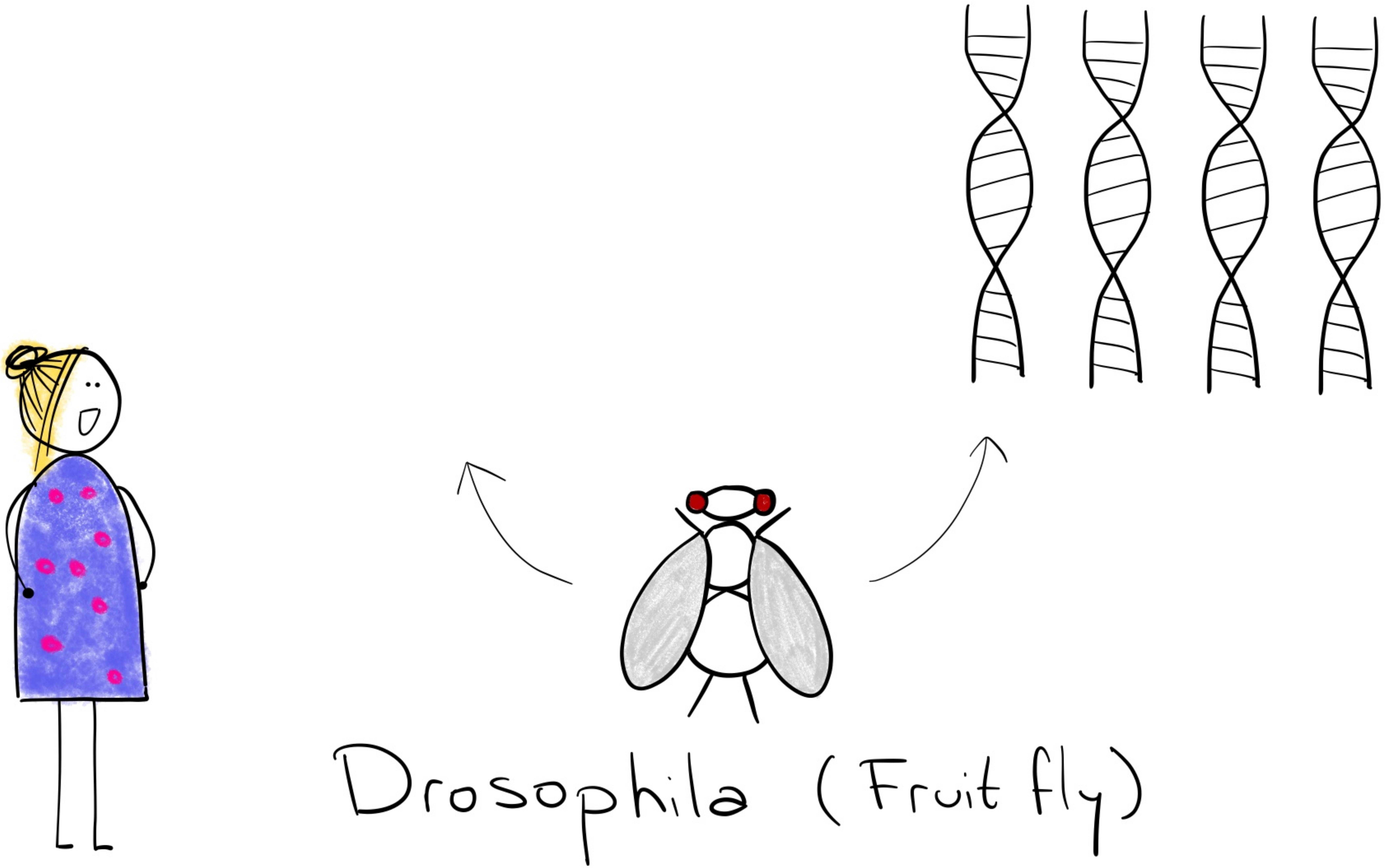
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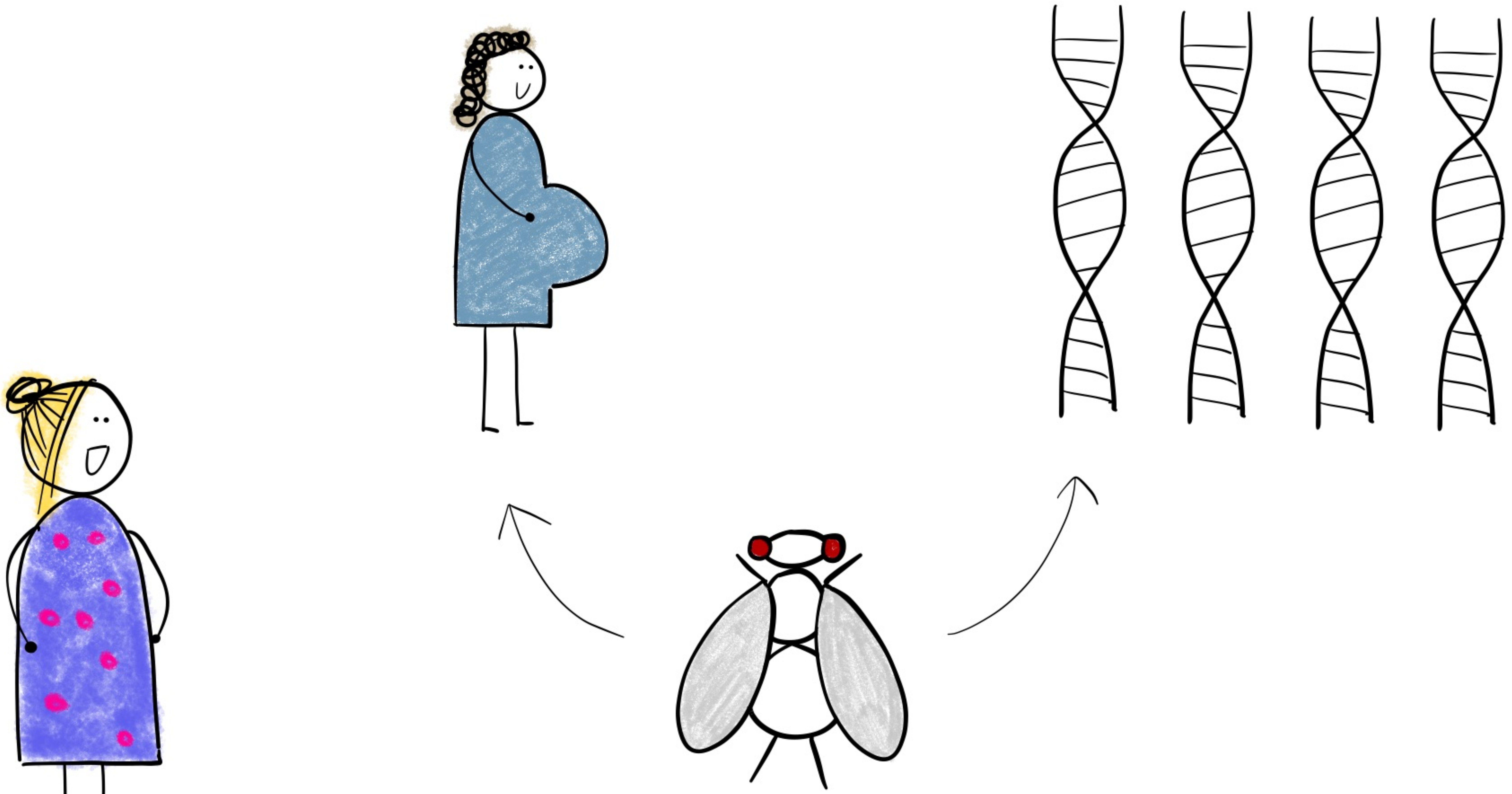

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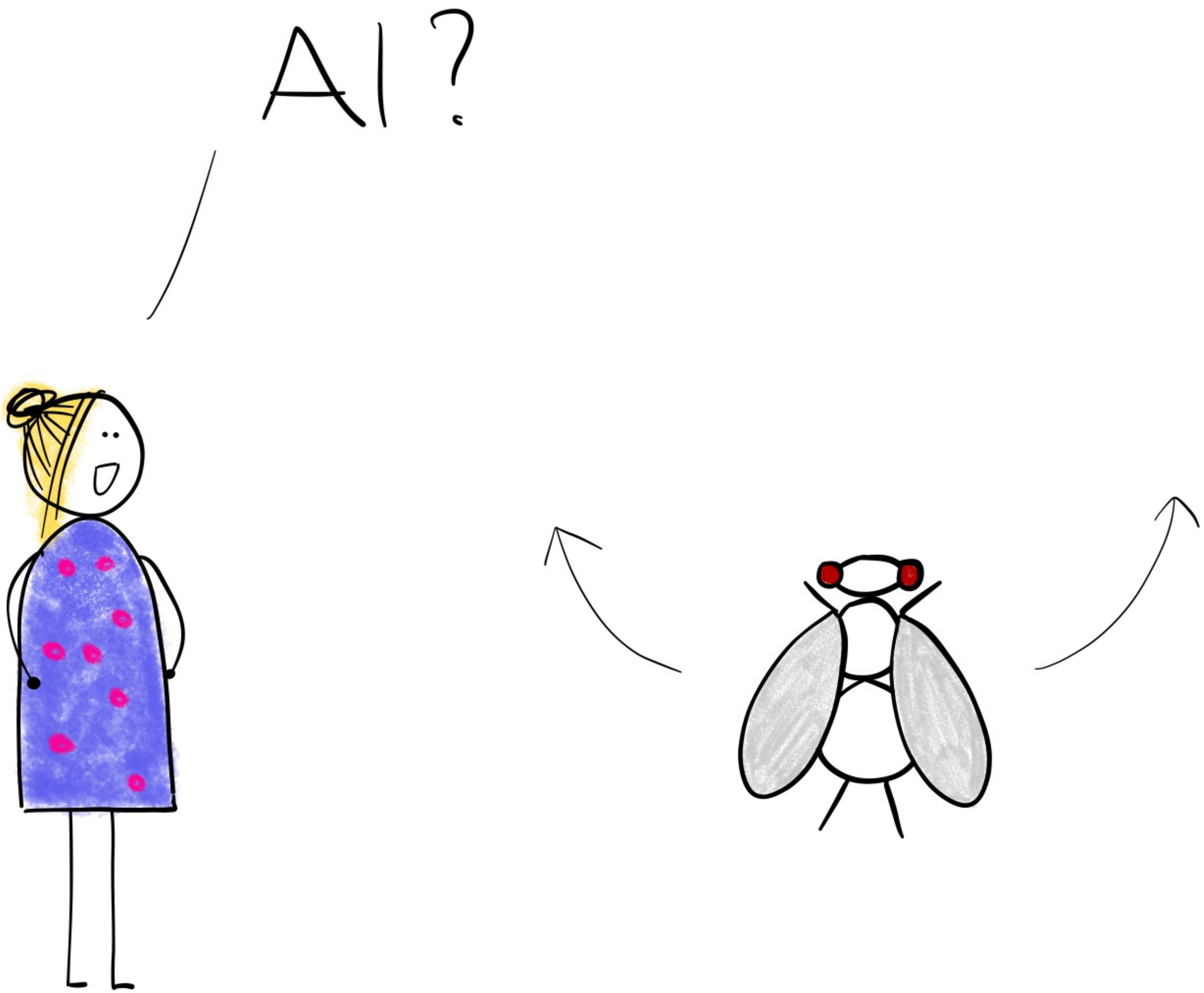
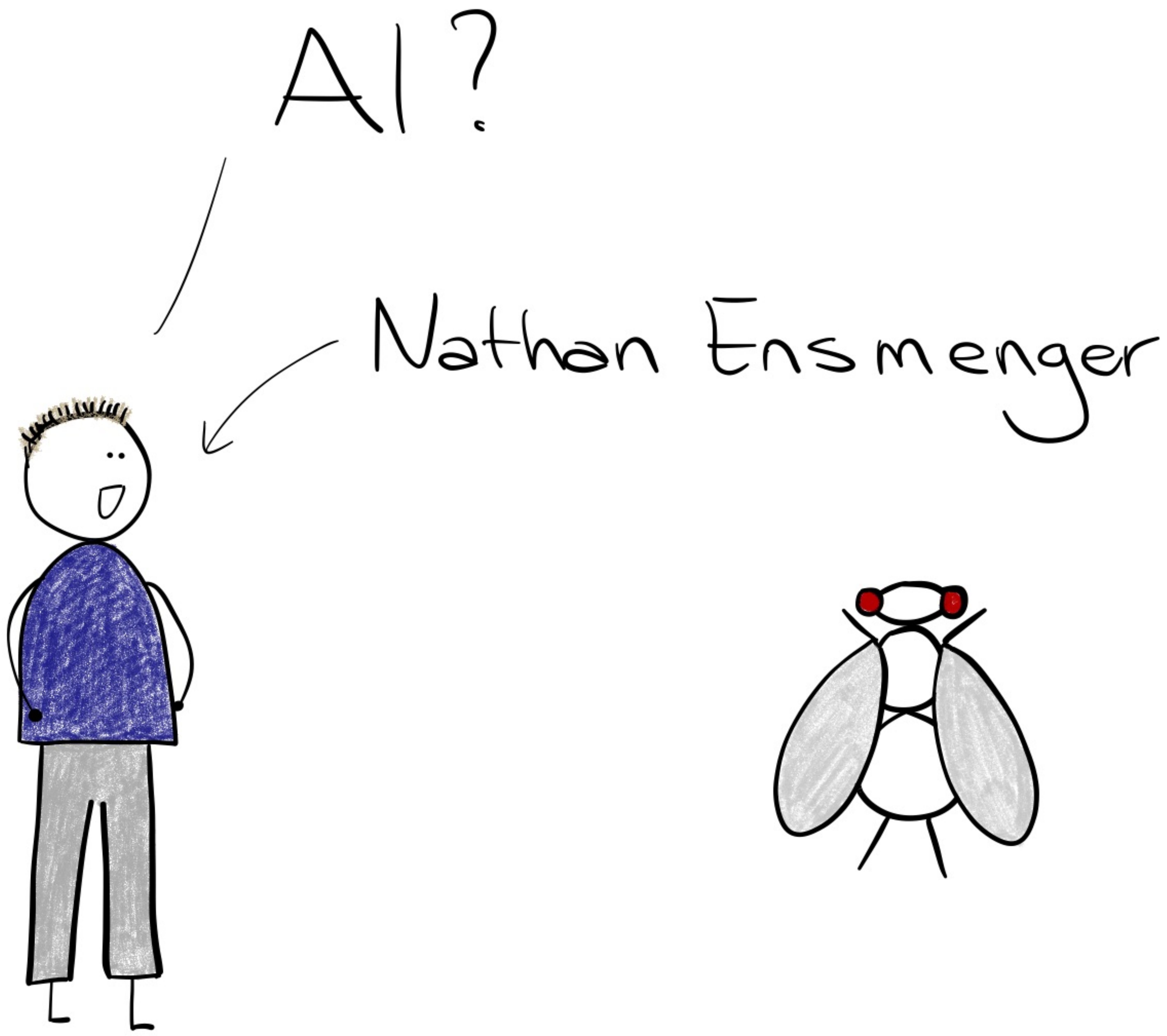
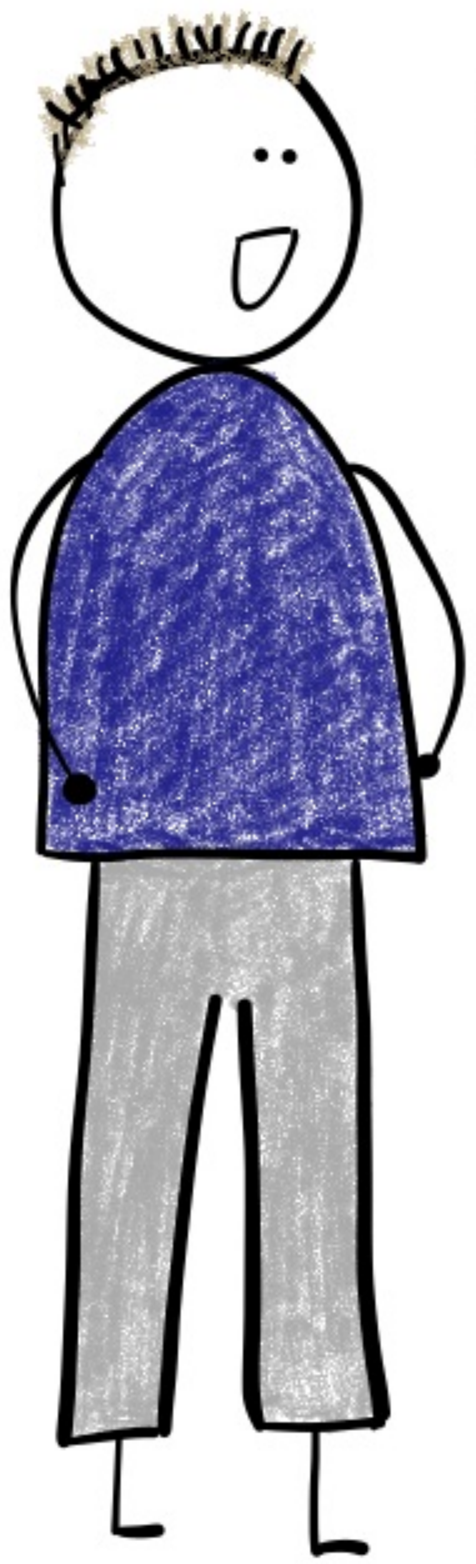
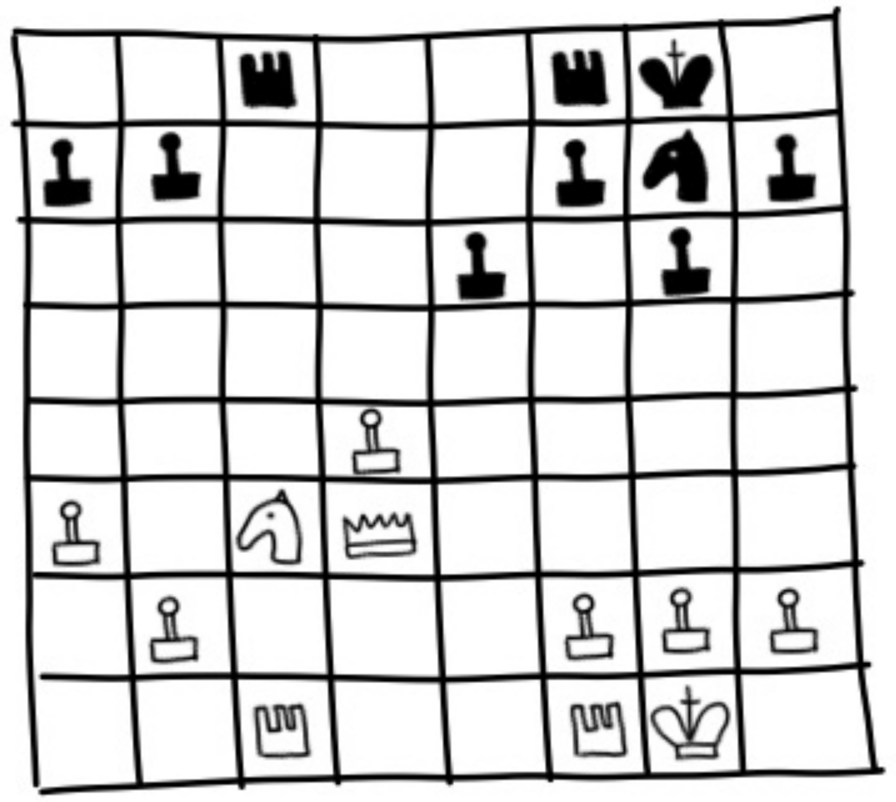

AI?

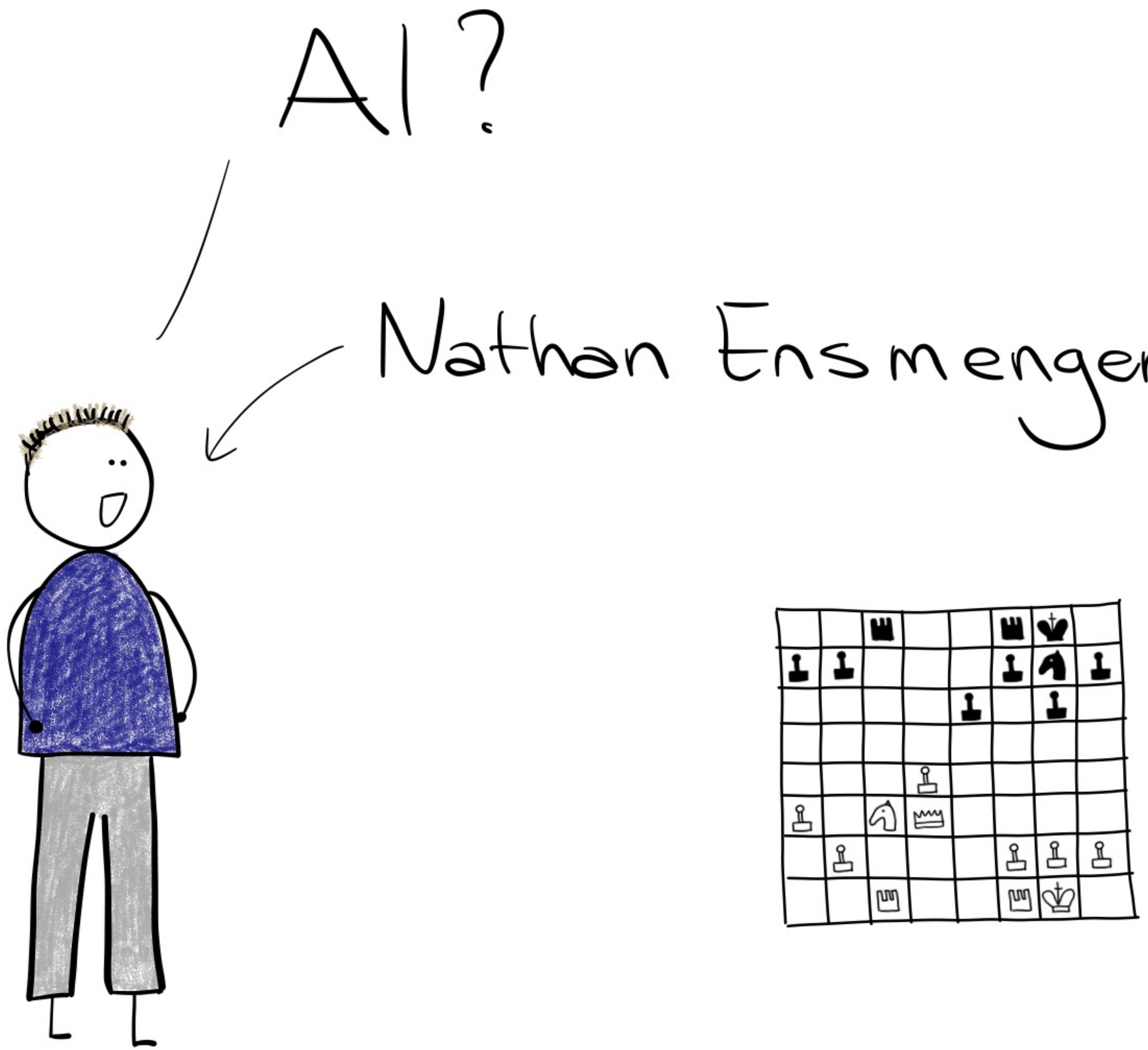

AI?
Nathan Ensmenger

AI?

Nathan Ensmenger







Is chess the drosophila of artificial intelligence? A social history of an algorithm

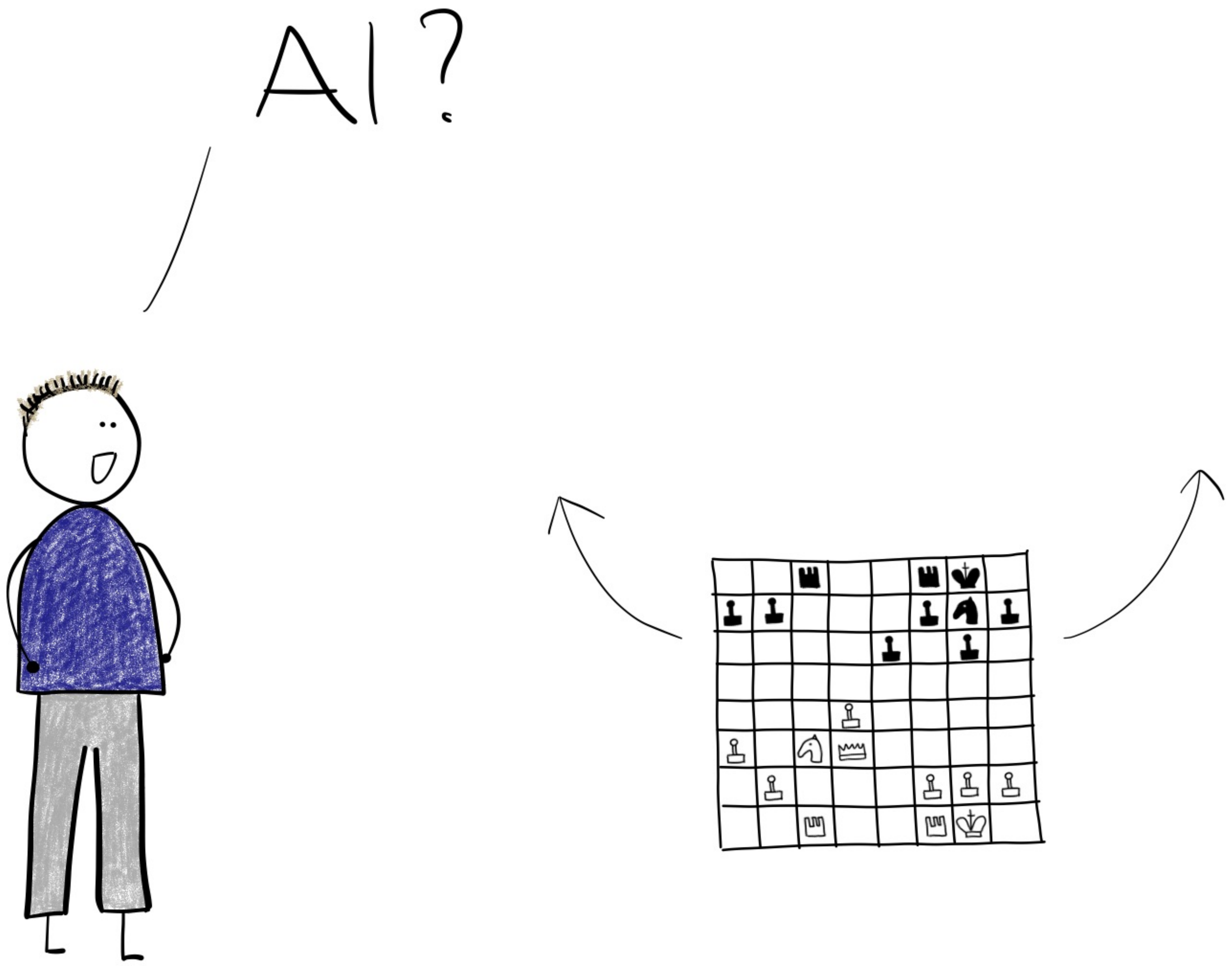
Nathan Ensmenger [1]

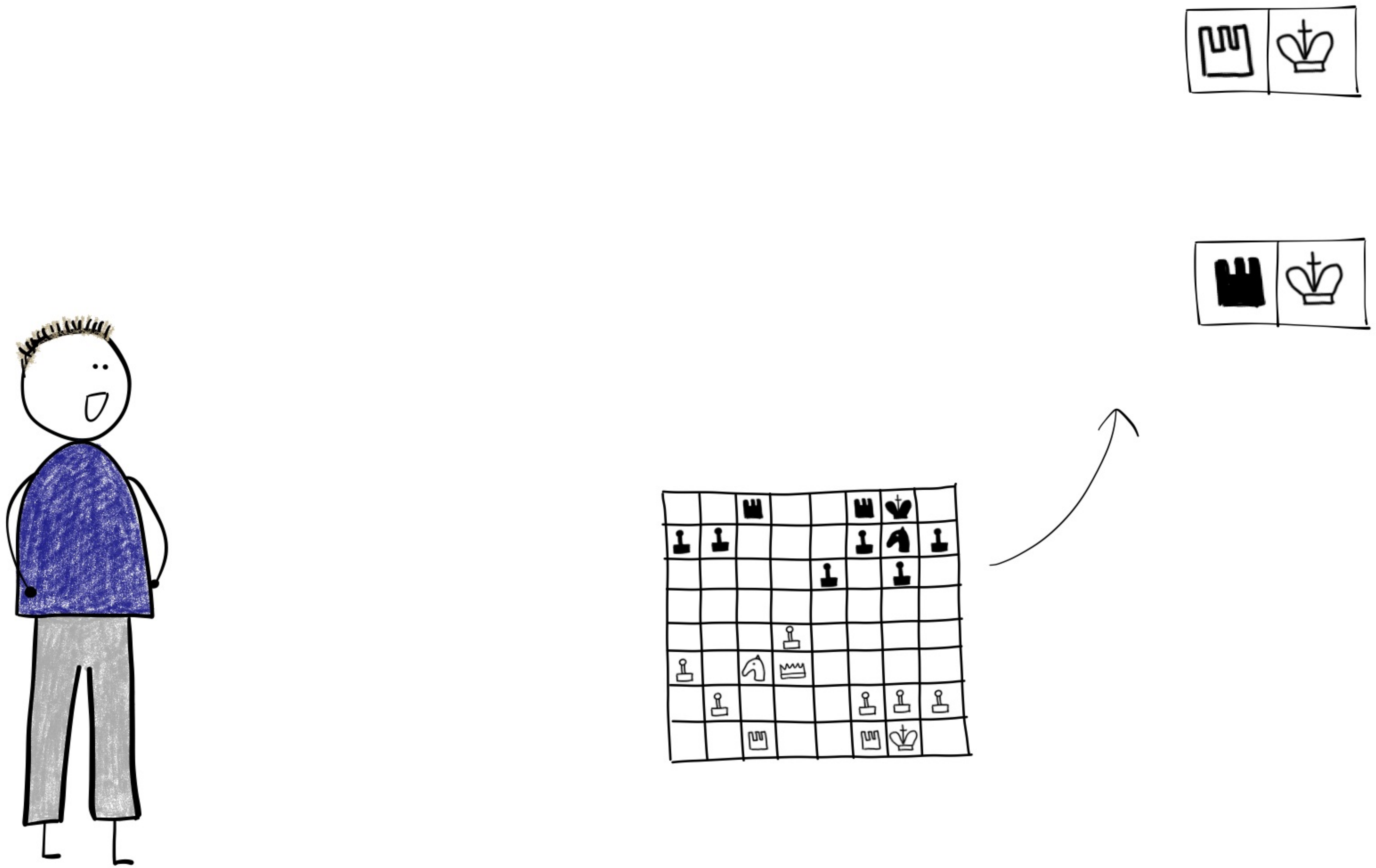
Affiliations + expand

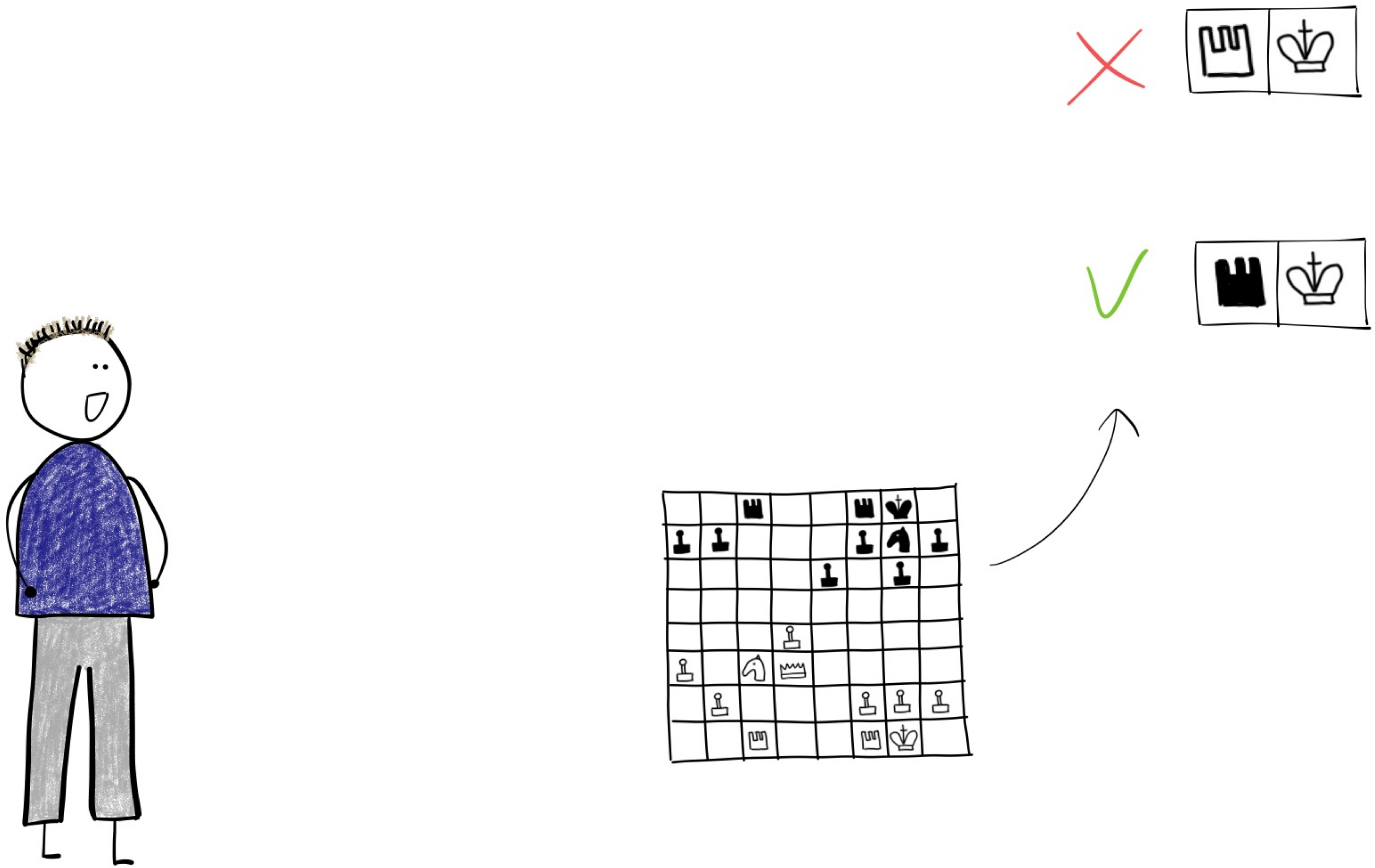
PMID: 22530382 DOI: 10.1177/0306312711424596

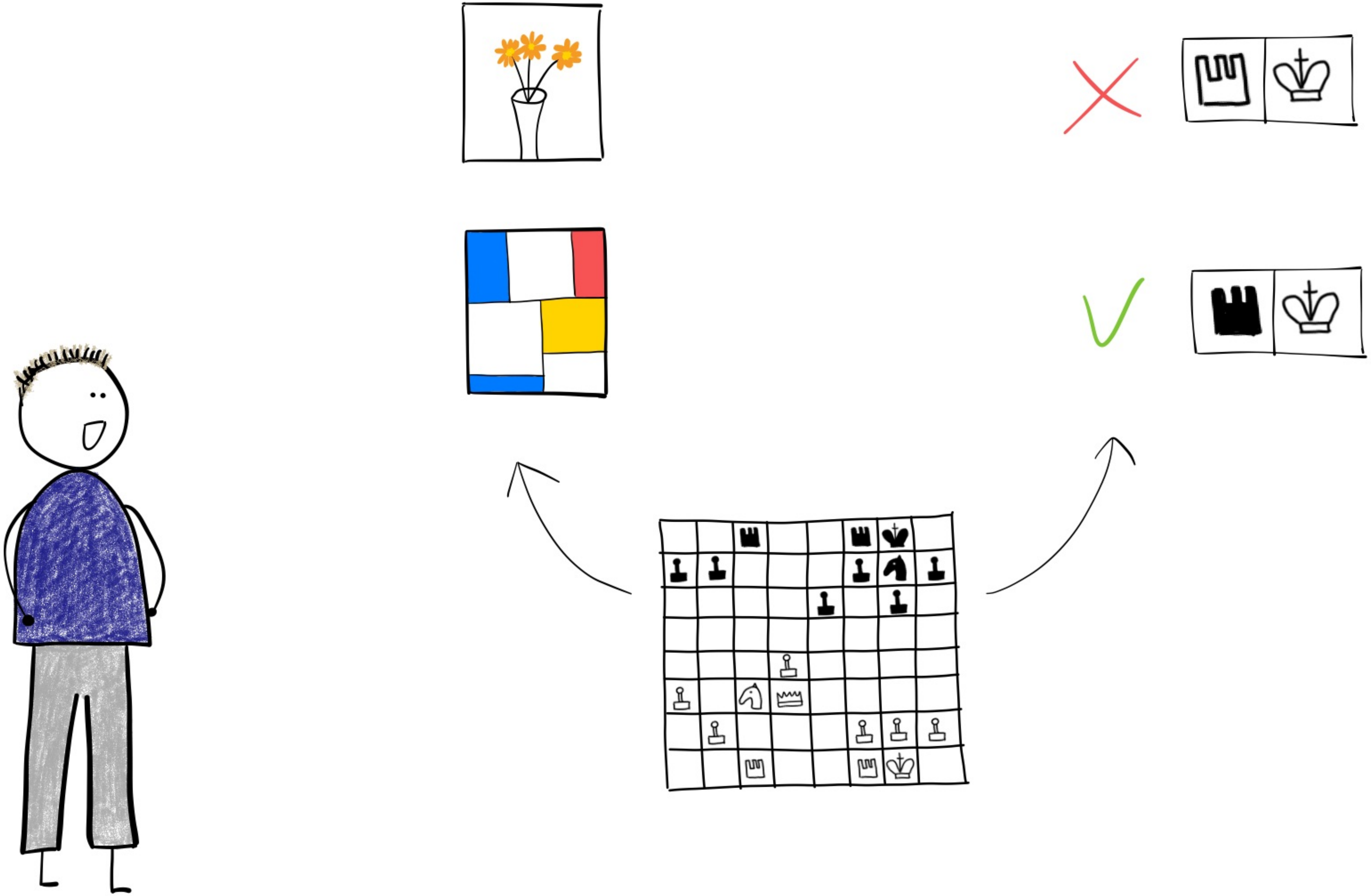
Abstract

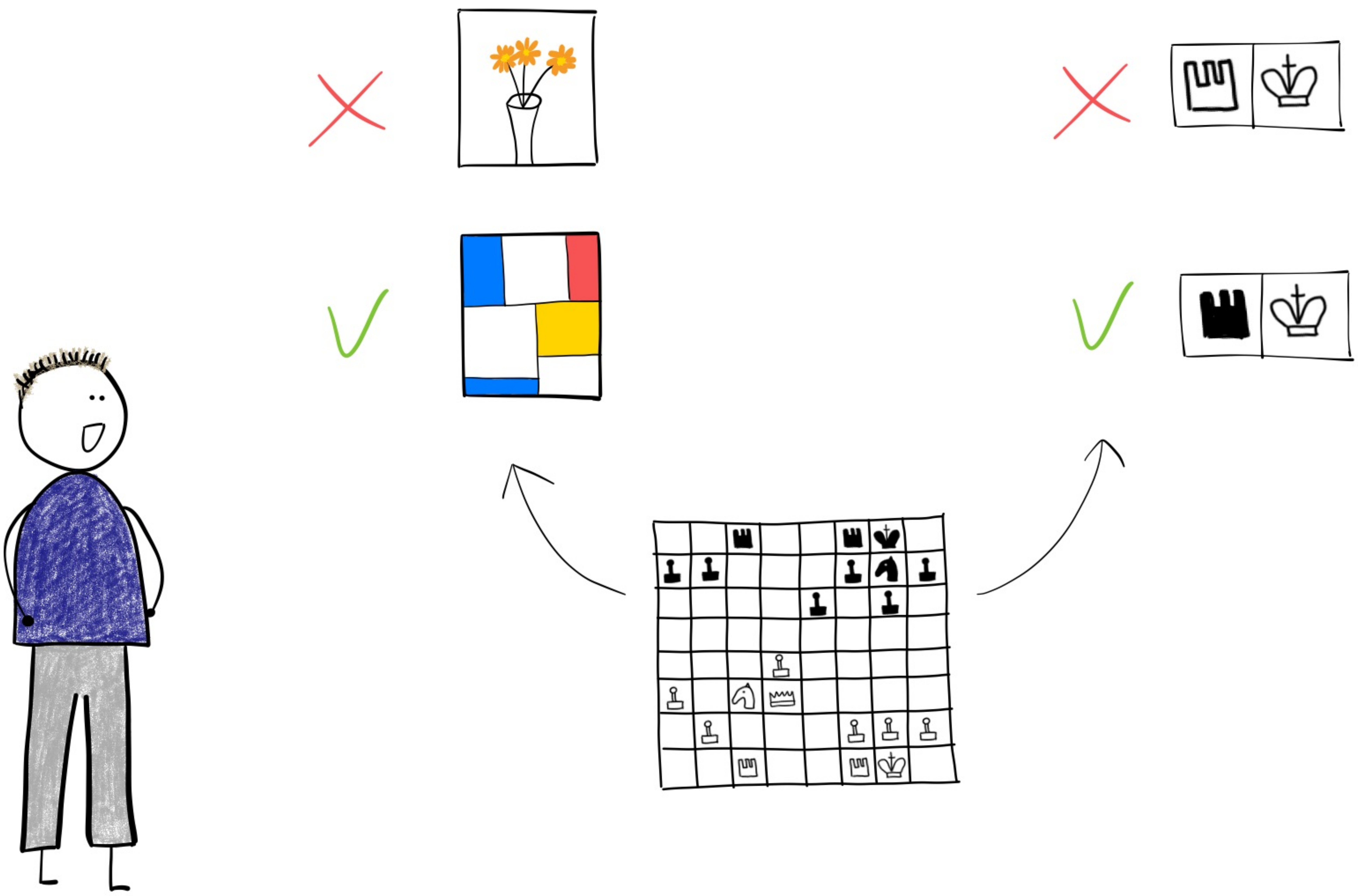
Since the mid 1960s, researchers in computer science have famously referred to chess as the 'drosophila' of artificial intelligence (AI). What they seem to mean by this is that chess, like the common fruit fly, is an accessible, familiar, and relatively simple experimental technology that nonetheless can be used productively to produce valid knowledge about other, more complex systems. But for historians of science and technology, the analogy between chess and drosophila assumes a larger significance. As Robert Kohler has ably described, the decision to adopt drosophila as the organism of choice for genetics research had far-reaching implications for the development of 20th century biology. In a similar manner, the decision to focus on chess as the measure of both human and computer intelligence had important and unintended consequences for AL research. This paper explores the emergence of chess as an experimental technology, its significance in the developing research practices of the AI community, and the unique ways in which the decision to focus on chess shaped the program of AI research in the decade of the 1970s. More broadly, it attempts to open up the virtual black box of computer software--and of computer games in particular--to the scrutiny of historical and sociological analysis.

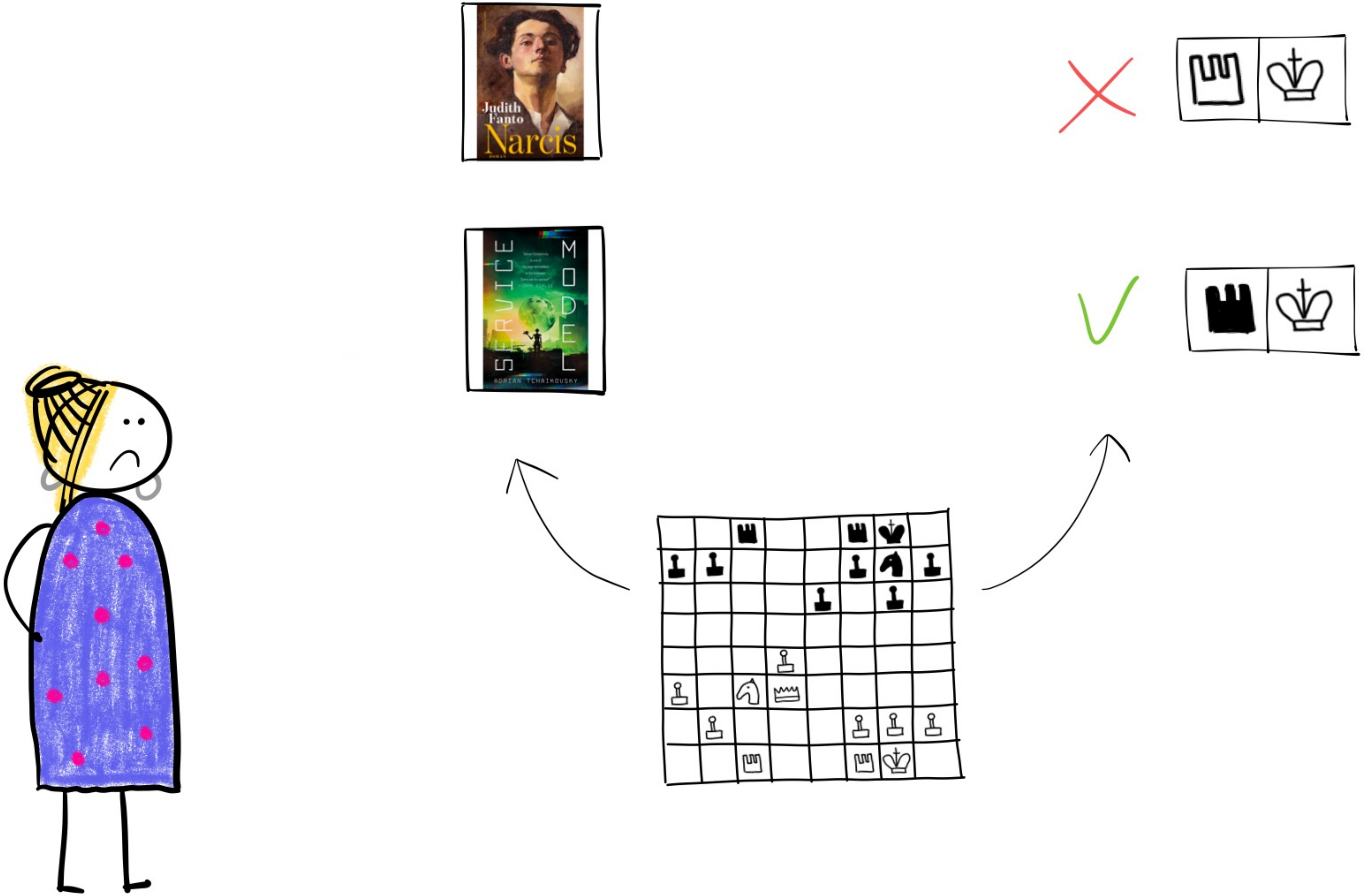

AI?

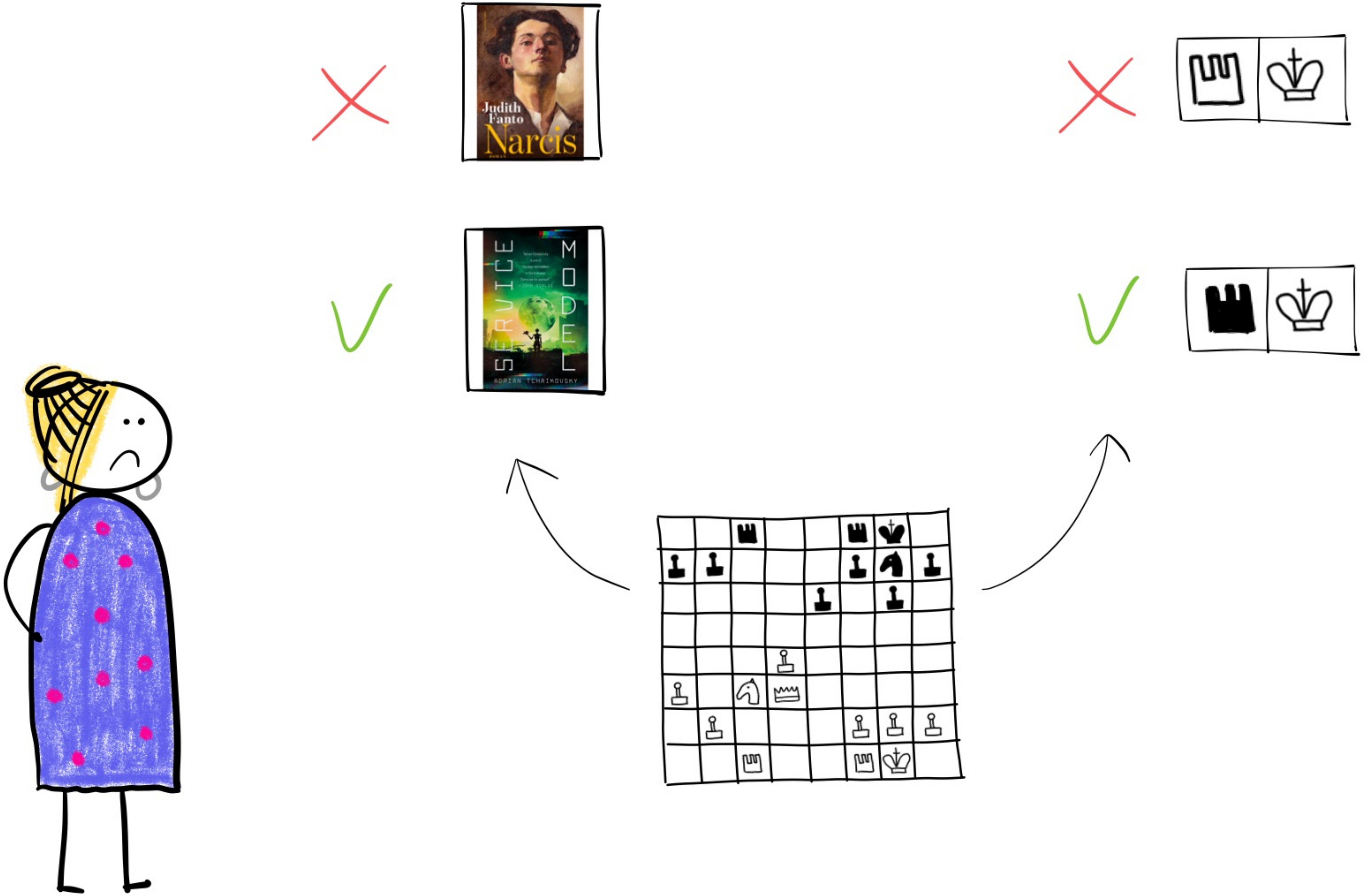









Judith
Fanto
Narcis
SERVICE
MODEL
ADRIAN TCHAIKOVSKY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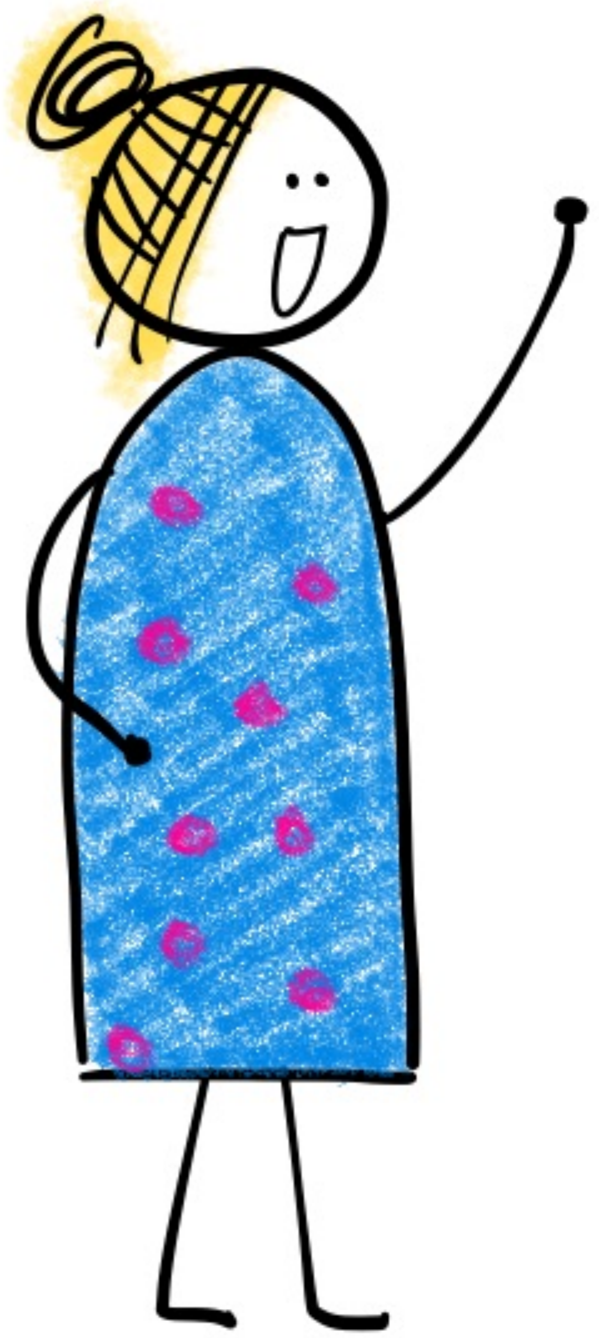
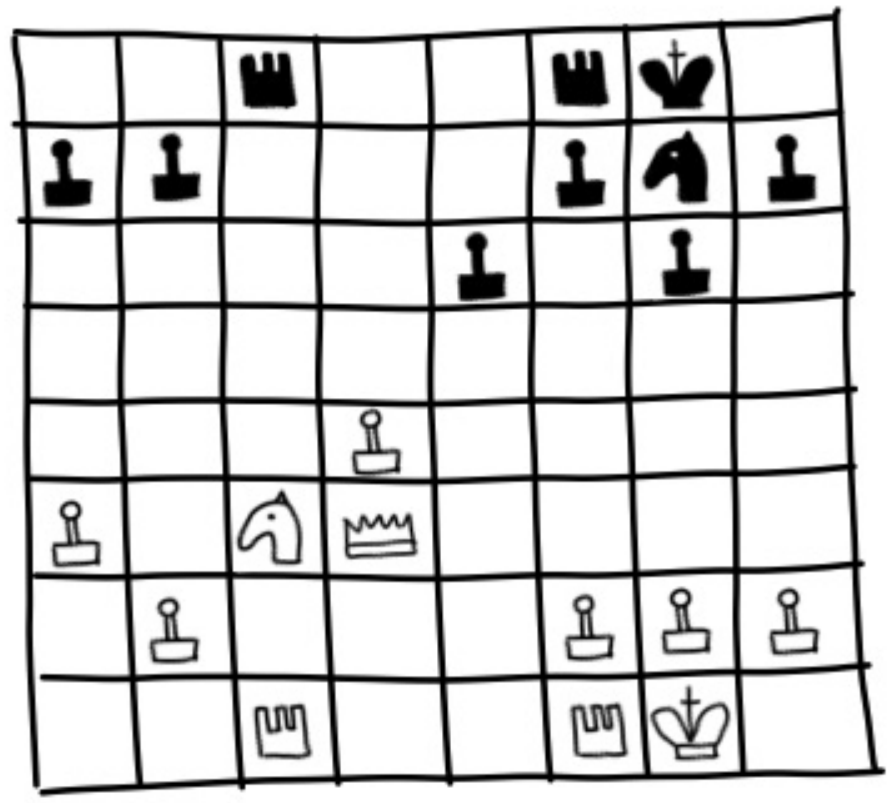




LOS ANGELES TIMES

CHESS: World Champion Kasparov Loses to Machine, Then Lashes Out at IBM

Continued from A1

my opinion, to win a big contest."

C.J. Tan, the scientist who headed the Deep Blue effort, said he and his team "are indeed very proud that we've played a role in this historic event."

"This is a match that will benefit everyone, from the students who sat in the audience learning from Garry and Deep Blue to many consumers outside of this building, who will be deeply affected by this advance in technology," Tan added.

Even those who predicted that computers would eventually surpass humans at the chessboard could not have anticipated Sunday's massacre in New York City.

Until a week ago, the 34-year-old Kasparov was unquestionably the best chess player in the world.

More than once he

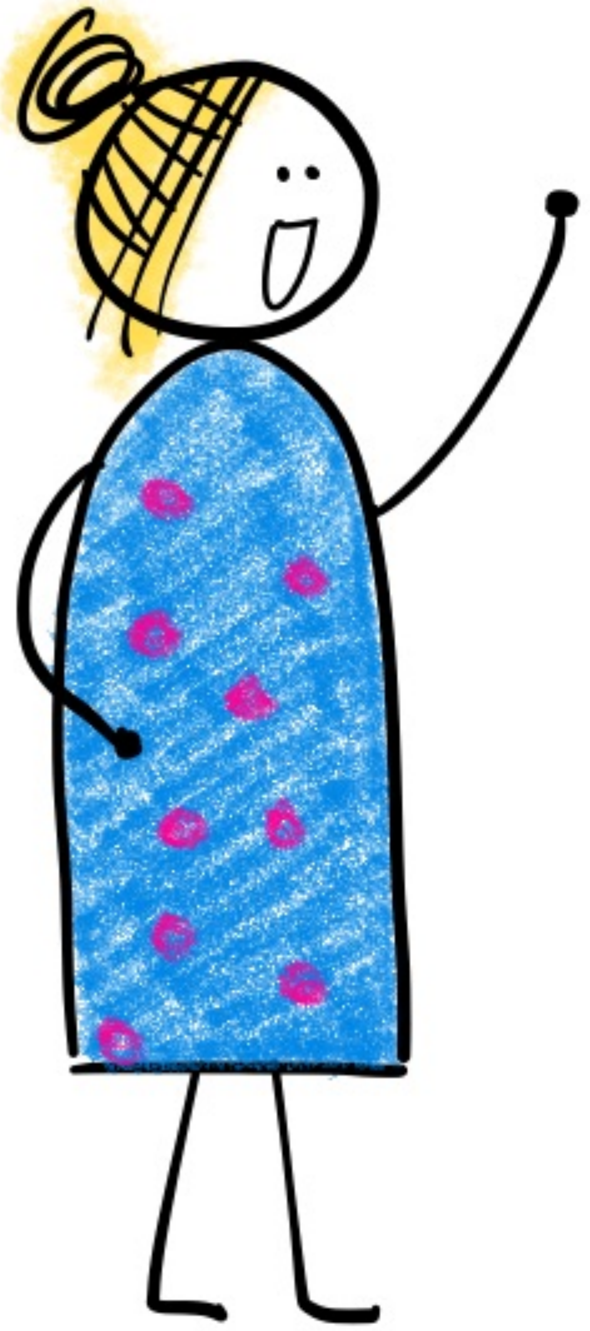
When directly asked whether he was accusing the IBM team of cheating, he said: "I suggested that there were things in this match well beyond my understanding. . . . There's probably no way to prove that Deep Blue is making this move or that move."

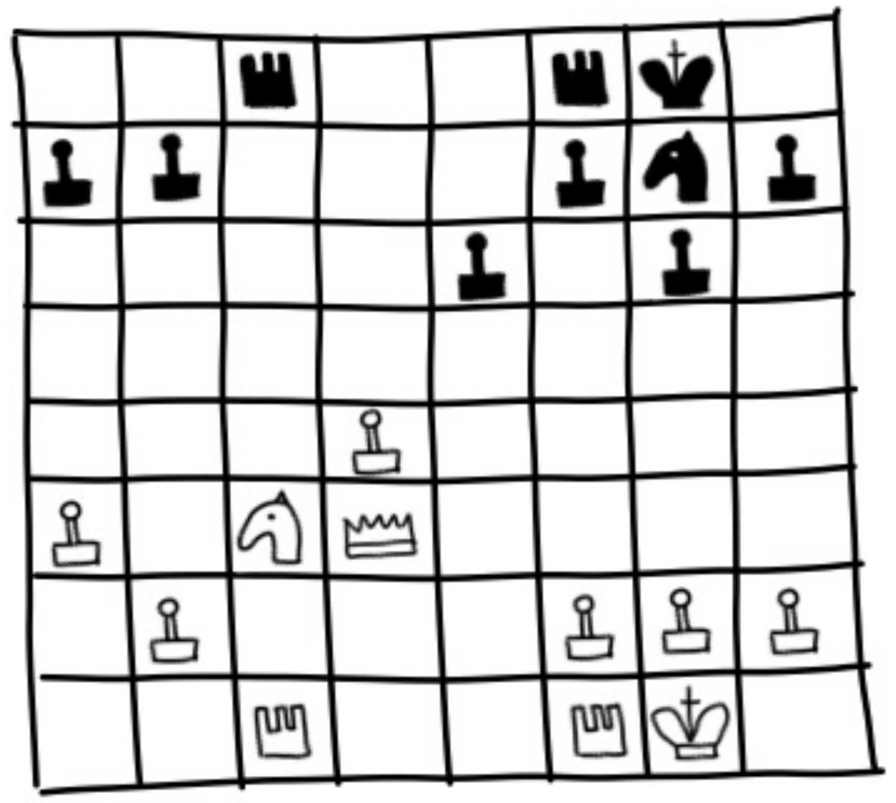
During the news conference, Kasparov also said the match was unfair because he had not seen any games played by this version of Deep Blue and could not prepare for his opponent as he would for another grandmaster.

Kasparov said he would like a rematch with the machine, but with a "neutral match sponsor."

Kasparov had beaten an earlier version of the computer by a 4-2 score in Philadelphia in February 1996.

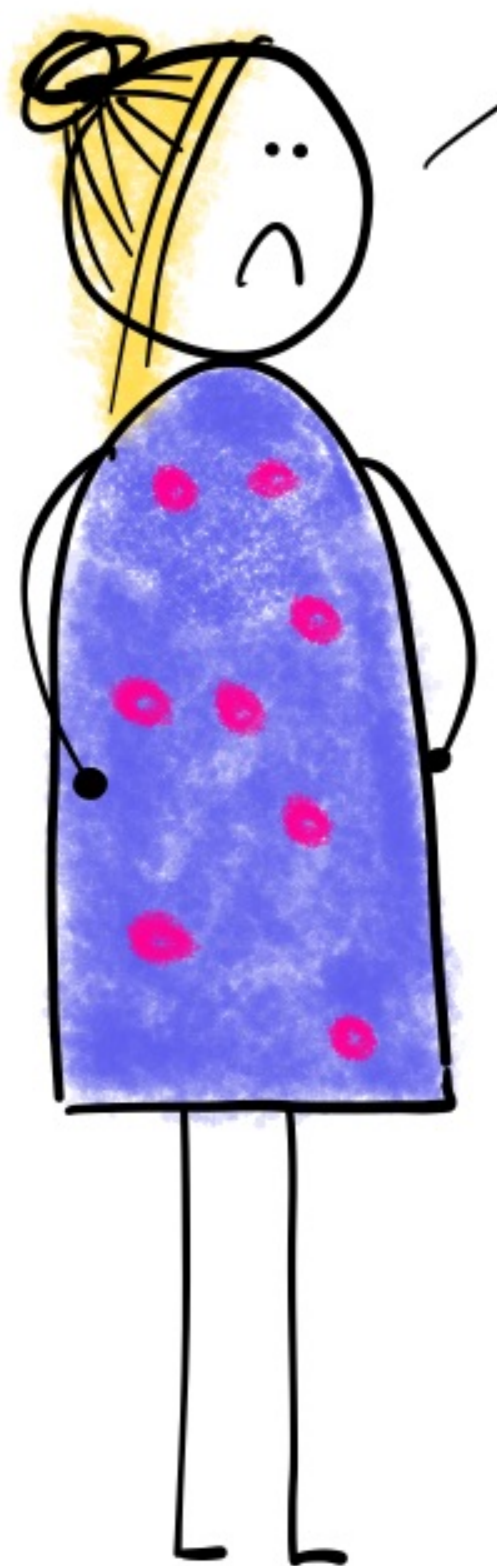
This was





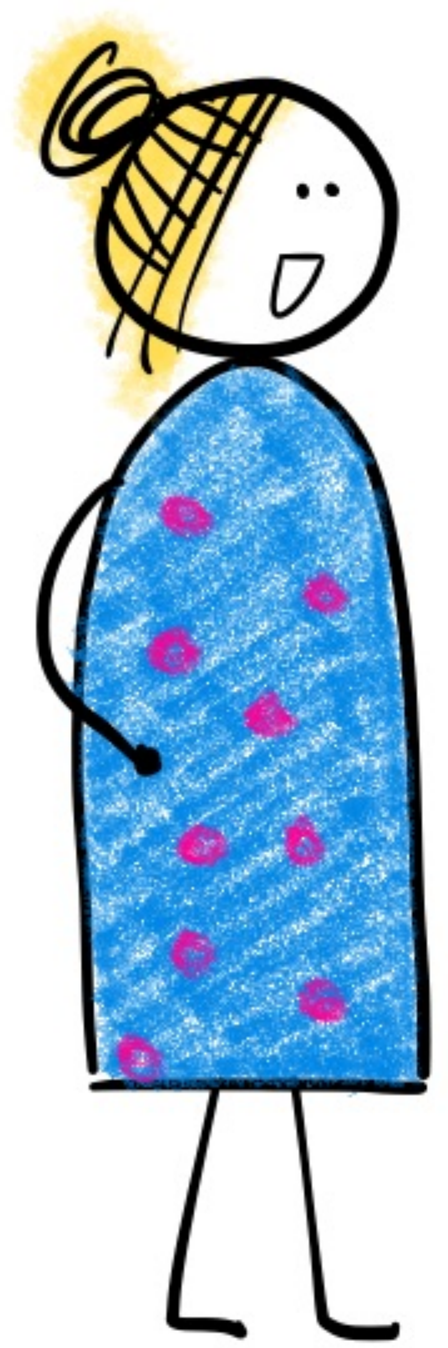
Science is not neutral

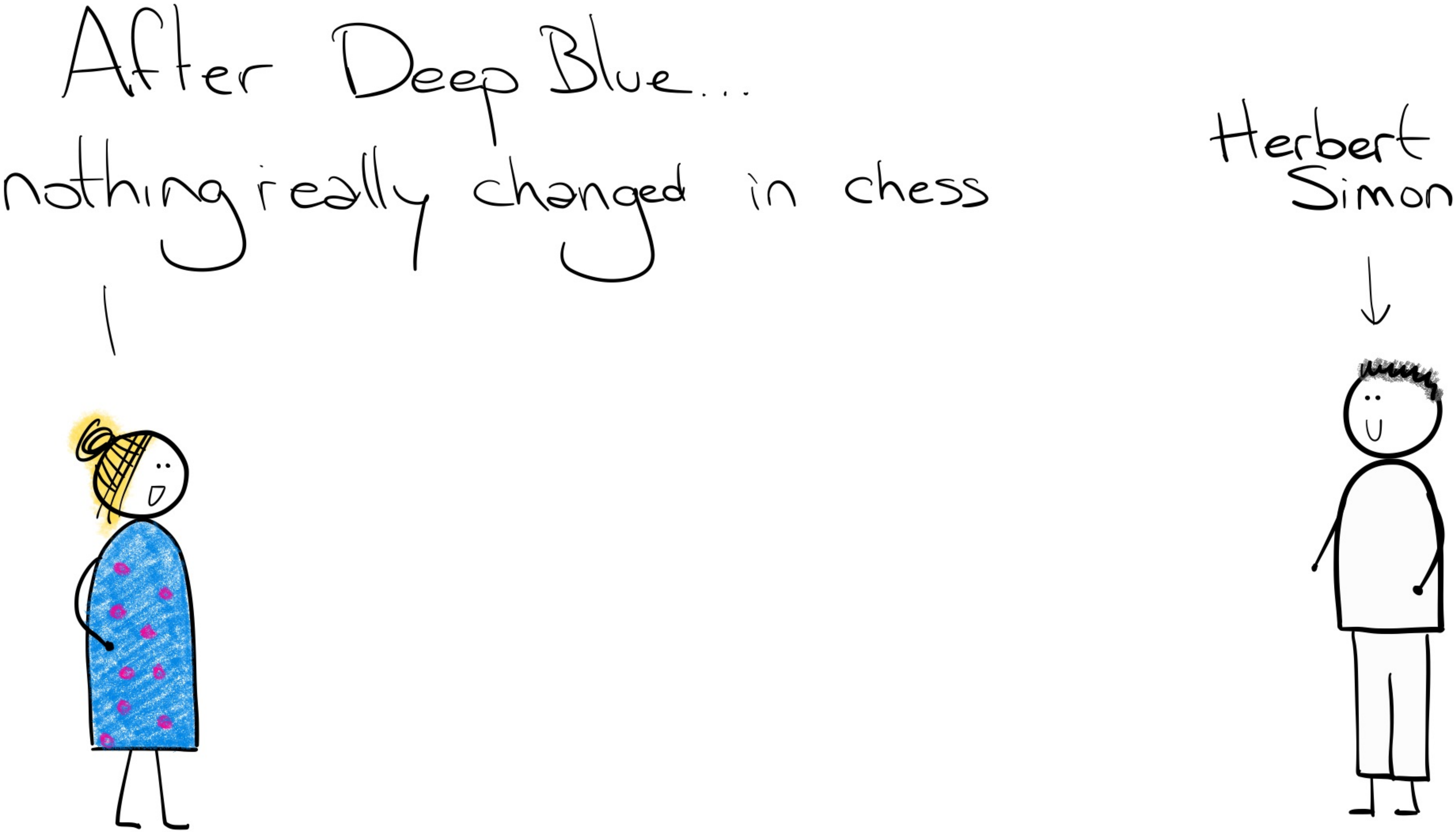
AI hype is the latest example

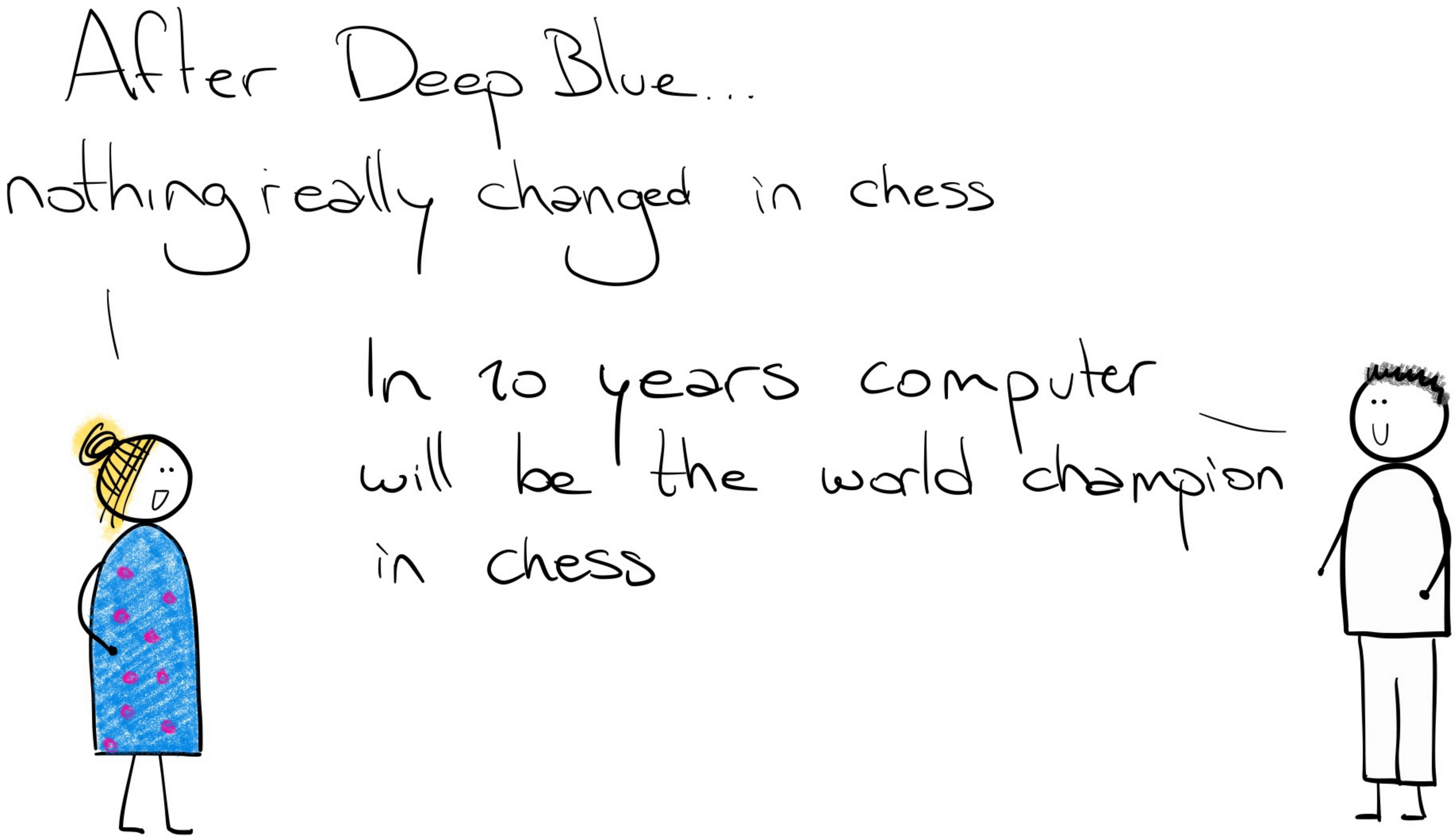


After Deep Blue...

nothing really changed in chess




After Deep Blue...
nothing really changed in chess
Herbert Simon



After Deep Blue...
nothing really changed in chess
In 10 years computer will be the world champion in chess

After Deep Blue...

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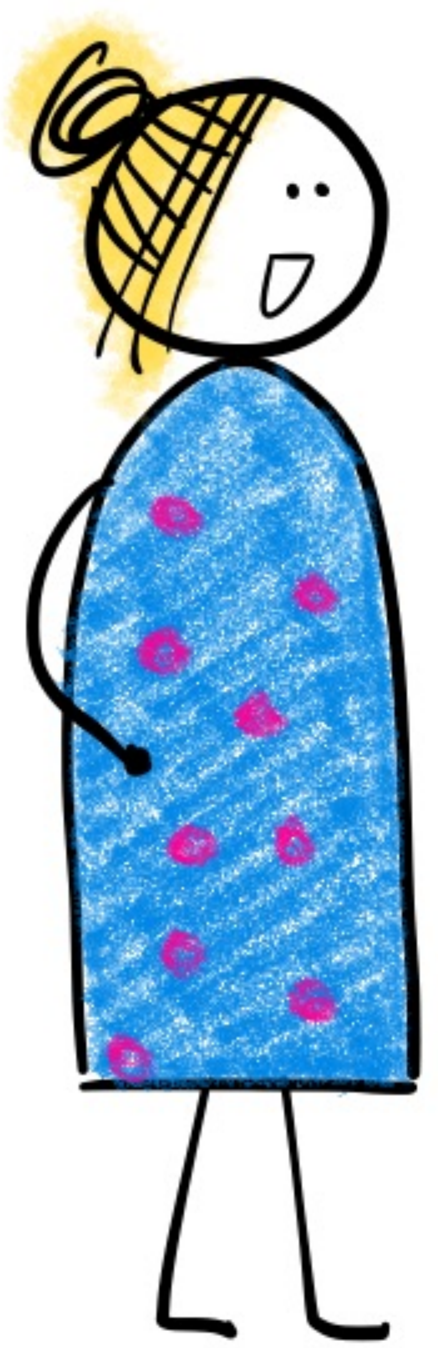
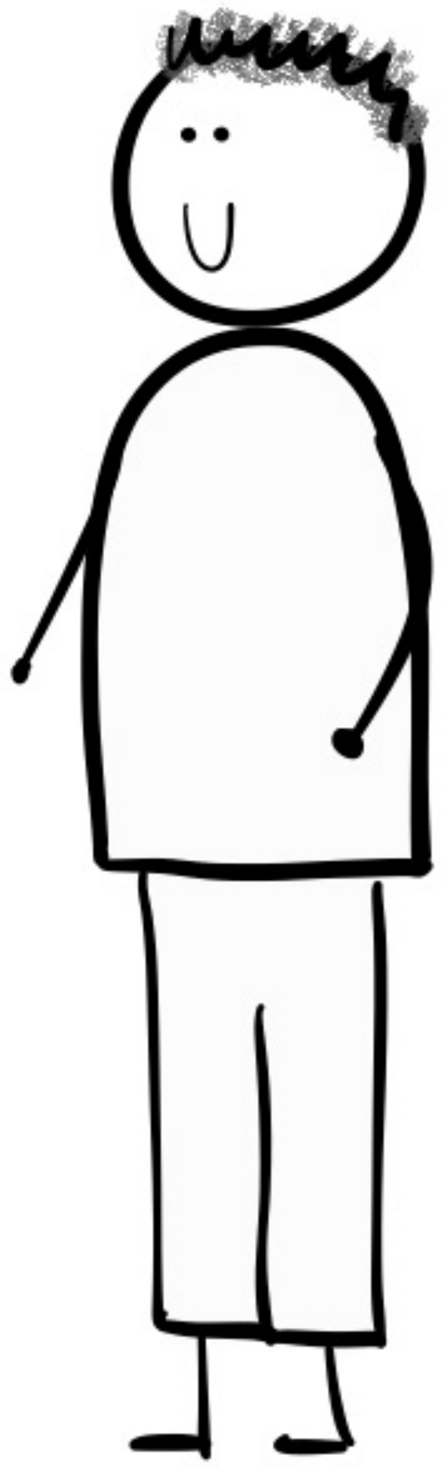
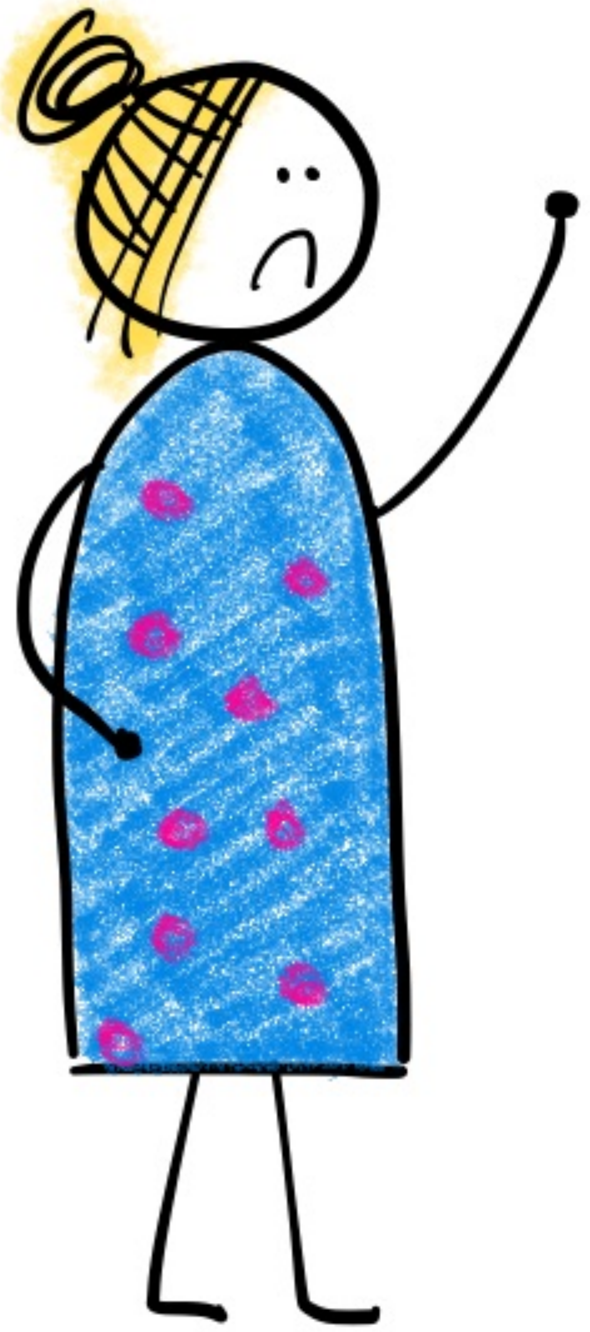


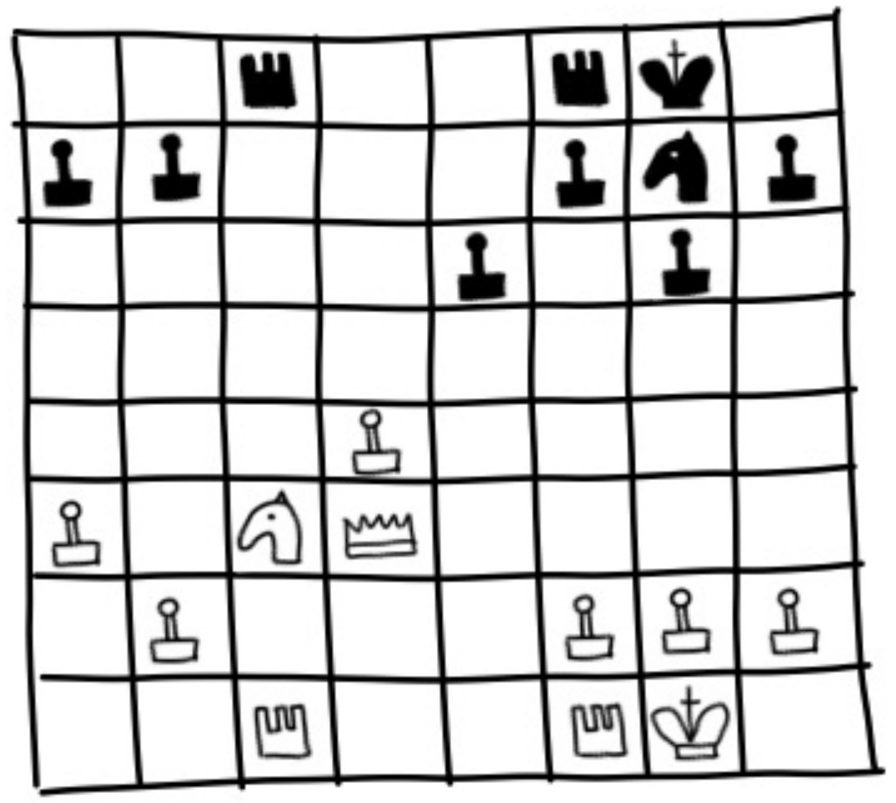
In 10 years computer will be the world champion in chess

1956




Thes Times
Deep Blue Defeats Kasparaiv!





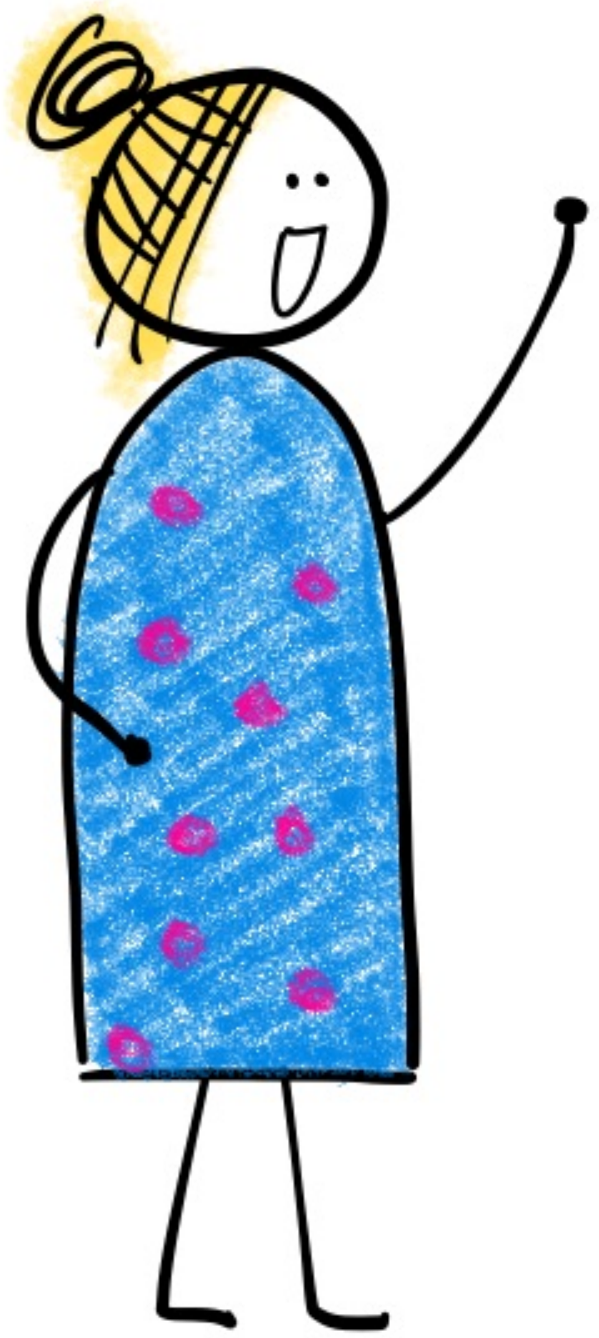
Computer Wins on 'Jeopardy!': Trivial, It's Not

Share full article 330

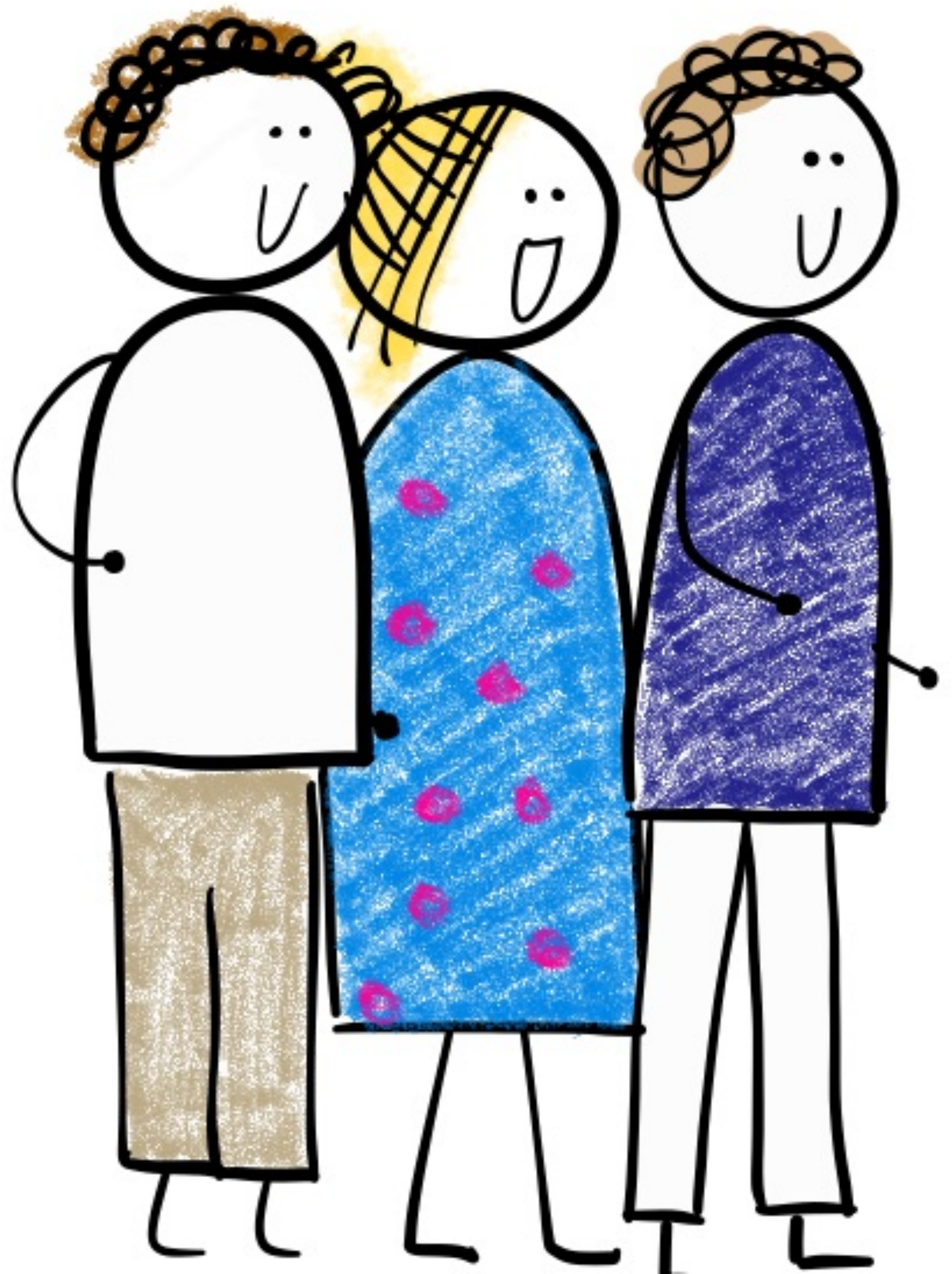
Two "Jeopardy!" champions, Ken Jennings, left, and Brad Rutter, competed against a computer named Watson, which proved adept at buzzing in quickly. Carol Kaelson/Jeopardy Productions Inc., via Associated Press

By John Markoff

Feb. 16, 2011



Programmers



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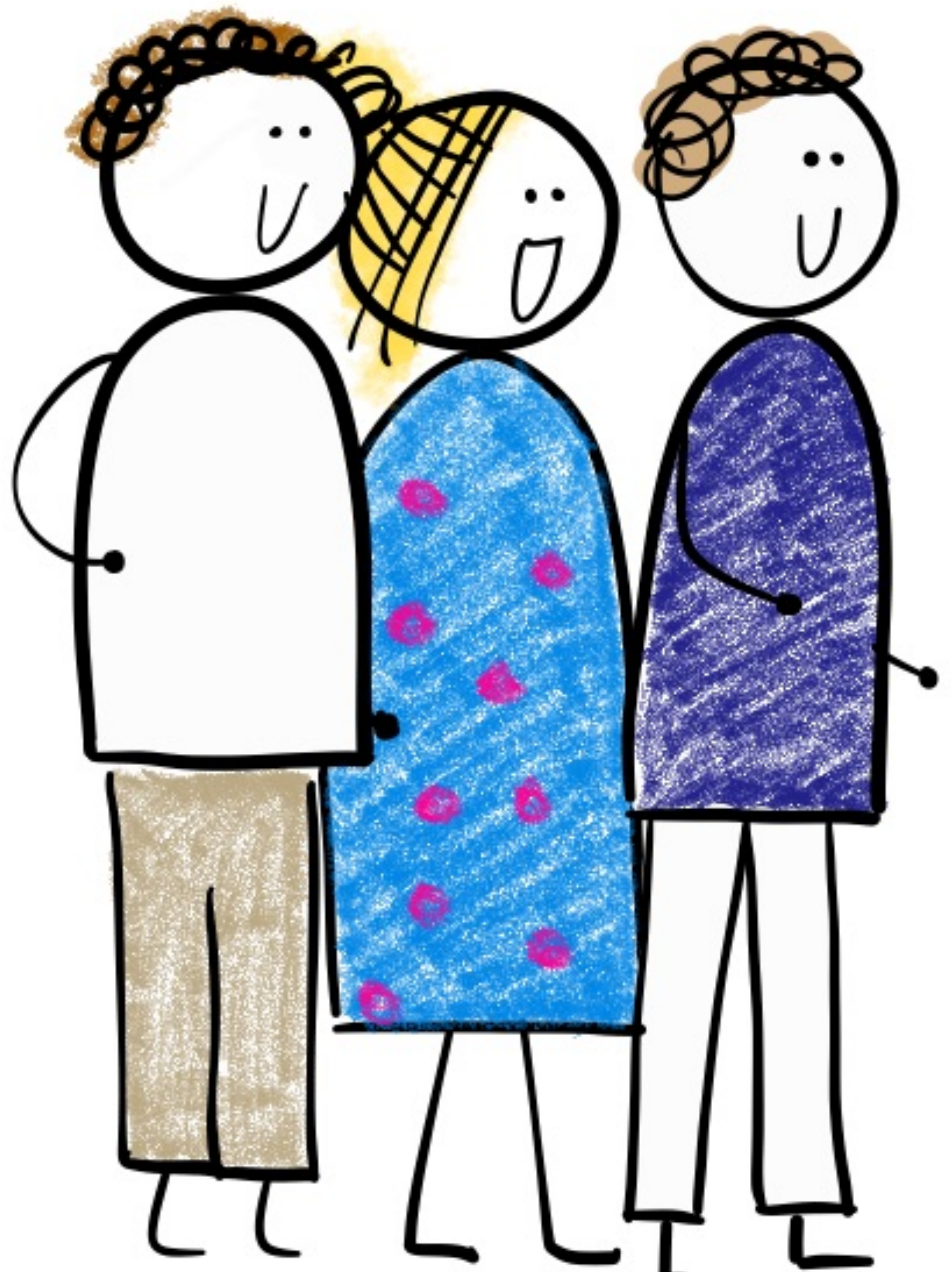

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Two "Jeopardy!" champions, Ken Jennings, left, and Brad Rutter, competed against a computer named Watson, which proved adept at buzzing in quickly. Carol Kaelson/Jeopardy Productions Inc., via Associated Press

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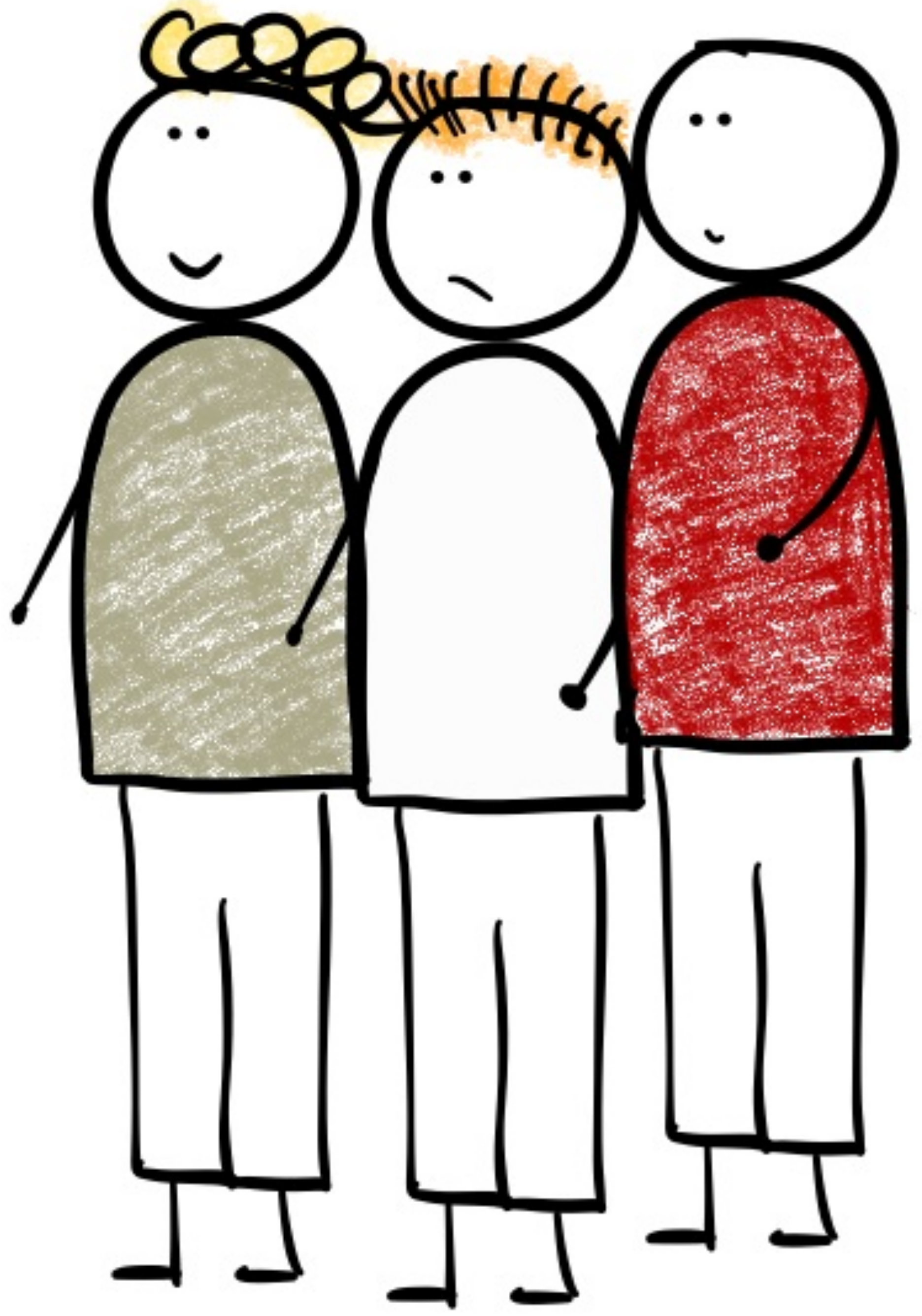
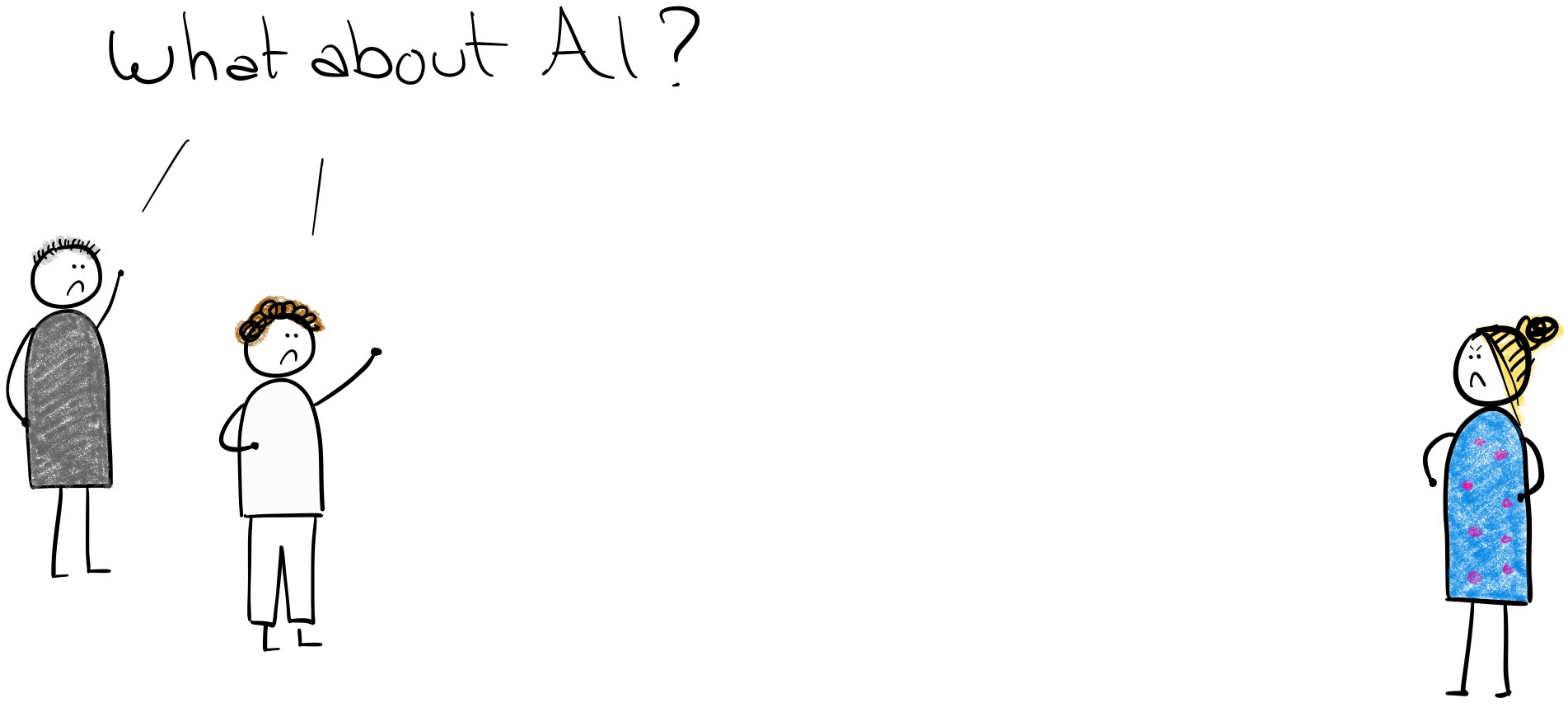
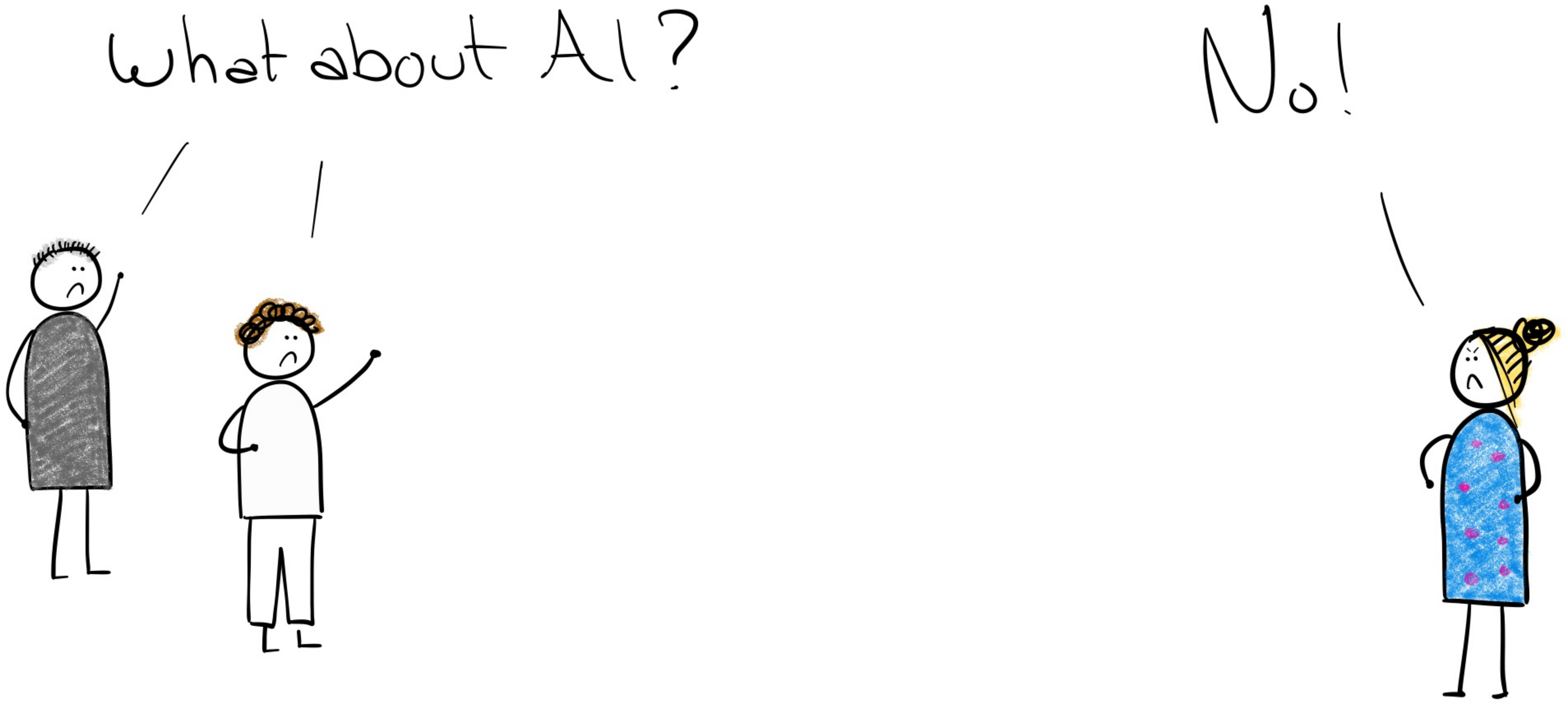
Feb. 16, 2011

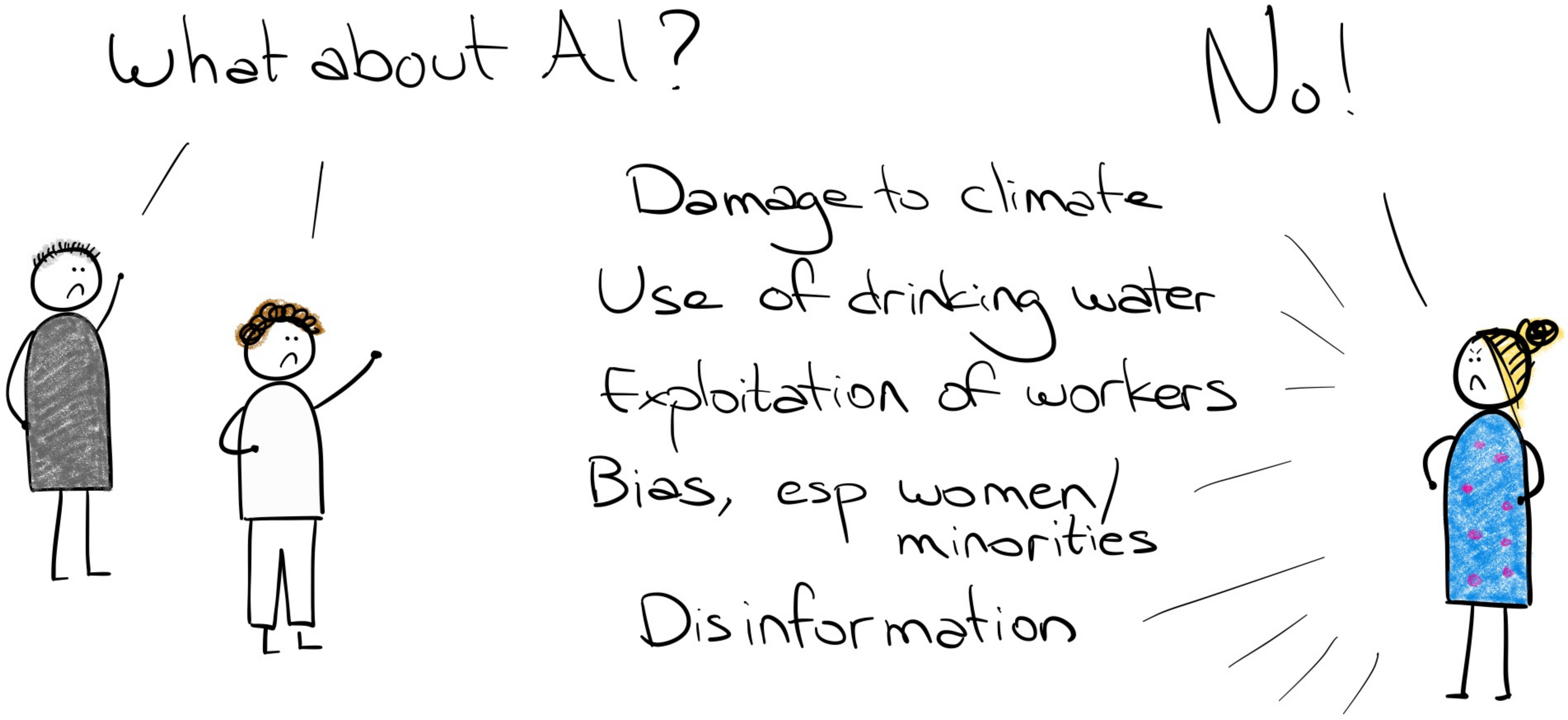
Other people




I'd love to go back to this!


What about AI?


What about AI?
No!


What about AI?
No!
Damage to climate
Use of drinking water
Exploitation of workers
Bias, esp women/
minorities
Disinformation

Epistemological violence

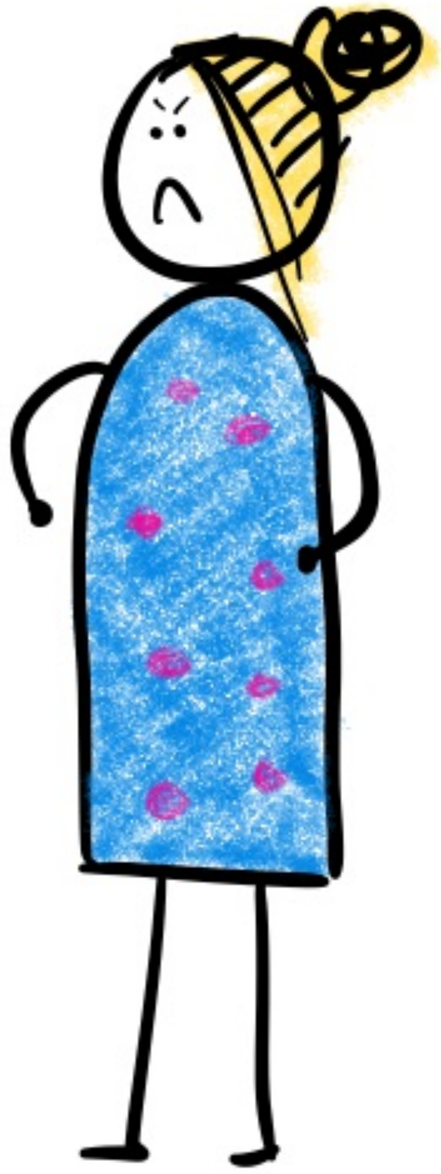
Epistemological violence

Todd Johnson
@johnsontoddr.bsky.social

+ Follow

We spent months doing a careful lit review with help from a librarian, PubMed, and Google Scholar. After we had completed the work and whittled the 7K+ citations down to only 7 that met our criteria, I asked Claude the question we were trying to answer. It found 6 of the 7 and wrote a great report.

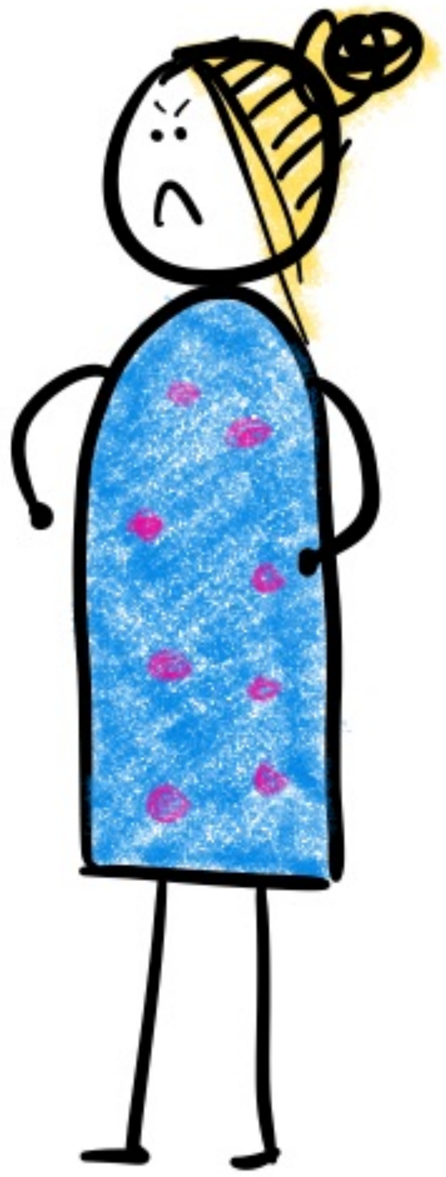
20 October 2025 at 21:13



Epistemological violence

Todd Johnson
@johnsontoddr.bsky.social

Do more science



Epistemological violence

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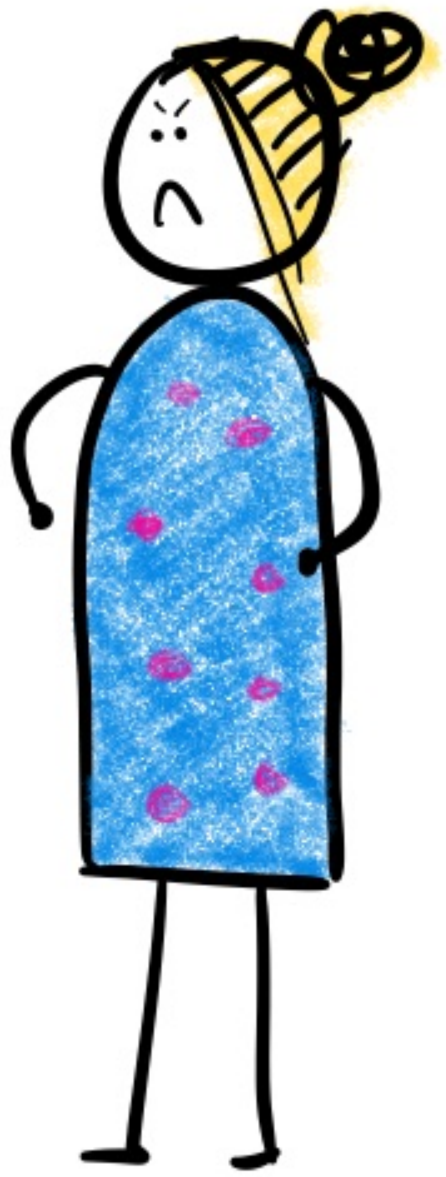
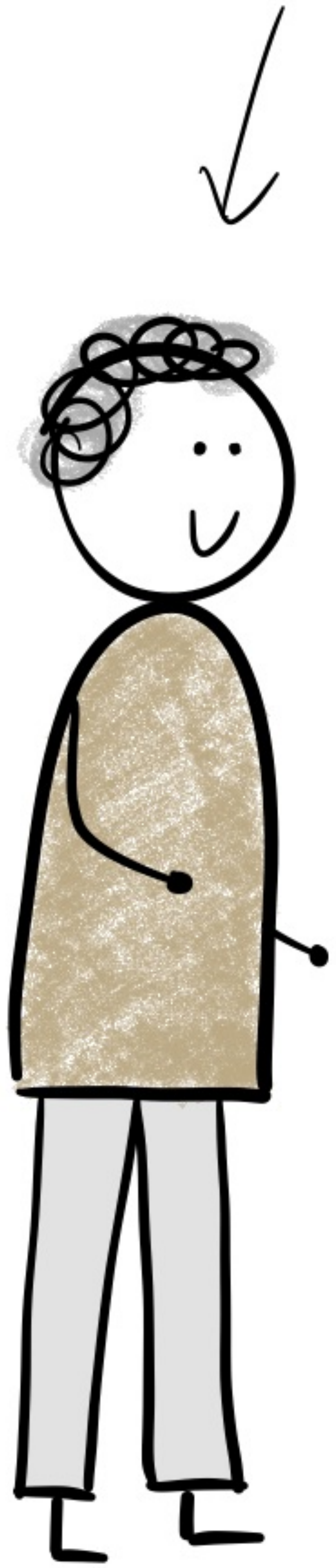
Do more science

Be less accountable



Peter Naur, building on Gilbert Ryle



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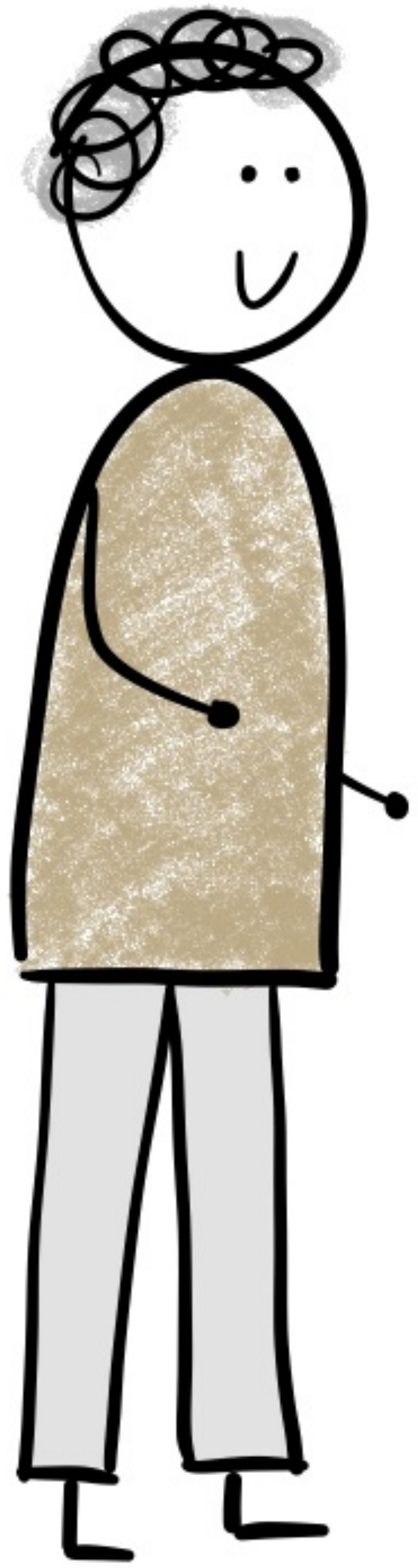

What characterizes intellectual activity, over and beyond activity that is merely intelligent, is the person's building and having a theory.

Peter Naur, building on Gilbert Ryle

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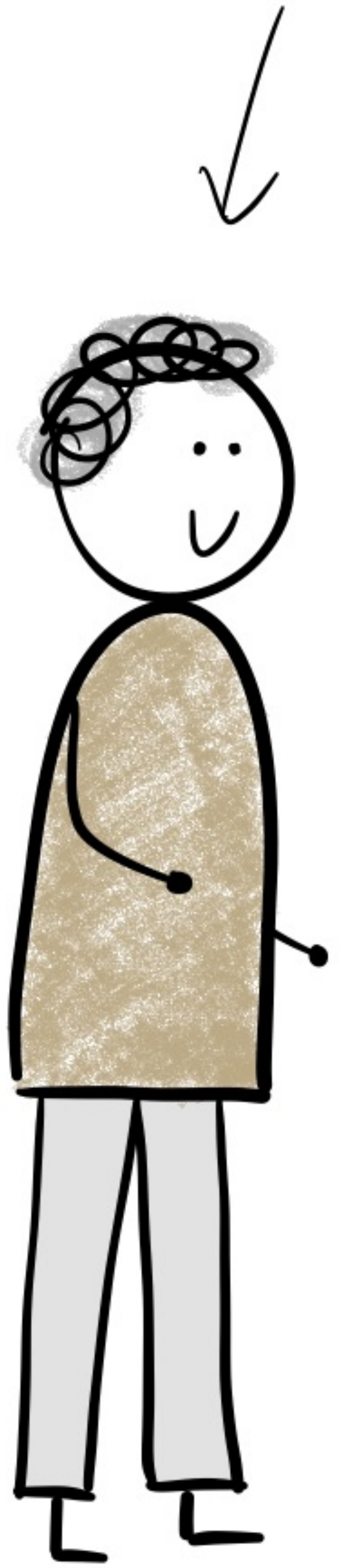
Peter Naur, building on Gilbert Ryle

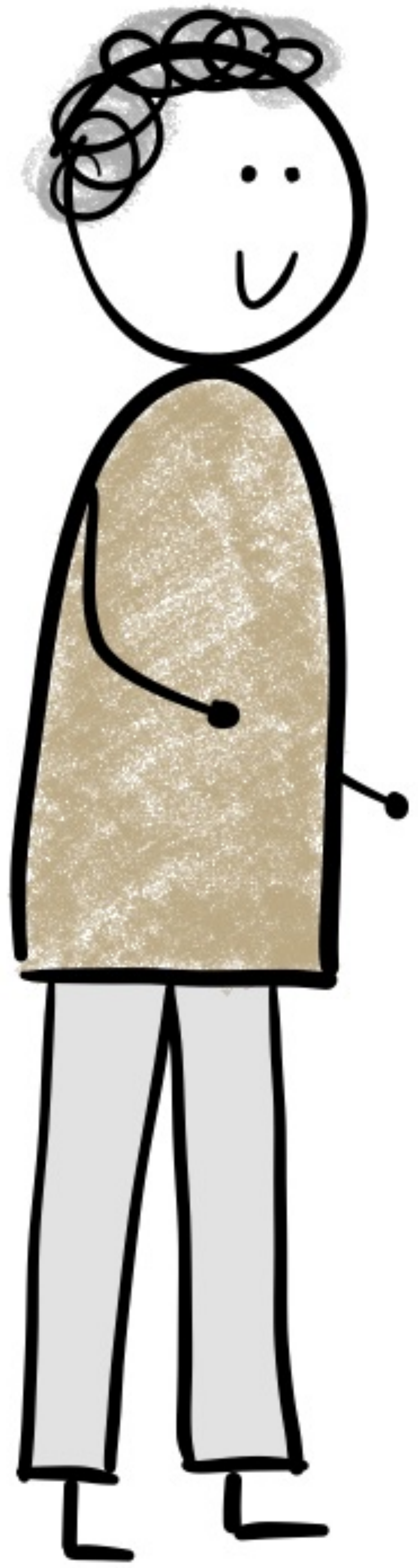


What characterizes intellectual activity, over and beyond activity that is merely intelligent, is the person's building and having a theory.

Where theory is understood as the knowledge a person must have in order not only to do certain things intelligently but also to explain them, to answer queries about them, to argue about them, and so forth.

Programming as theory building 1985

Peter Naur, building on Gilbert Ryle



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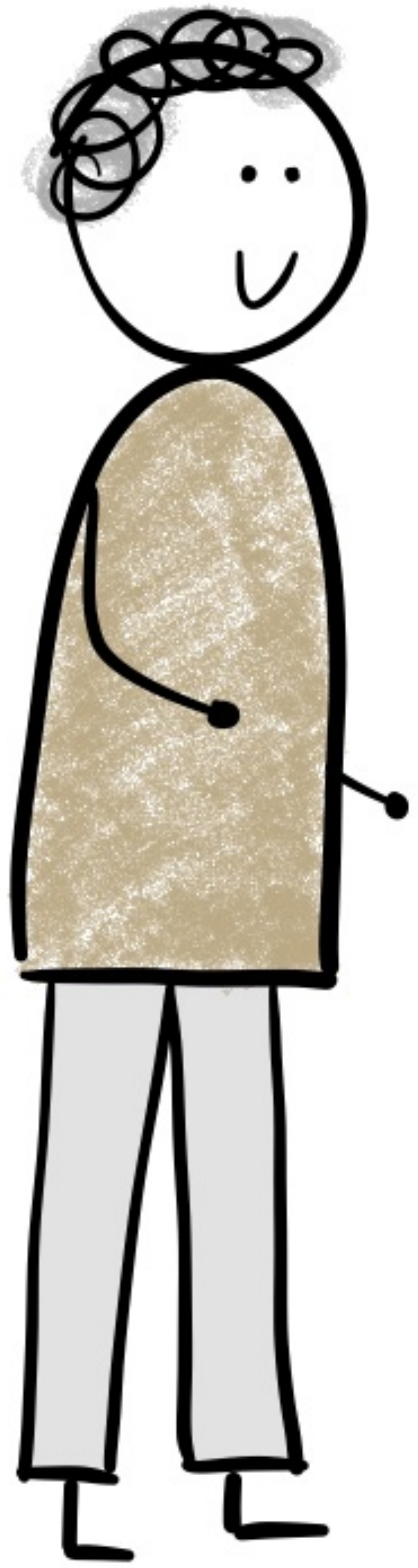
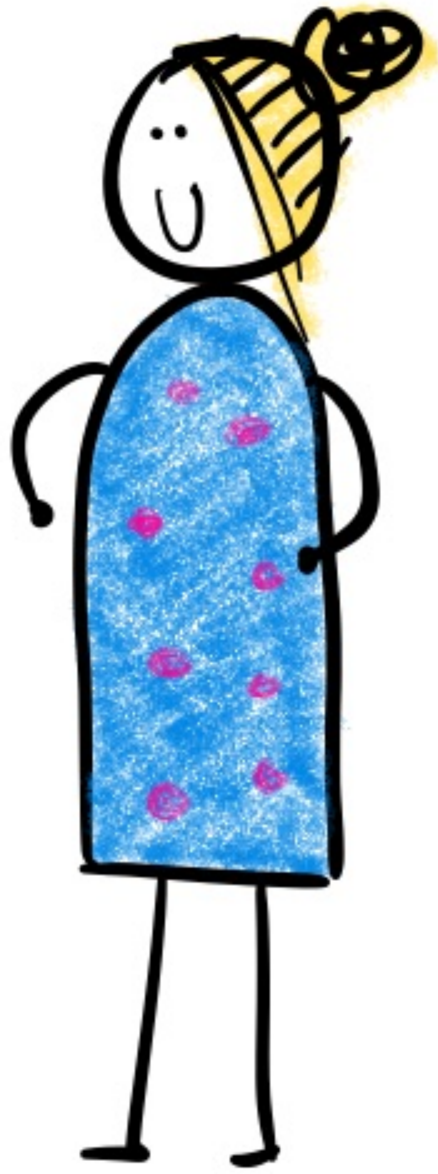


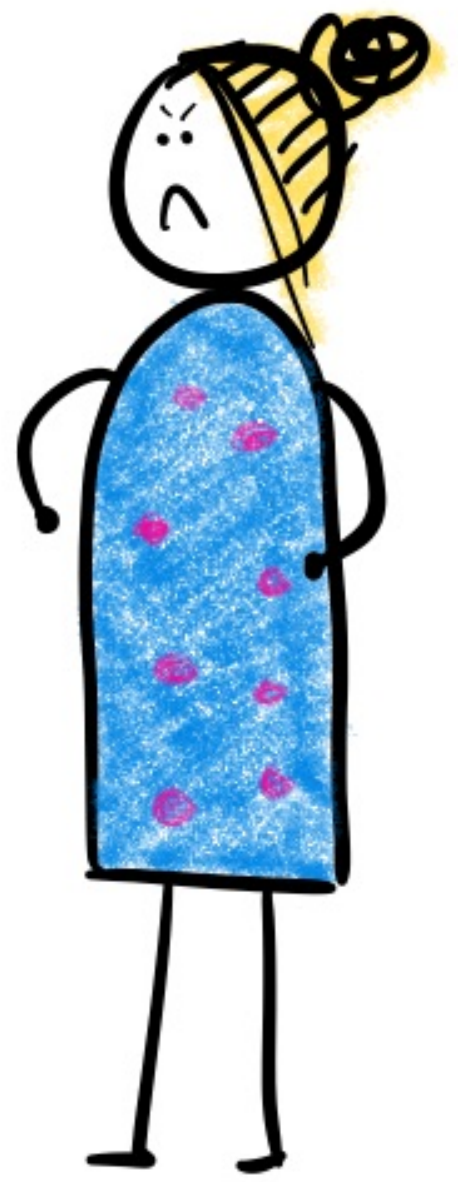
What characterizes intellectual activity, over and beyond activity that is merely intelligent, is the person's building and having a theory.

So maybe we have artificial intelligence, but not artificial intellectual activity



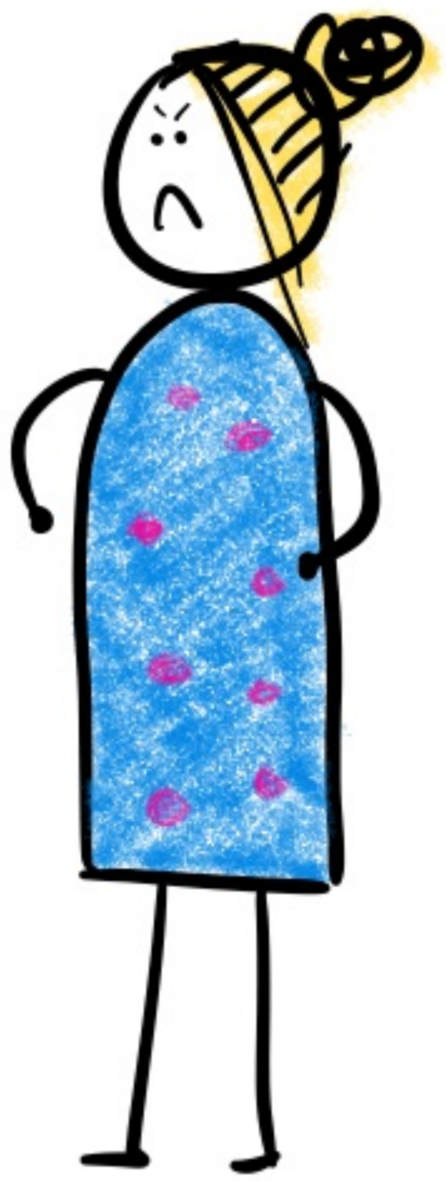
Epistemological violence

Leer in deze workshop hoe je als docent met Copilot, ChatGPT en andere AI-tools tijd bespaart.



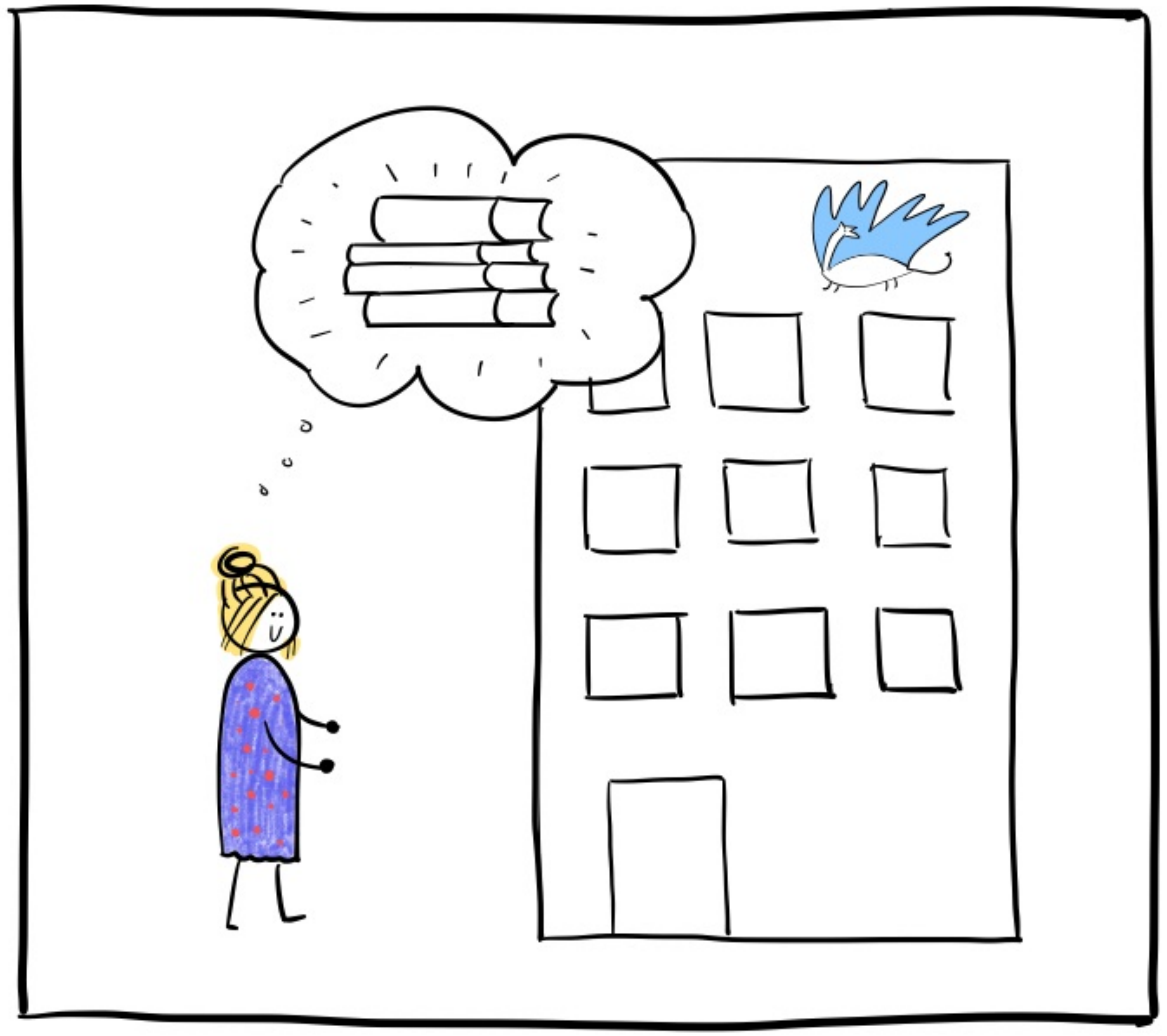
Leer in deze workshop hoe je als docent met Copilot, ChatGPT en andere AI-tools tijd bespaart.

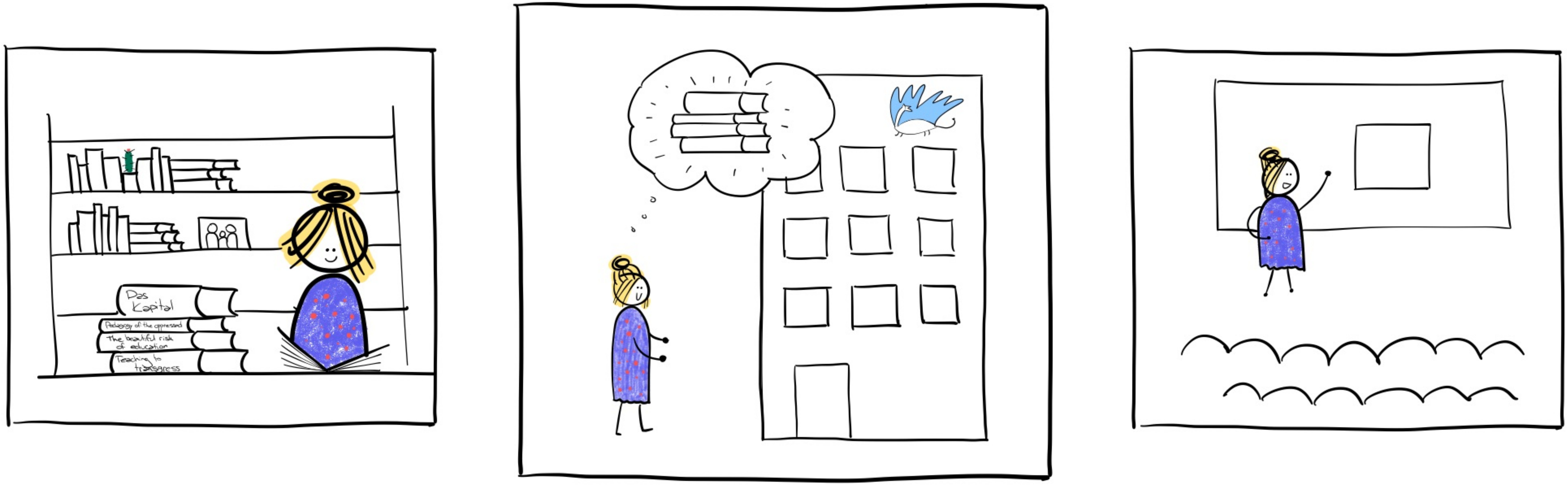
Generatieve AI is een krachtig hulpmiddel voor elke docent bij het formuleren van leerdoelen, het ontwerpen van cursussen, het ontwerpen van lesplannen, het ontwerpen van rubrics, het ontwikkelen van beoordelingsmateriaal of zelfs powerpoints. In deze workshop ga je hier mee aan de slag.




Das Kapital
Pedagogy of the oppressed
The beautiful risk of education
Teaching to transgress


Das Kapital
Pedagogy of the oppressed
The beautiful risk of education
Teaching to transgress

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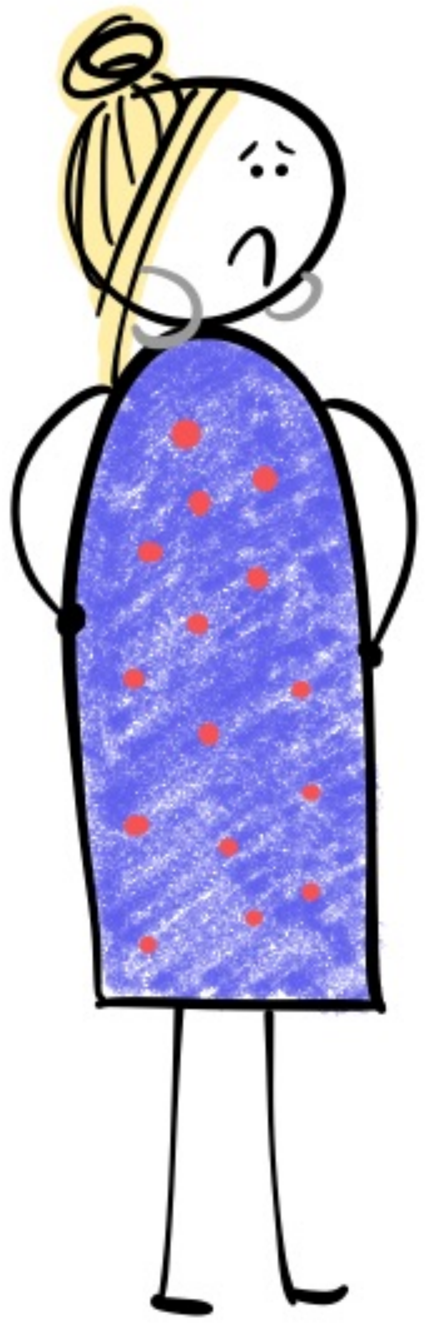
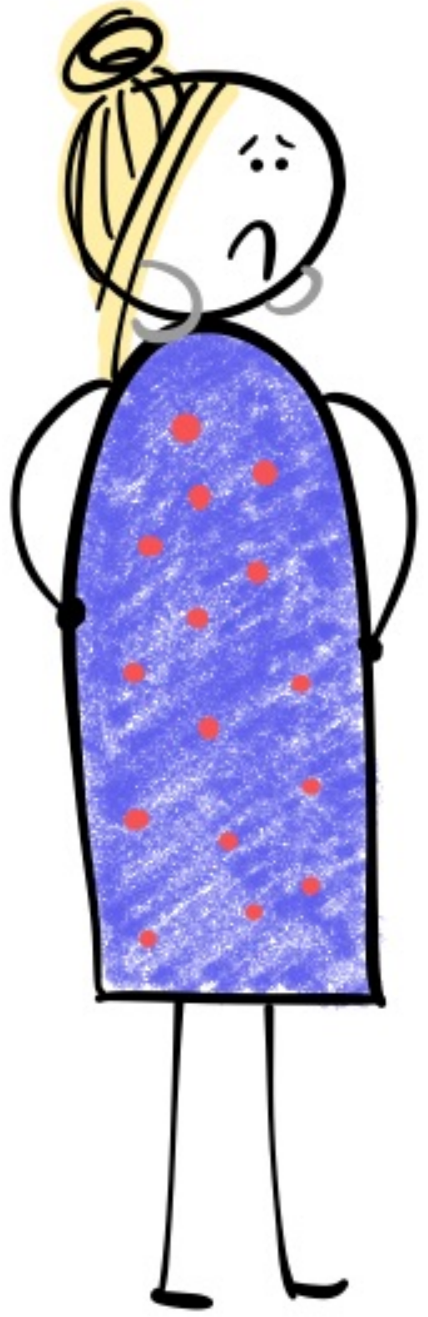
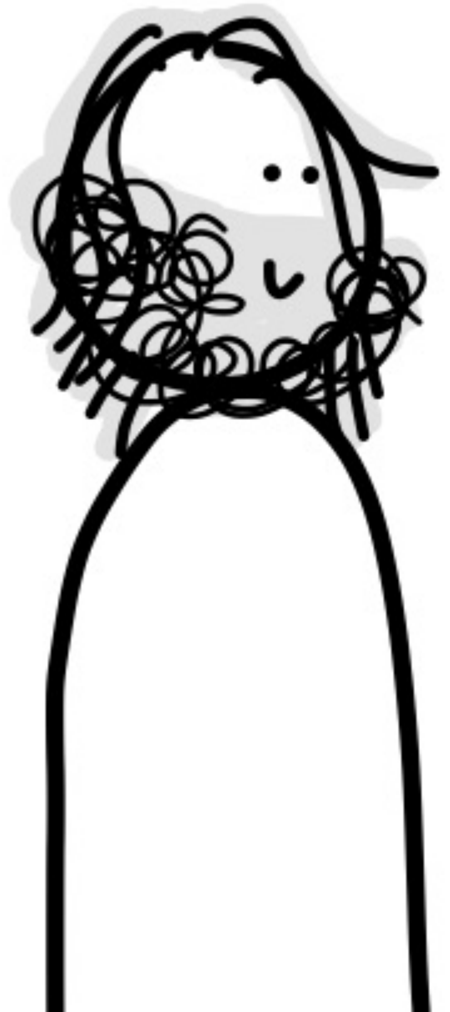


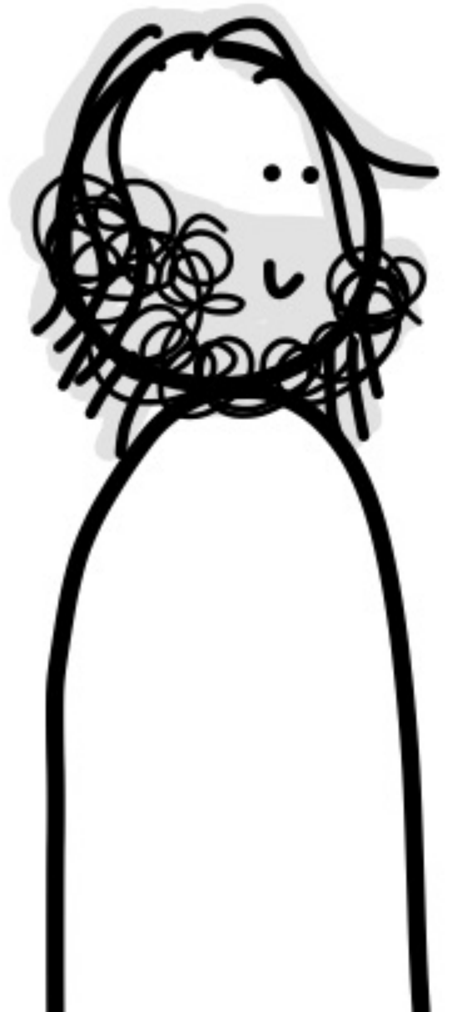

THE DAILY STOIC
366 MEDITATIONS ON WISDOM, PERSEVERANCE, AND THE ART OF LIVING
RYAN HOLIDAY
and STEPHEN HANSELMAN
GRIT
Angela Duckworth
BUILDING A STORYBRAND
DONALD MILLER
HOW TO win friends AND influence people
DALE CARNEGIE
Patrick Bet-David
with Greg Dinkin
INTELLIGENT INVESTOR
THE ART OF NEGOTIATION
HOW TO GET WHAT YOU WANT (EVERY TIME)
13 MILLION BOOKS SOLD WORLDWIDE
ROBIN SHARMA
THE LEADER WHO HAD NO TITLE
A Modern Fable on Success in Business and in Life
THE WARREN BUFFETT WAY
ROBERT G. HAGSTROM
fragile power
Why Having Everything Is Never Enough
Dr. Paul L. Hokemeyer
CHARLES DUHIGG
Start Now Get Perfect Later
GEORGE S. CLASON
Atomic Habits



Karl Marx



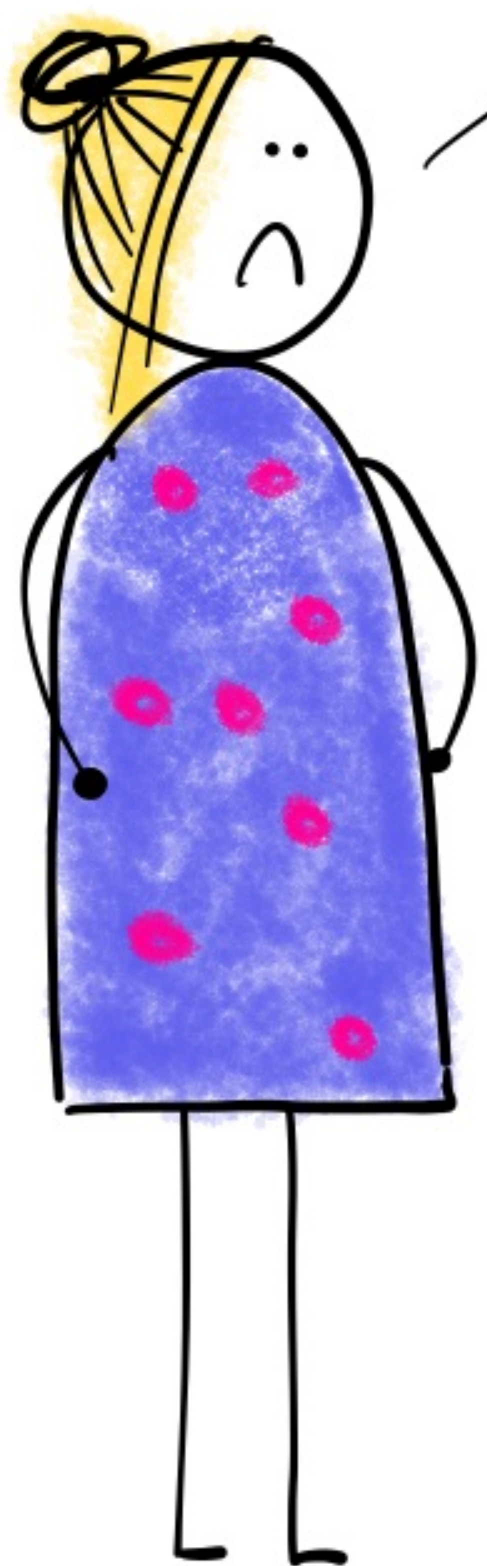
" Their specialised skill is rendered worthless by new methods of production"

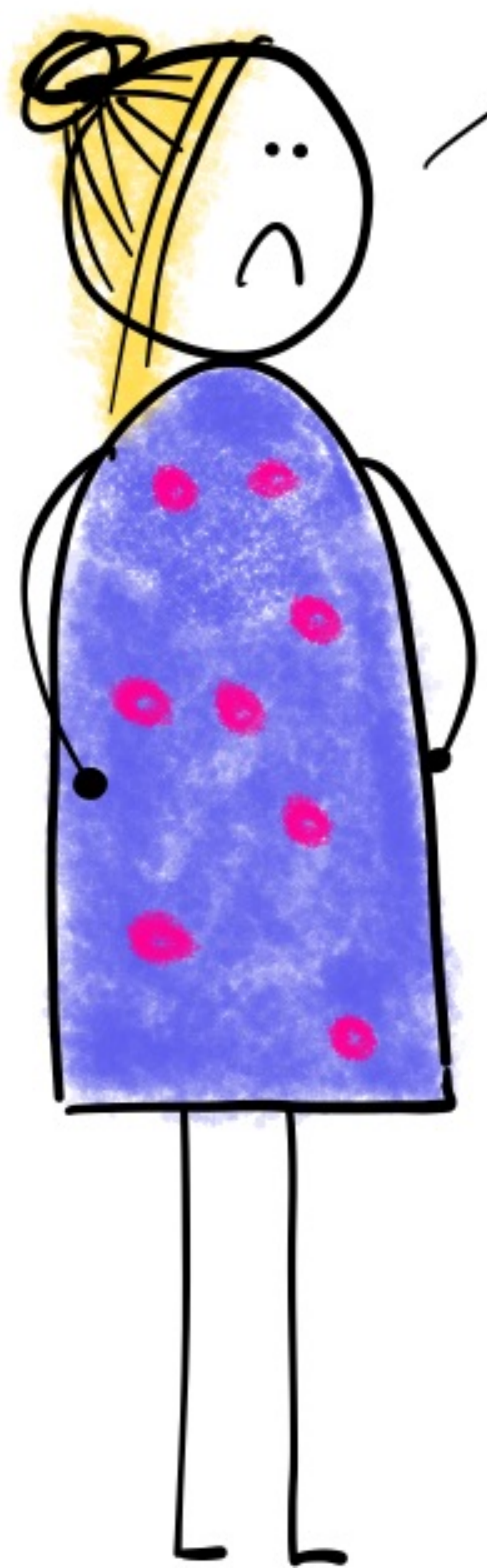


Communist manifesto 1948

Science is not neutral

AI hype is the latest example





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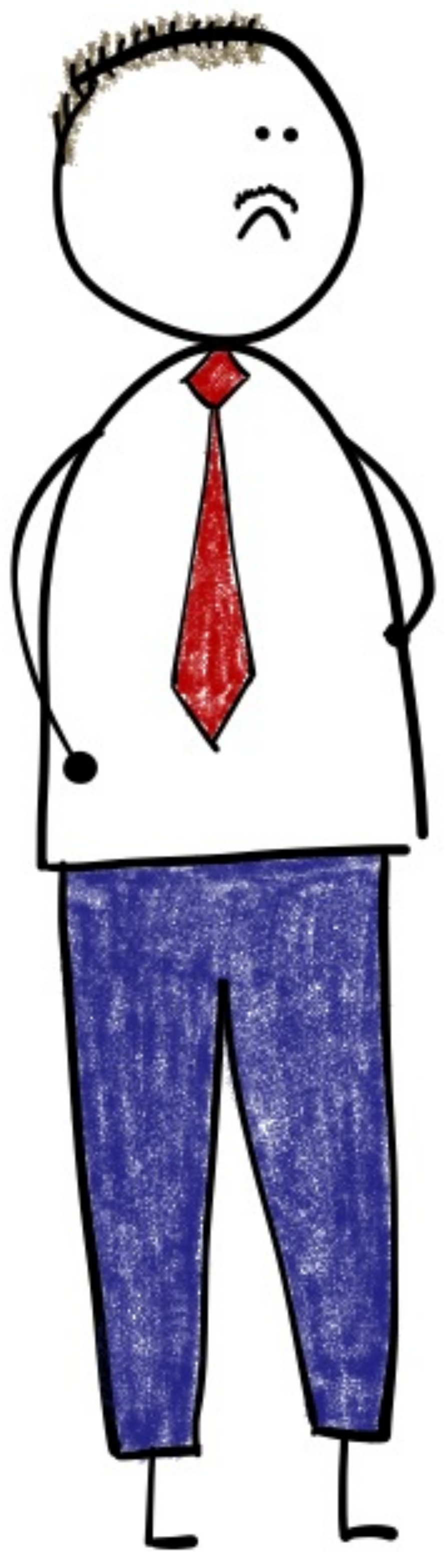
Actually pretty old

Martin Luther King



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The external is that complex of devices, techniques, mechanisms, and instrumentalities by means of which we live. Our problem today is that we have allowed the internal to become lost in the external.

So much of modern life can be summarized in that arresting dictum of the poet Thoreau:

“Improved means to an unimproved end”.

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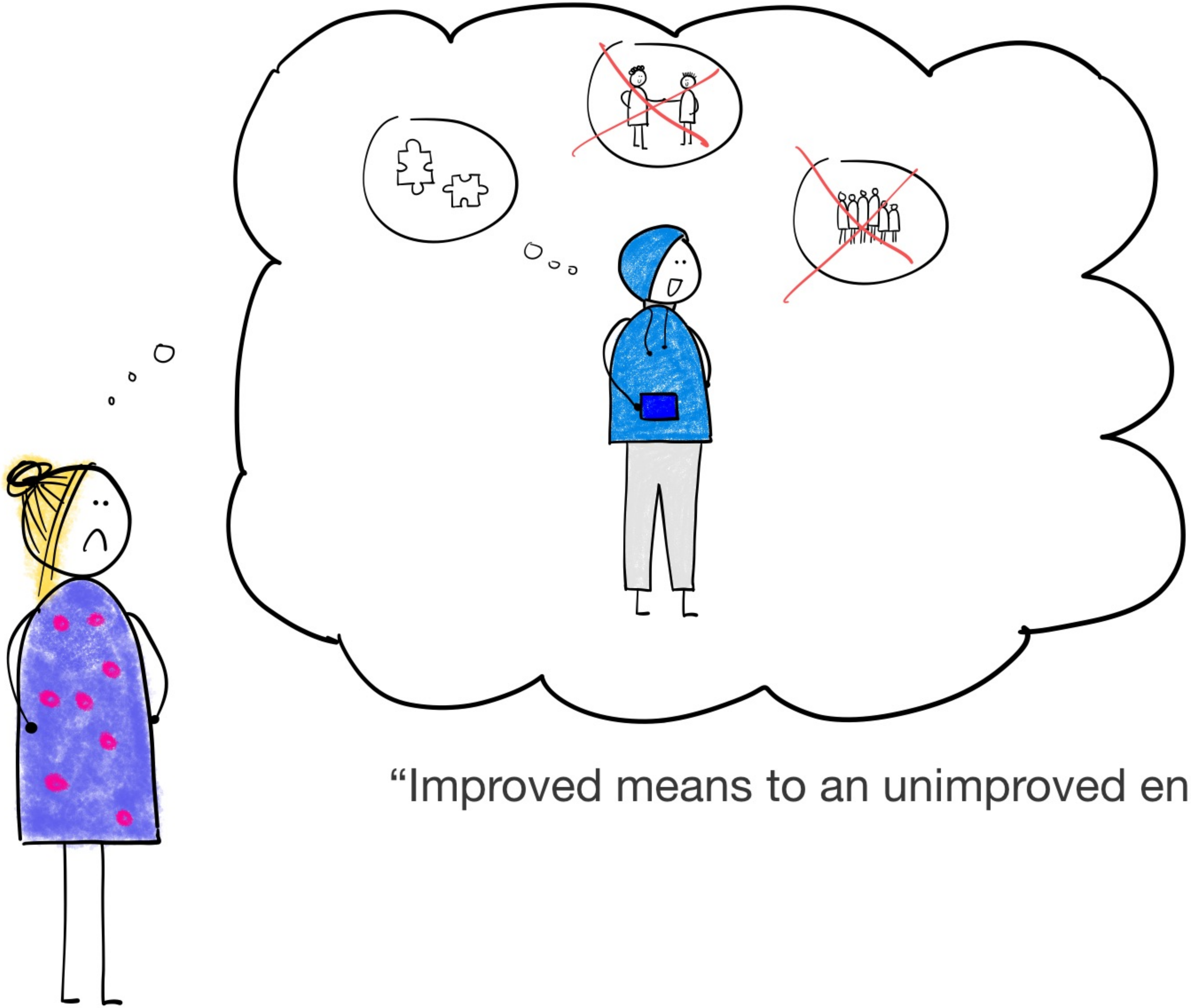

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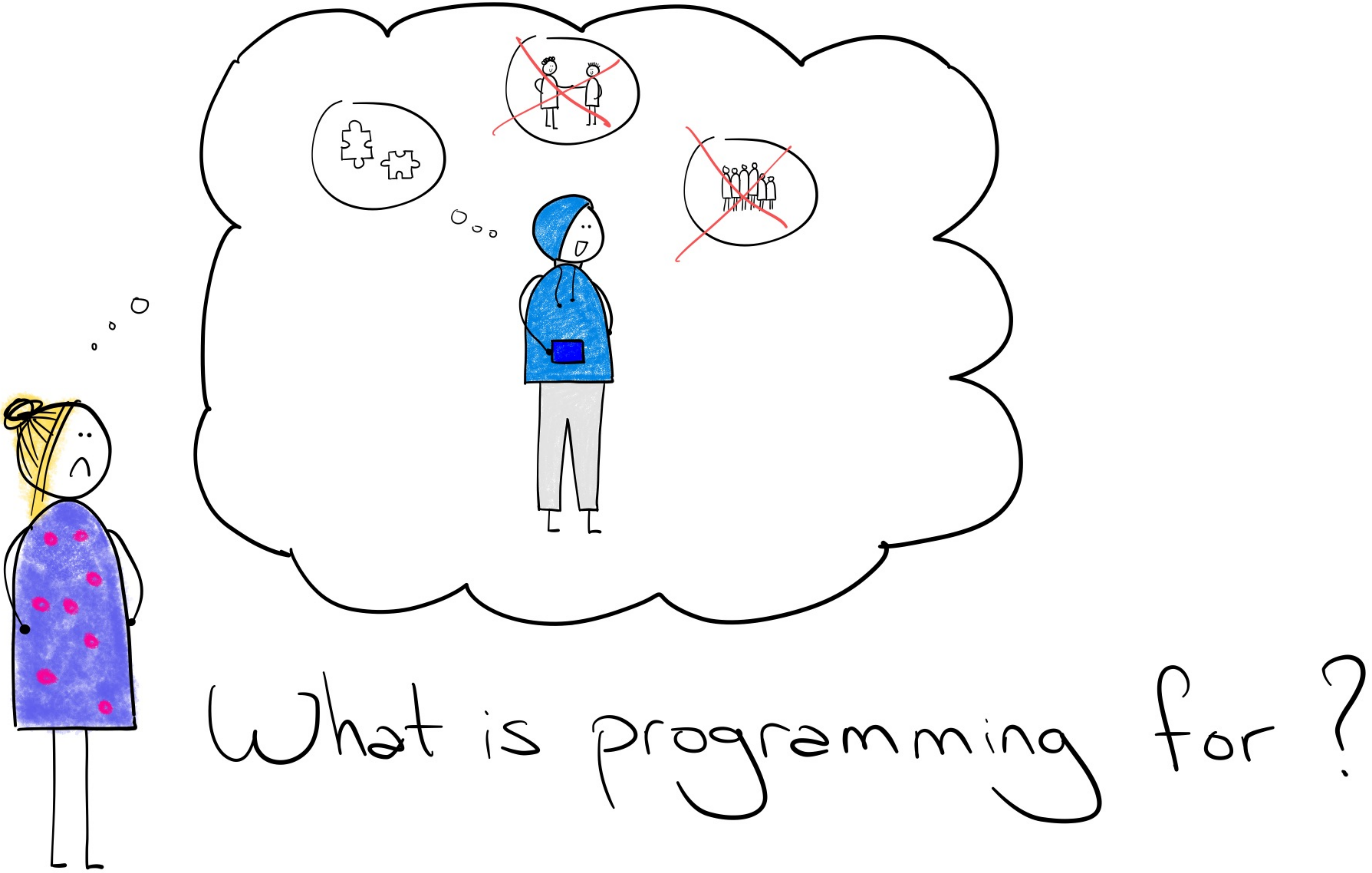
What is programming for ?

Baldur Bjarnason
@baldur@toot.cafe

The dividing line between critics of "AI" for software dev and fans largely lies in their different worldviews about what the state of software dev was before the "AI" bubble

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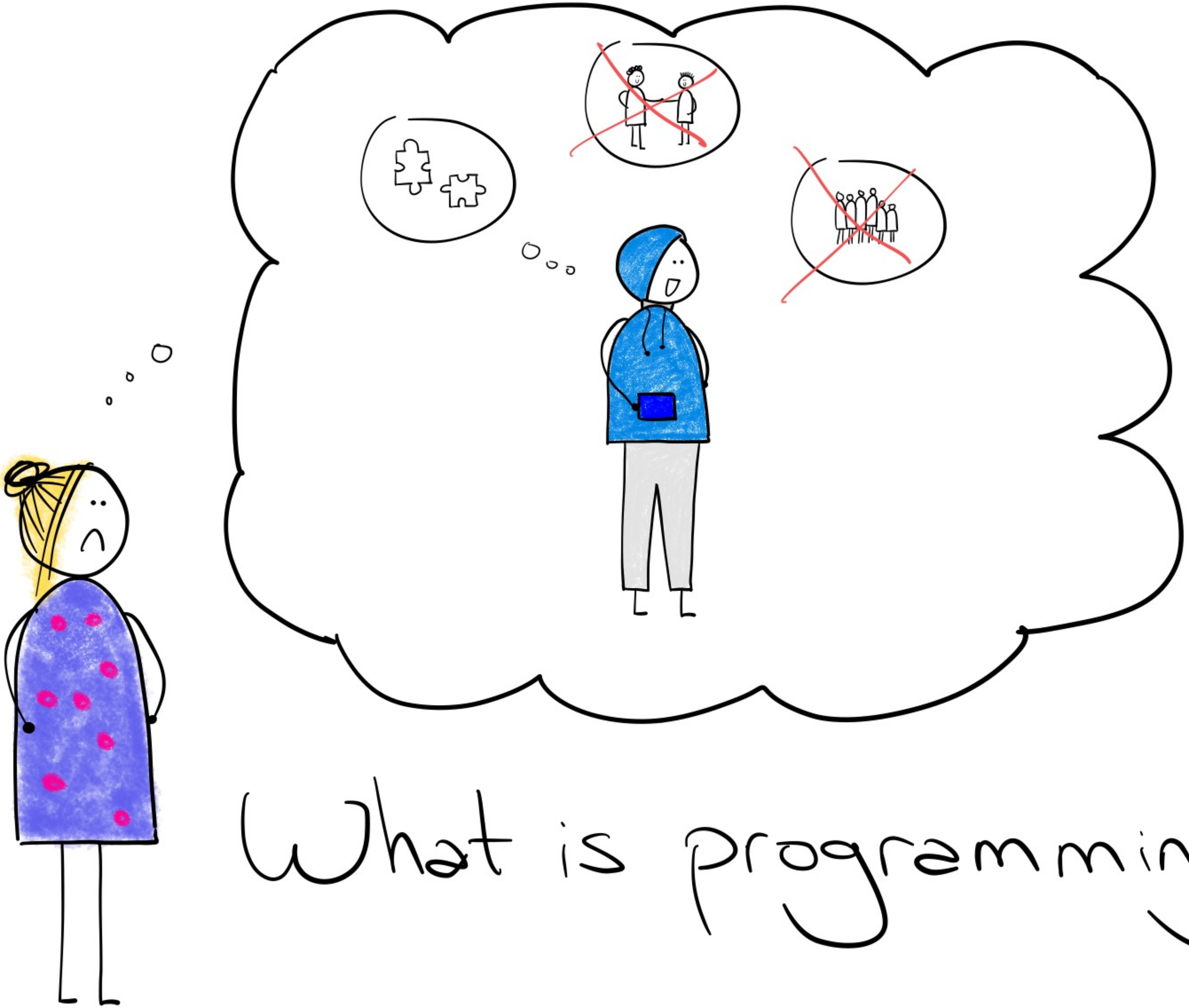
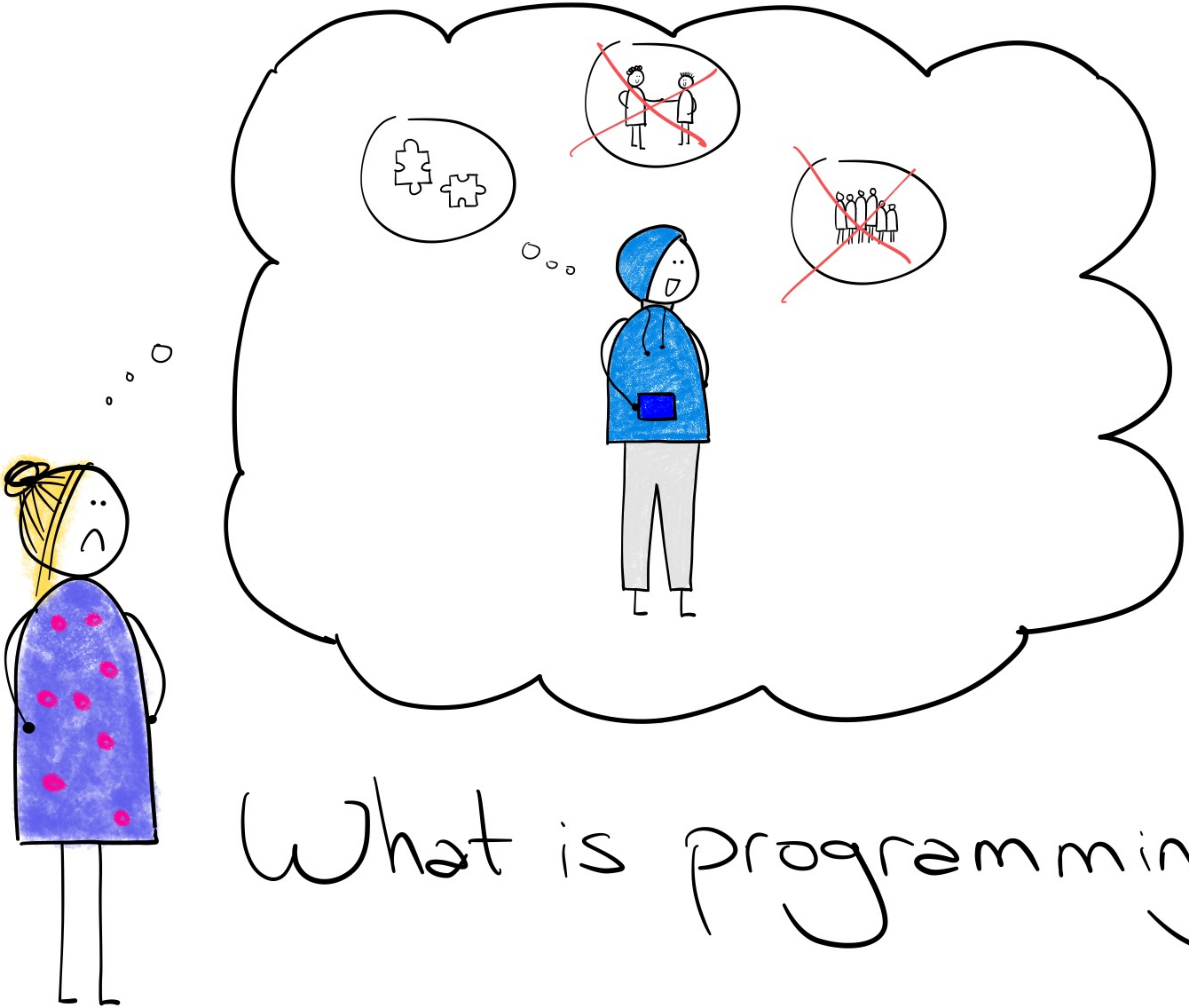
The dividing line between critics of "AI" for software dev and fans largely lies in their different worldviews about what the state of software dev was before the "AI" bubble

Before LLMs arrived, the critics believed that existing software dev was flawed, largely inadequate, and a recipe for future crises, whereas the fans thought things were great but needed to be faster

Jun 03, 2025, 02:30 PM ·



What is programming for?



What is programming?

Computer programming

Computer programming or **coding** is the composition of sequences of instructions, called programs, that computers can follow to perform tasks.[1][2] It involves designing and implementing algorithms, step-by-step specifications of procedures, by writing code in one or more programming languages.

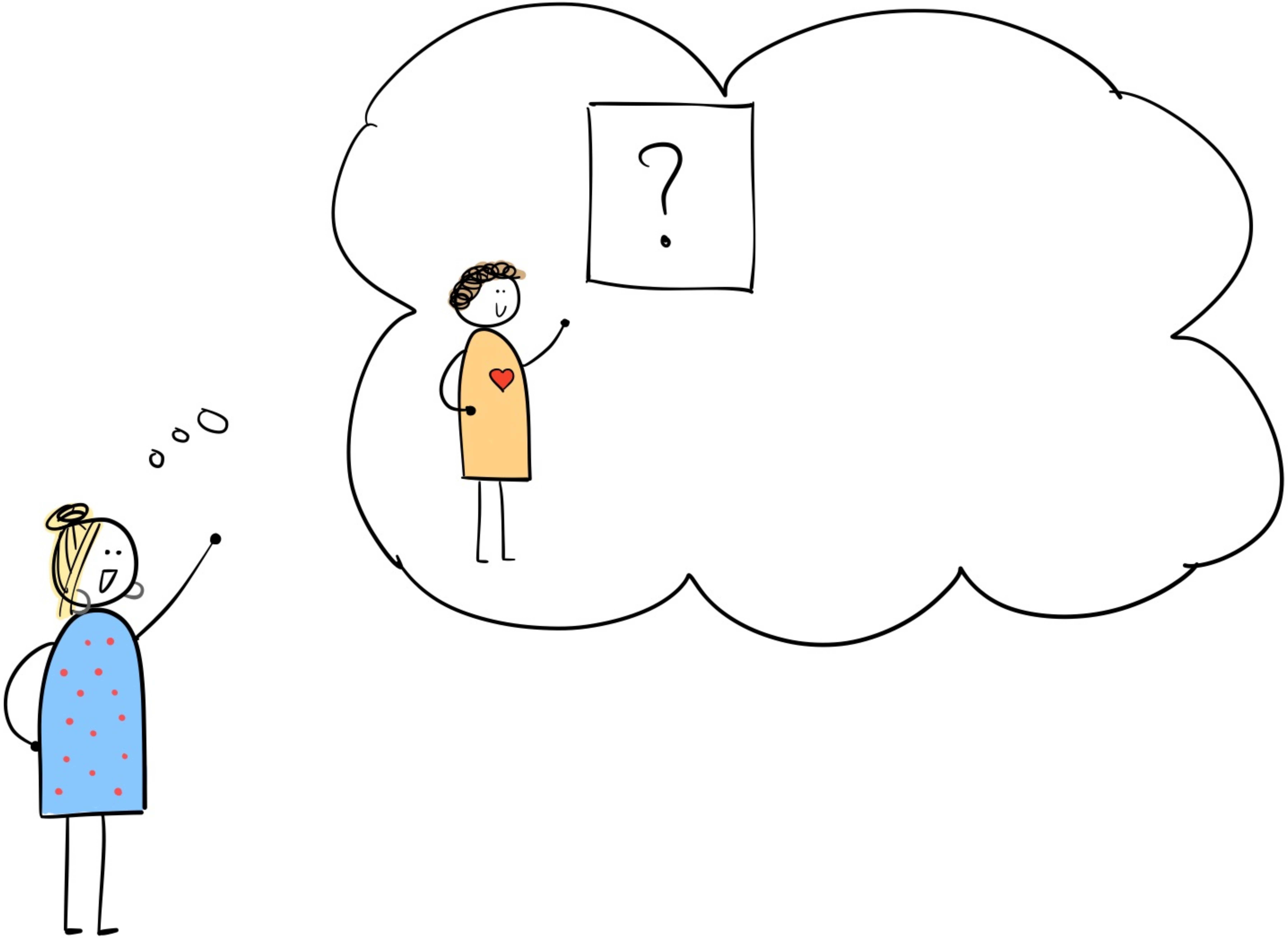
WIKIPEDIA Search Wikipedia

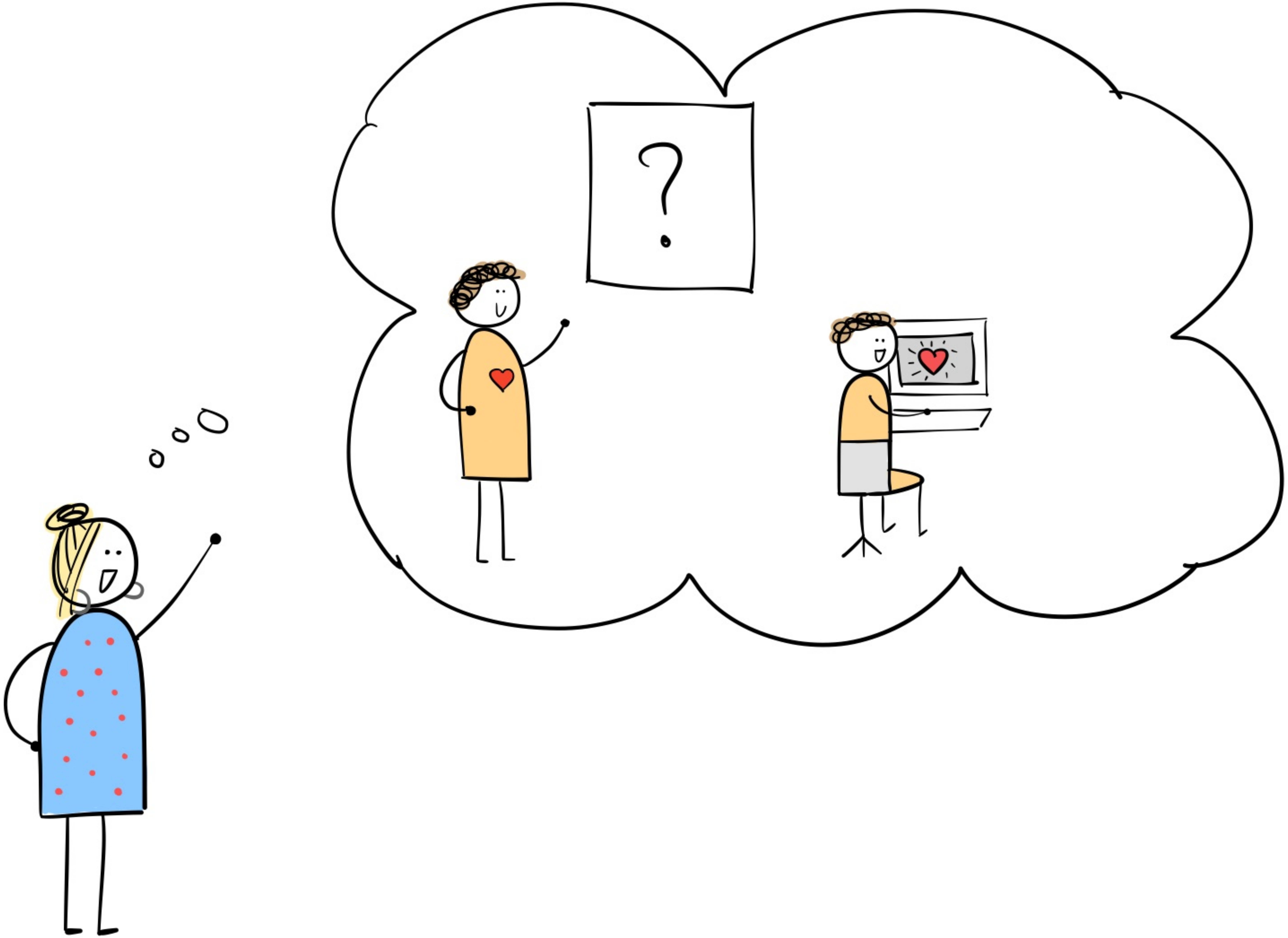
Computer programming

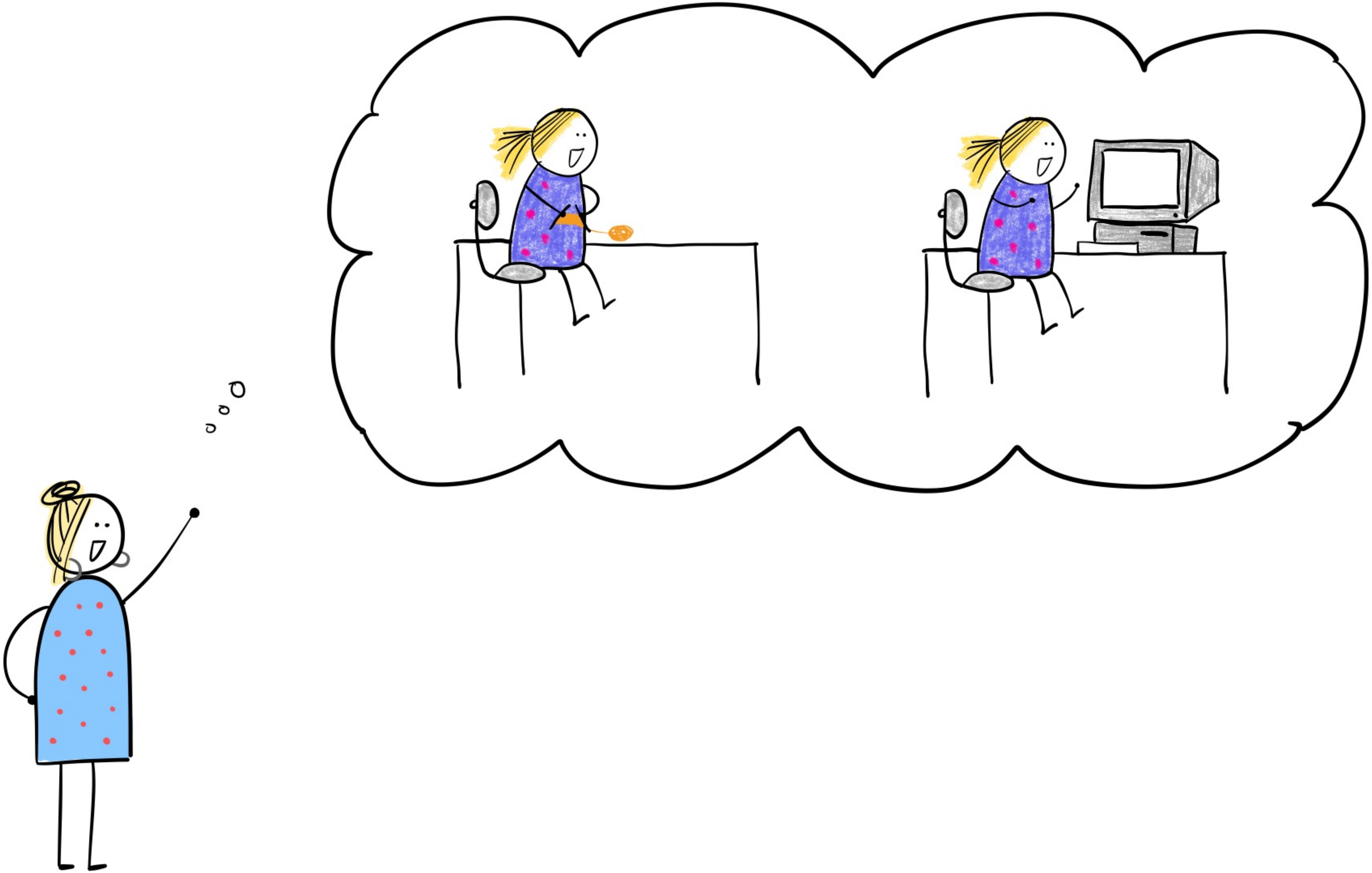
Article Talk

Computer programming or **coding** is the composition of sequences of instructions, called programs, that computers can follow to perform tasks.[1][2] It involves designing and implementing algorithms, step-by-step specifications of procedures, by writing code in one or more programming languages.

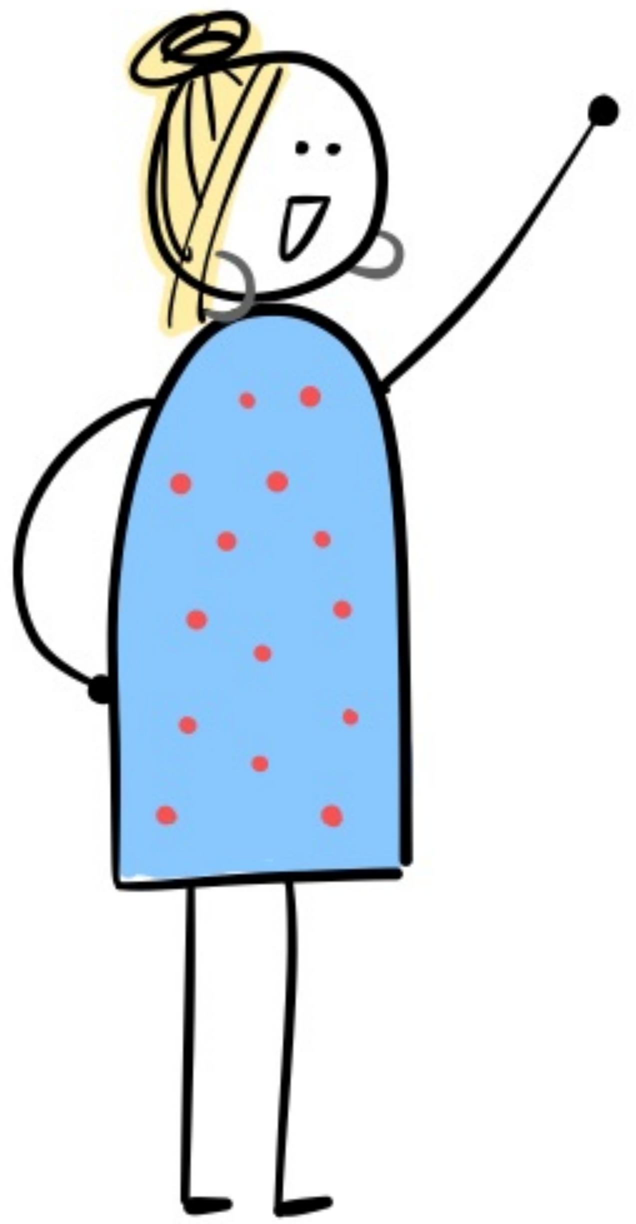
Auxiliary tasks accompanying and related to programming include analyzing requirements, testing, debugging (investigating and fixing problems),





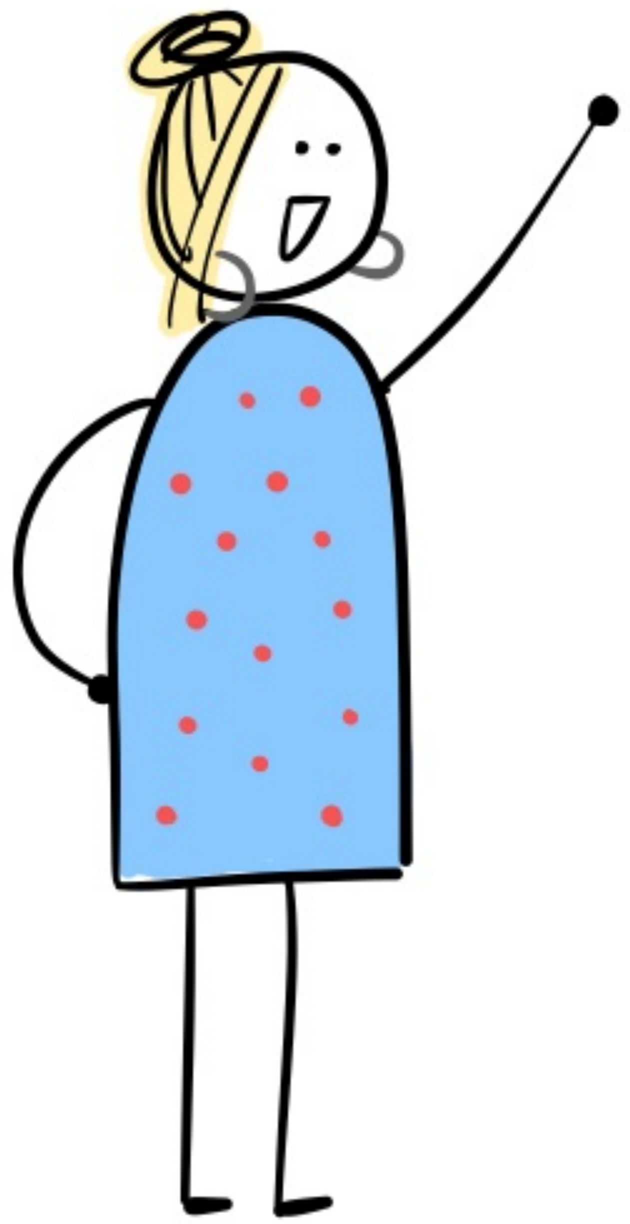


Code is just another fabric!



Knitting

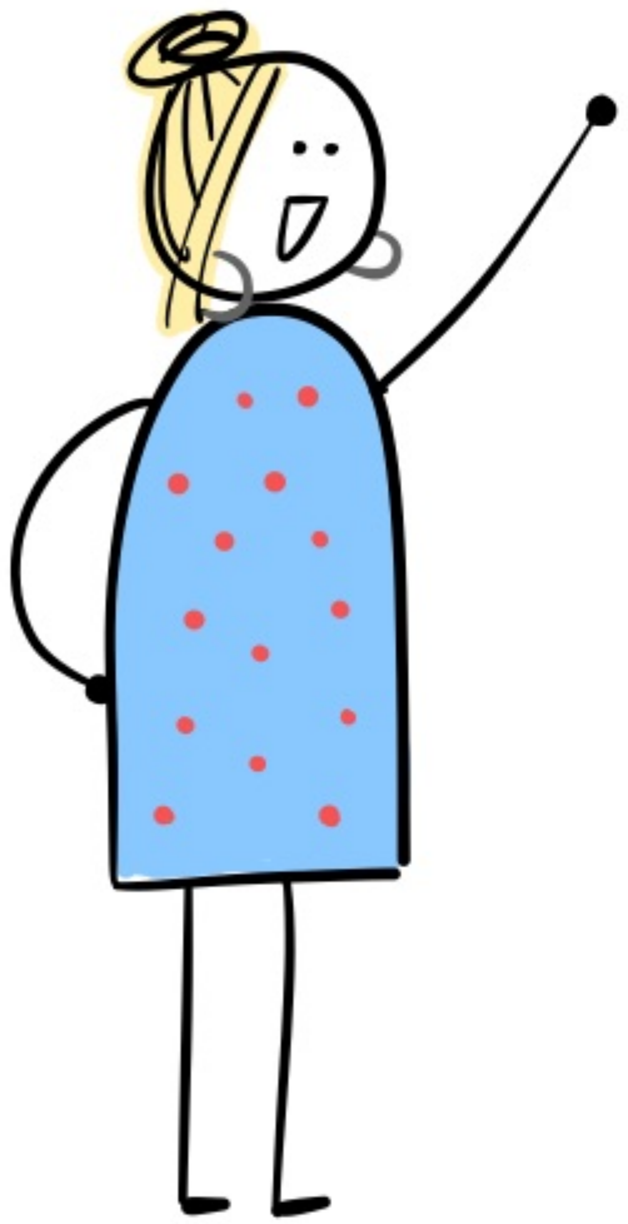
Article Talk



Knitting

Article Talk

Knitting is a method for production of textile fabrics by interlacing yarn loops with loops of the same or other yarns. It is used to create many types of garments. Knitting may be done by hand or by machine.



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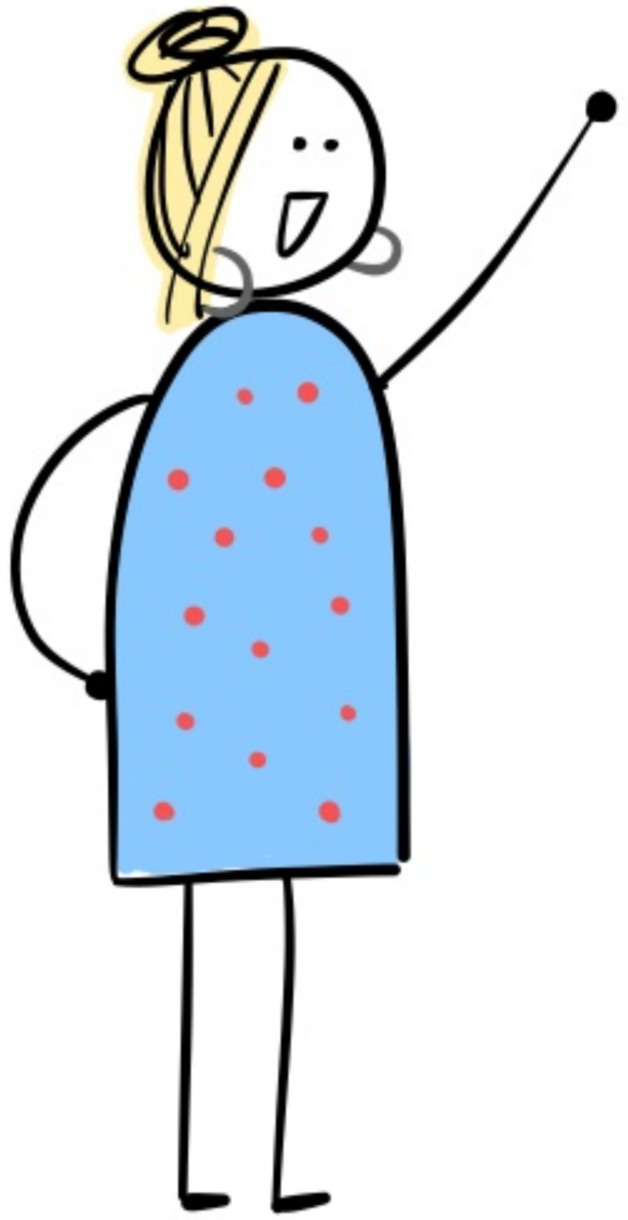

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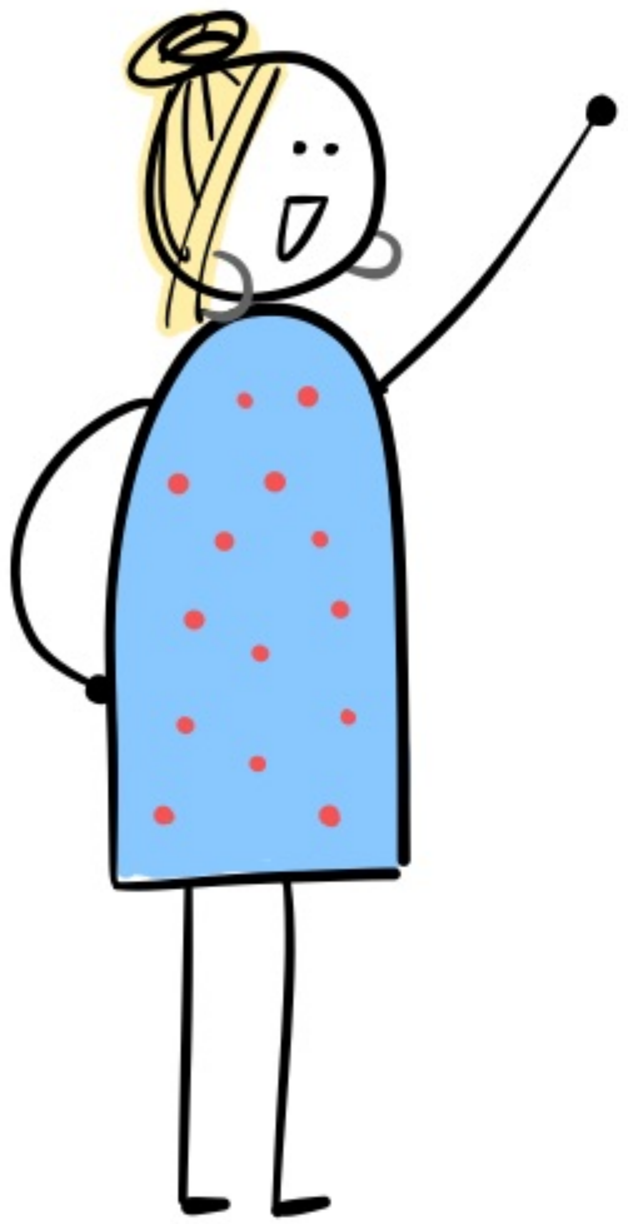

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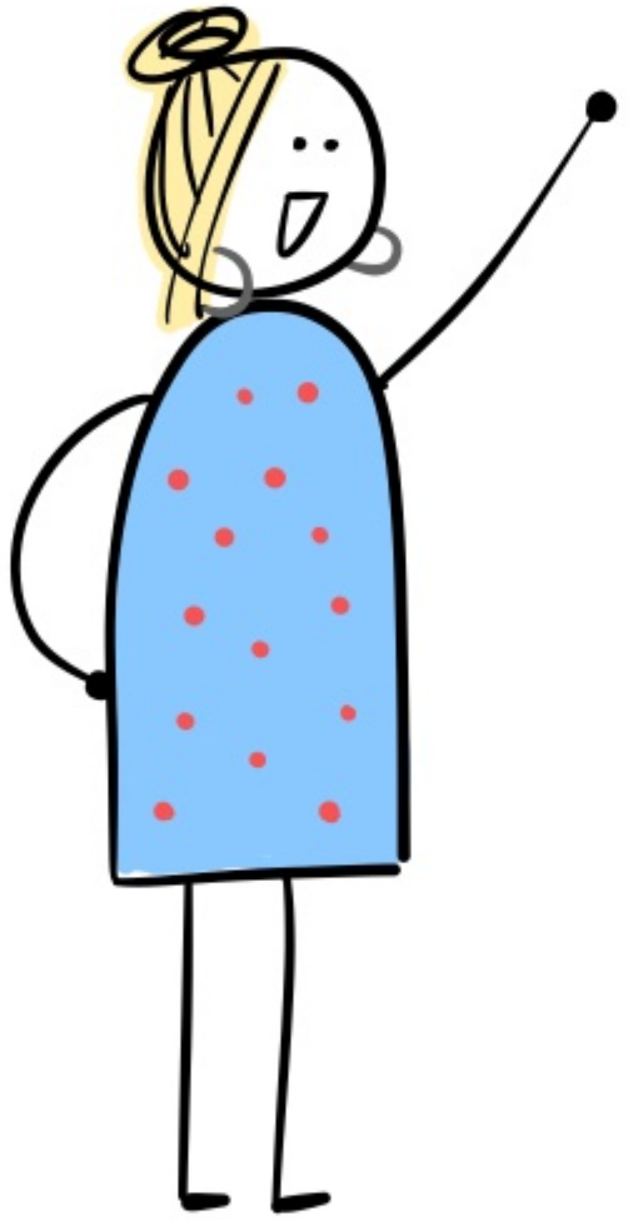
Woman knitting



CABLE GILET ✻

TAKE ON A CHALLENGE

YOU WILL NEED

- ☐ Novita 7 Brothers North/ 7 Veljestä Pohjola (aran, 45% wool, 30% Finnish wool, 25% polyamide, 100g/200m) ***For yarn quantities and measurements see size table***
- ☐ A pair of 4.5mm knitting needles
- ☐ 2 stitch holders
- ☐ 1 toggle button, 1cm wide, 3.5cm long

TENSION

18 sts and 24 rows to measure 10x10cm (4x4in) over st st using 4.5mm needles

20 sts and 24 rows to measure 10x10cm (4x4in) over main patt using 4.5mm needles

ABBREVIATIONS

S2kpo slip 2 sts as if to k2tog, K1, pass slipped sts over
MB worked over 1 st: M1, K1, M1, turn, P3, turn, K1, M1, K1, M1, K1, turn, p2tog, P1, p2tog, turn, s2kpo

For a full list see page 95

FIND YOUR SIZE

SIZE		8	10	12	14	16	18	20	22	24	26
TO FIT BUST	cm	81	86	91.5	96.5	101.5	106.5	111.5	117	122	127
	in	32	34	36	38	40	42	44	46	48	50
ACTUAL BUST	cm	86	91	96.5	101.5	106.5	111.5	119	125	129.5	137
	in	34	36	38	40	42	44	47	49	51	54
LENGTH	cm	57	58	63	64.5	64.5	66	71	72	72	73.5
	in	22½	23	24¾	25½	25½	26	28	28¼	28¼	29
SLEEVE LENGTH	cm	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5	12.5
	in	5	5	5	5	5	5	5	5	5	5
YARN		Novita 7 Brothers North/ 7 Veljestä Pohjola (aran, 100g/200m)									
Yarn A Salla (867)		4	4	4	5	5	5	6	6	7	7

SIZING COLOUR KEY So you can re-use this pattern, we've colour-coded the sizing instructions. Simply follow our colour-coded measurements and you're off.

WHERE TO BUY

- ☐ **For yarn stockists contact Novita on www.novitaknits.com or +358 (9) 613 176**

OR YOU COULD TRY...

- ☐ **Wool Warehouse** 0800 505 3300 or www.woolwarehouse.co.uk
- ☐ **Love Crafts** 01409 404 010 or www.lovecrafts.com

CHART A

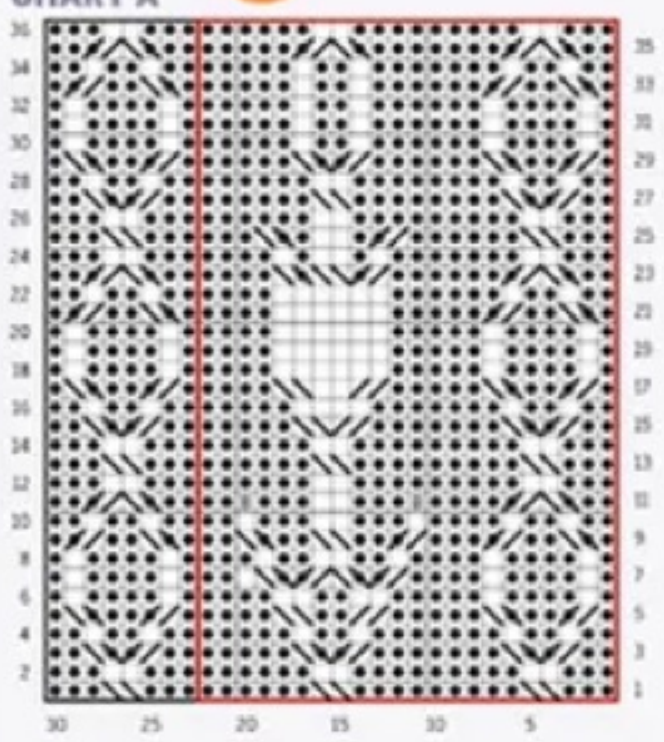
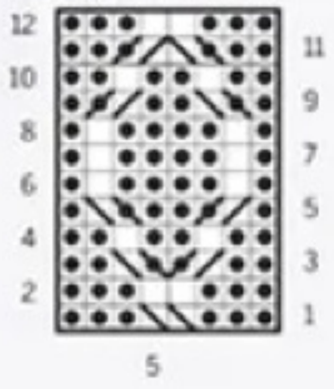


CHART B

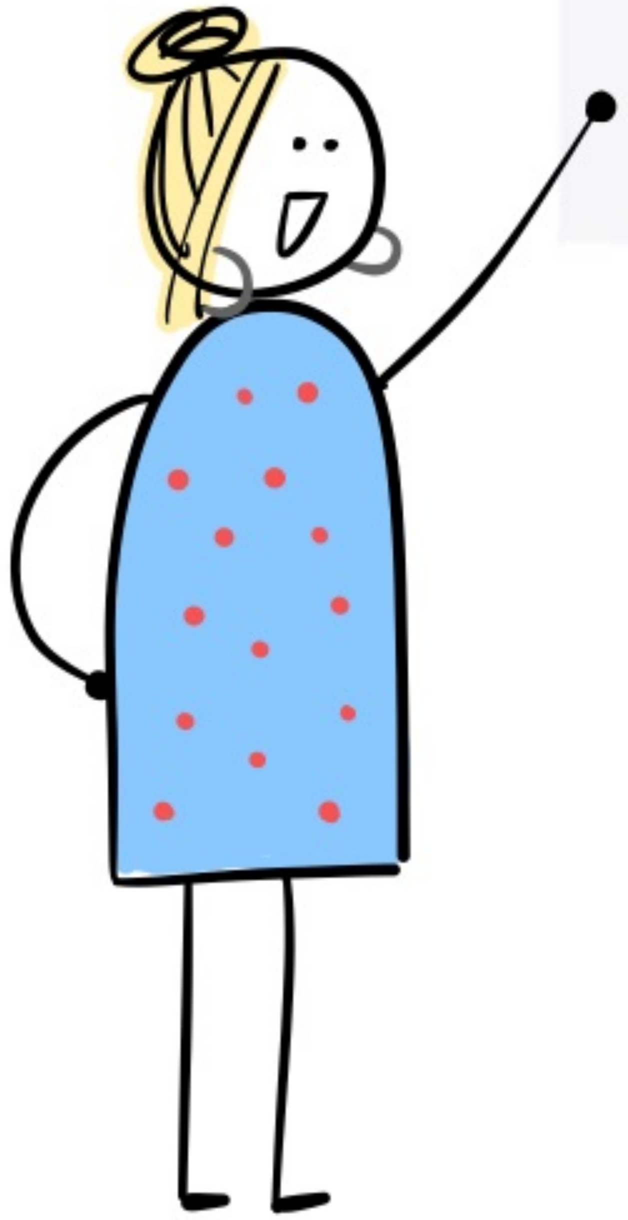


KEY

- ☐ K on RS; P on WS
- ● P on RS; K on WS
- C2B
- C2F
- T2B
- T2F
- B Bobble
- Repeat

HOW TO USE OUR CHARTS

Start at the bottom right-hand corner. Read right side rows from right to left and wrong side rows from left to right. A row of squares represents a row of knitting.



CABLE GILET

Note The Gilet is worked in 3 pieces from the bottom up. The cabling starts on Row 1.

CHARTS

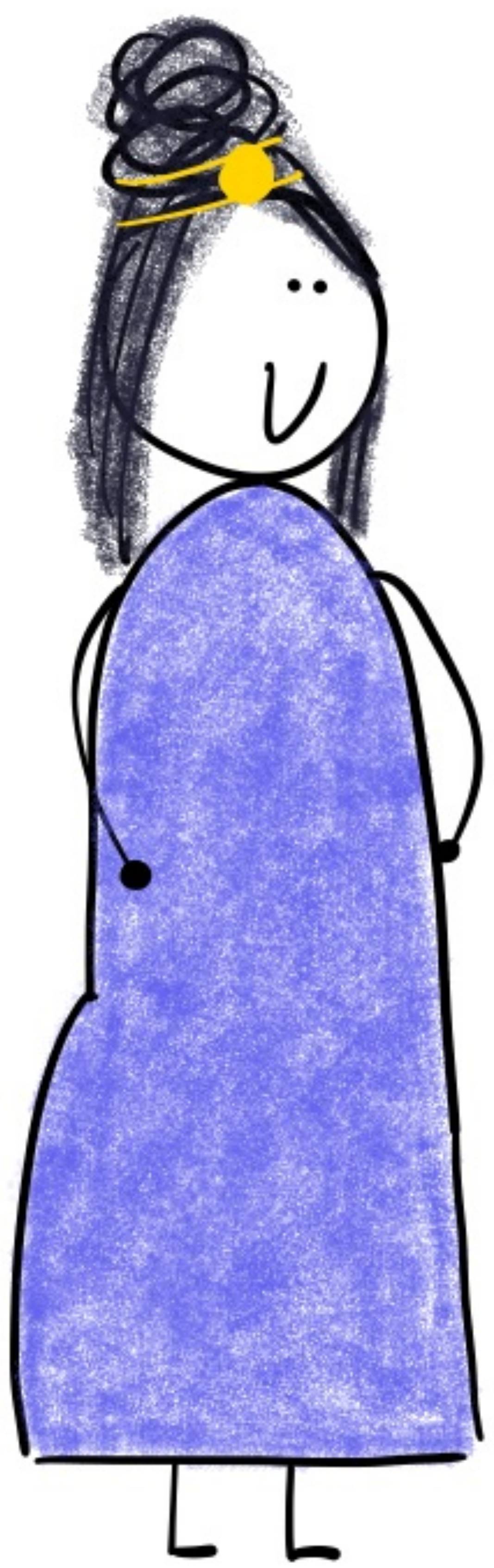
CHART A (MAIN PATTERN)

Chart is worked over a multiple of 22 sts + 8 sts.

Row 1 (RS) *(P3, C2F, P6) twice; rep from * to last 8 sts, P3, C2F, P3.
Row 2 K3, P2, K3, *(K6, P2, K3) twice; rep from * to end.
Row 3 *(P2, T2B, T2F, P5) twice; rep from * to last 8 sts, P2, T2B, T2F, P2.
Row 4 K2, P1, K2, P1, K2, *(K5, P1, K2, P1, K2) twice; rep from * to end.
Row 5 *P1, T2B, P2, T2F, P5, C2B, P2, C2F, P4; rep from * to last 8 sts, P1, T2B, P2, T2F, P1.
Row 6 K1, P1, K4, P1, K1, *K4, P2, K2, P2, K5, P1, K4, P1, K1; rep from * to end.
Row 7 *P1, K1, P4, K1, P4, (T2B, T2F) twice, P3; rep from * to last 8 sts, P1, K1, P4, K1, P1.
Row 8 K1, P1, K4, P1, K1, *K3, P1, K2, P2, K2, P1, K4, P1, K4, P1, K1; rep from * to end.
Row 9 *P1, T2F, P2, T2B, P3, T2B, P2, C2F, P2, T2F, P2; rep from * to last 8 sts, P1, T2F, P2, T2B, P1.
Row 10 K2, P1, K2, P1, K2, *K2, P1, K3, P2, K3, P1, K4, P1, K2, P1, K2; rep from * to end.
Row 11 *P2, T2F, T2B, P4, MB, P3, K2, P3, MB, P2; rep from * to last 8 sts, P2, T2F, T2B, P2.
Row 12 K3, P2, K3, *K6, P2, K9, P2, K3; rep from * to end.
Row 13 *(P3, C2F, P6) twice; rep from * to last 8 sts, P3, C2F, P3.
Row 14 K3, P2, K3, *(K6, P2, K3) twice; rep from * to end.
Row 15 *P2, T2B, T2F, P7, C2B, C2F, P5; rep from * to last 8 sts, P2, T2B, T2F, P2.
Row 16 K2, P1, K2, P1, K2, *K5, P4, K7, P1, K2, P1, K2; rep from * to end.
Row 17 *P1, T2B, P2, T2F, P5, C2B, K2, C2F, P4; rep from * to last 8 sts, P1, T2B, P2, T2F, P1.
Row 18 K1, P1, K4, P1, K1, *K4, P6, K5, P1, K4, P1, K1; rep from * to end.
Row 19 *P1, K1, P4, K1, P5, K6, P4 ; rep from * to last 8 sts, P1, K1, P4, K1, P1.
Row 20 K1, P1, K4, P1, K1, *K4, P6, K5, P1, K4, P1, K1; rep from * to end.
Row 21 *P1, T2F, P2, T2B, P5, K6, P4; rep from * to last 8 sts, P1, T2F, P2, T2B, P1.
Row 22 K2, P1, K2, P1, K2, *K4, P6, K6, P1, K2, P1, K2; rep from * to end.
Row 23 *P2, T2F, T2B, P6, T2B, C2F, T2F, P4; rep from * to last 8 sts, P2, T2F, T2B, P2.
Row 24 K3, P2, K3, *K4, P1, K1, P2, K1, P1, K7, P2, K3; rep from * to end.
Row 25 *P3, C2F, P6, T2B, P1, K2, P1, T2F, P3; rep from * to last 8 sts, P3, C2F, P3.
Row 26 K3, P2, K3, *K6, P2, K9, P2, K3; rep from * to end.
Row 27 *P2, T2B, T2F, P8, C2F, P6; rep from * to last 8 sts, P2, T2B, T2F, P2.
Row 28 K2, P1, K2, P1, K2, *K6, P2, K8, P1, K2, P1, K2; rep from * to end.
Row 29 *P1, T2B, P2, T2F, P6, T2B, T2F, P5; rep from * to last 8 sts, P1, T2B, P2, T2F, P1.
Row 30 K1, P1, K4, P1, K1, *K5, P1, K2, P1, K6, P1, K4, P1, K1; rep from * to end.
Row 31 *P1, K1, P4, K1, P6, K1, P2, K1, P5; rep from * to last 8 sts, P1, K1, P4, K1, P1.
Row 32 K1, P1, K4, P1, K1, *K5, P1, K2, P1, K6, P1, K4, P1, K1; rep from * to end.
Row 33 *P1, T2F, P2, T2B, P6, K1, P2, K1, P5; rep from * to last 8 sts, P1, T2F, P2, T2B, P1.
Row 34 K2, P1, K2, P1, K2, *K5, P1, K2, P1, K7, P1, K2, P1, K2; rep from * to end.
Row 35 *(P2, T2F, T2B, P5) twice; rep from * to last 8 sts, P2, T2F, T2B, P2.

The cable design used in the pattern adds texture and dimension to the gilet

Ada Lovelace



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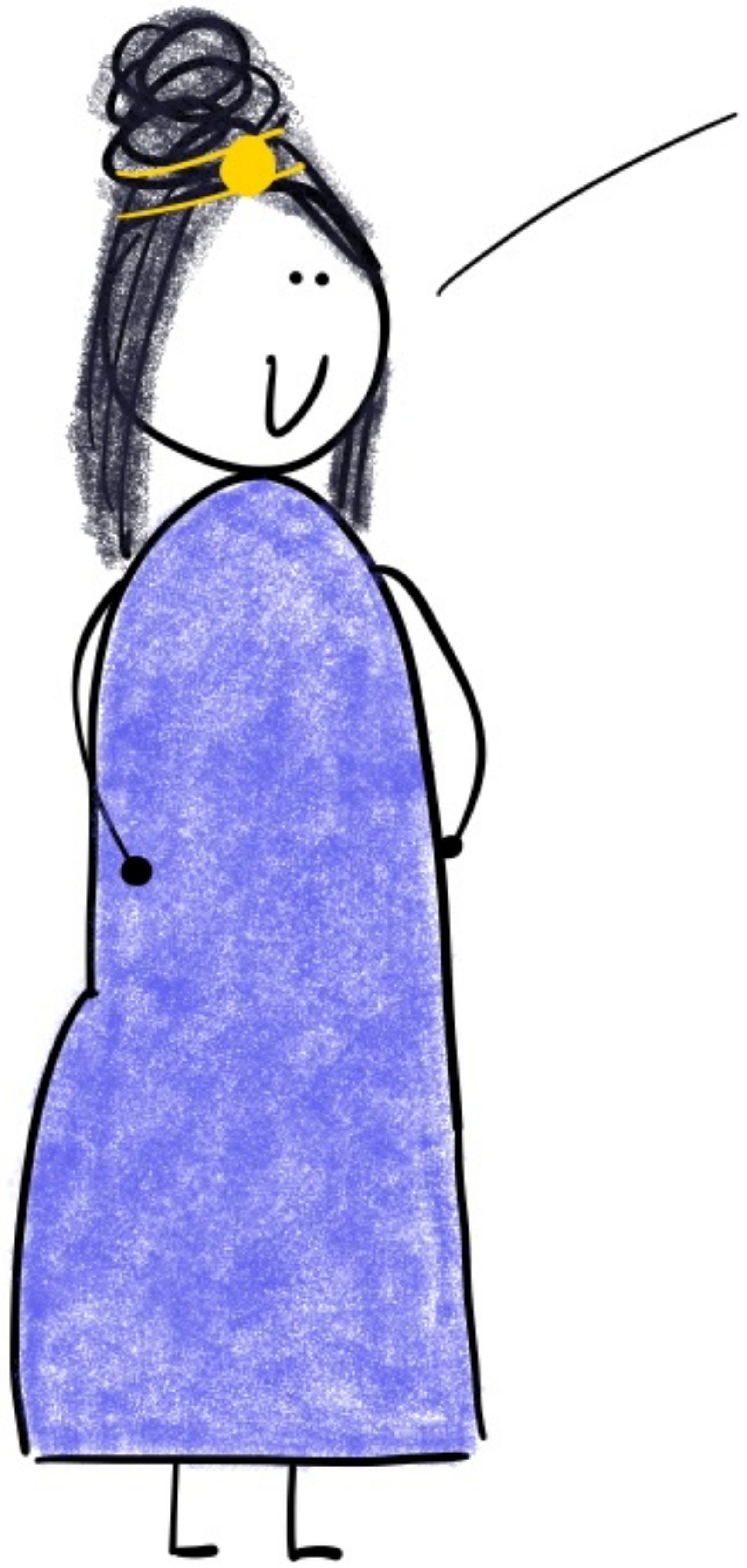

Note G 1843

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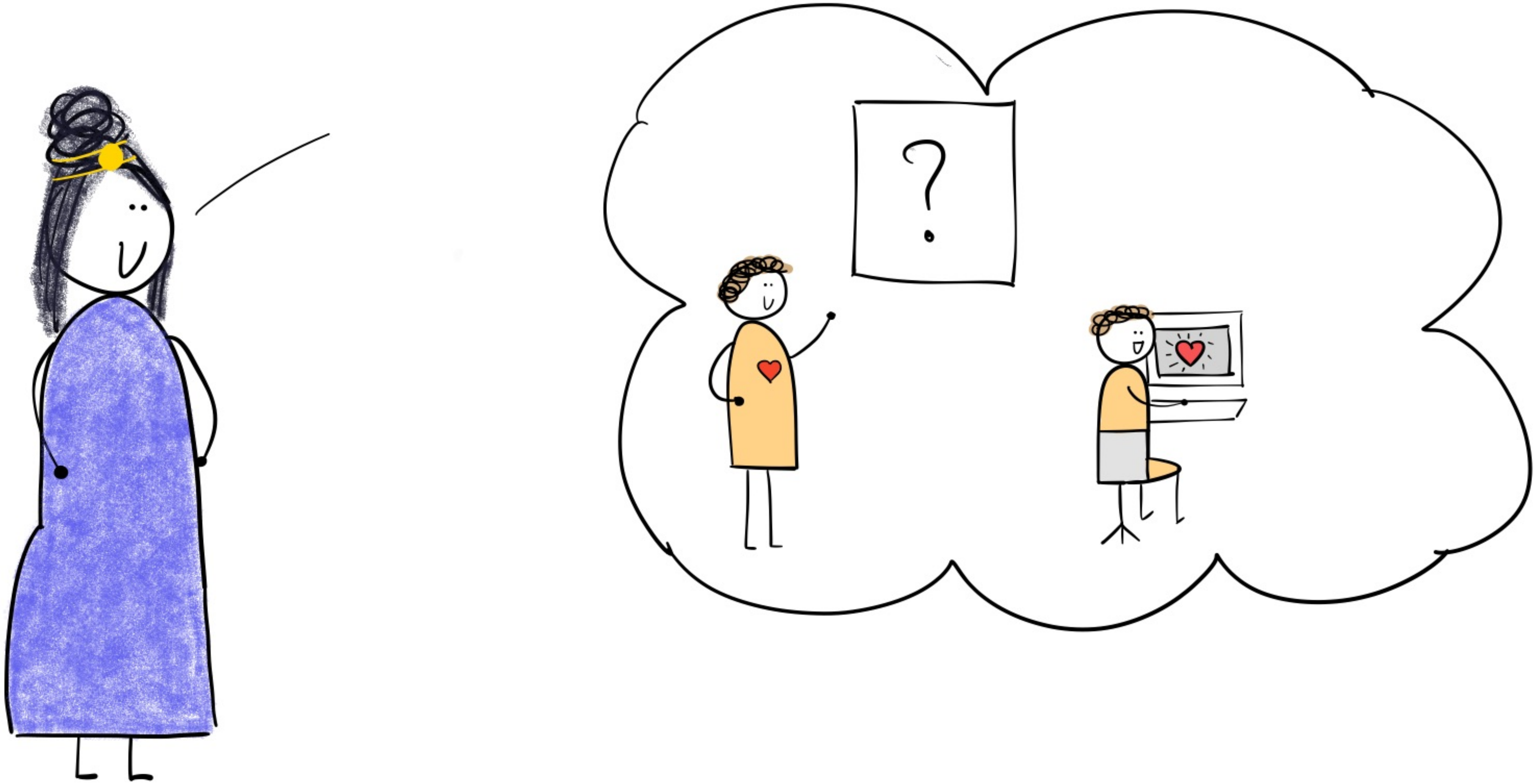

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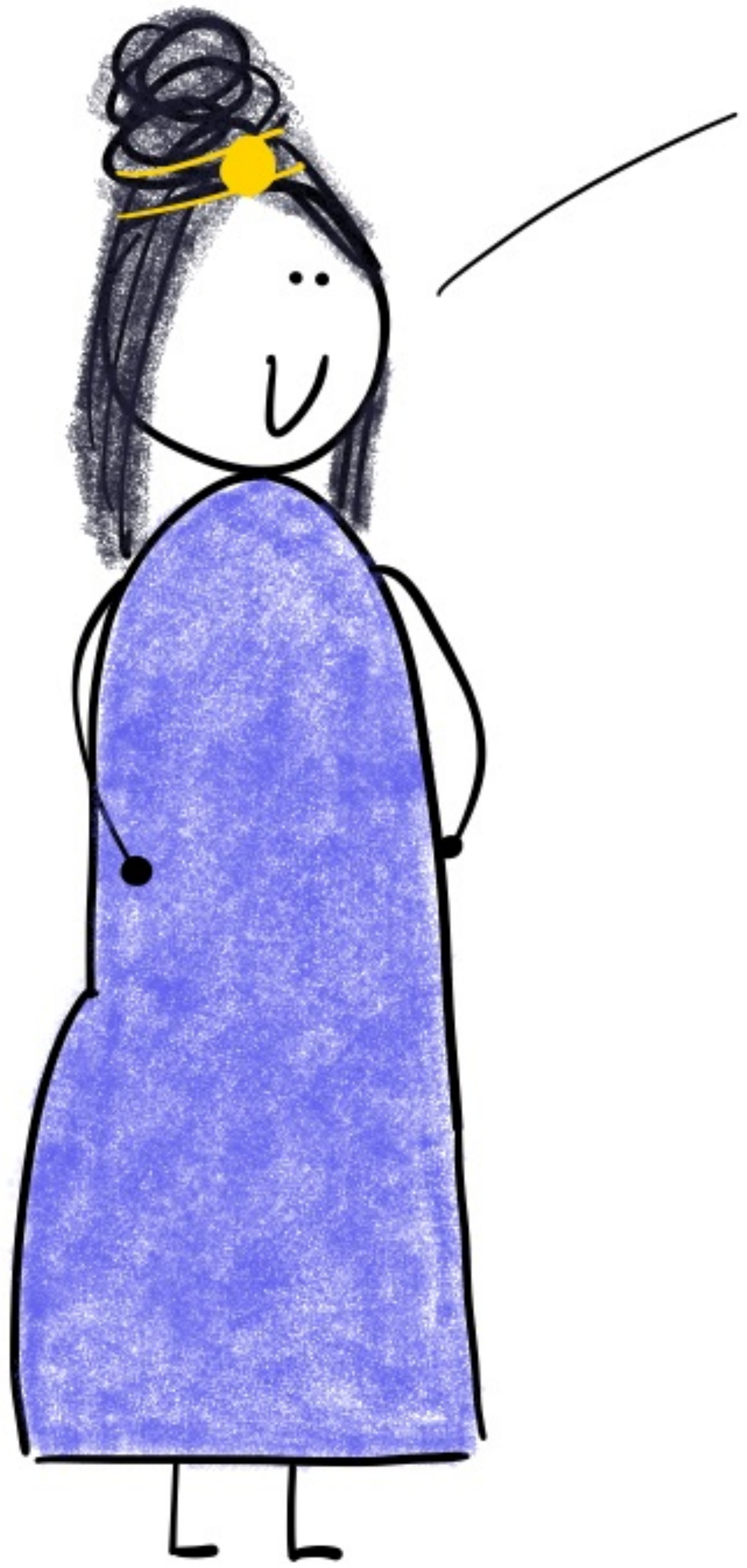

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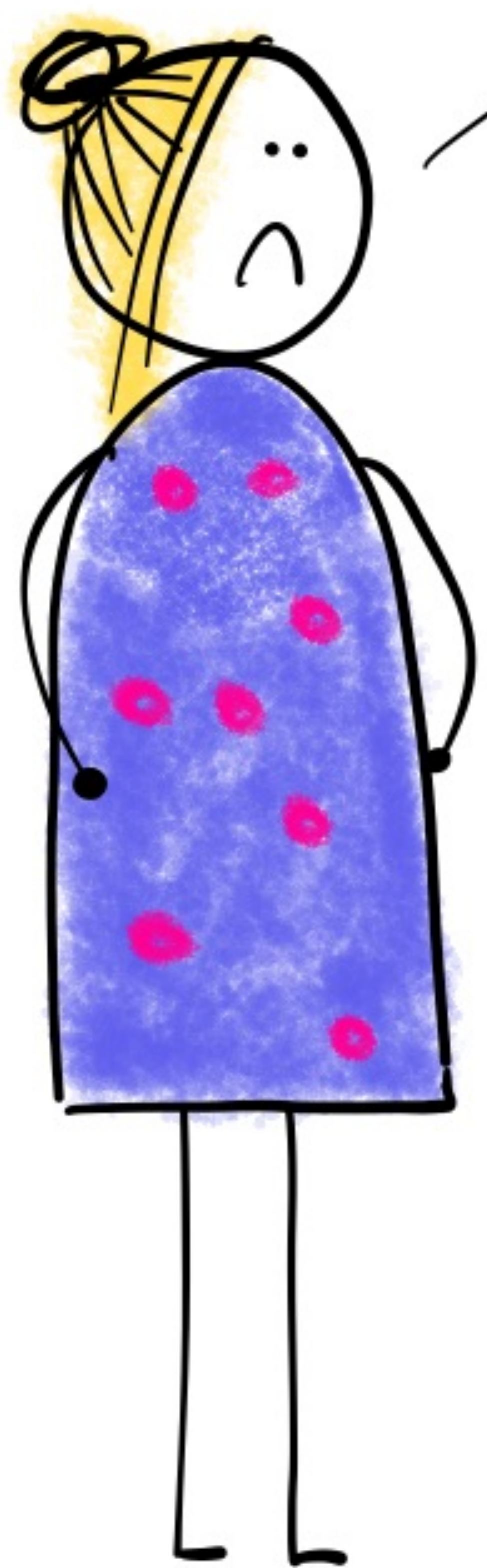

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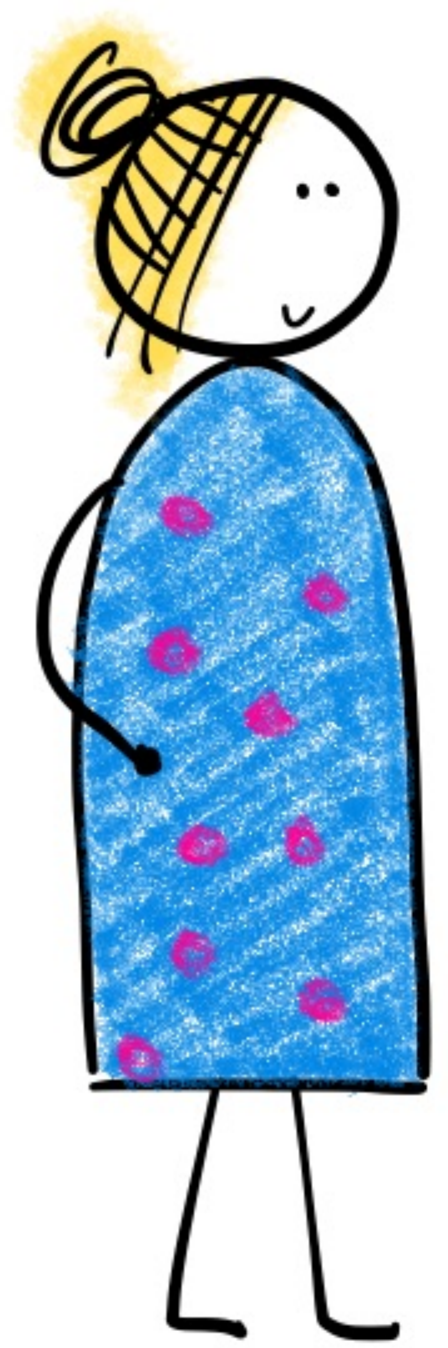


LOS ANGELES TIMES

CHESS: World Champion Kasparov Loses to Machine, Then Lashes Out at IBM

Continued from A1

my opinion, to win a big contest."

C.J. Tan, the scientist who headed the Deep Blue effort, said he and his team "are indeed very proud that we've played a role in this historic event."

"This is a match that will benefit everyone, from the students who sat in the audience learning from Garry and Deep Blue to many consumers outside of this building, who will be deeply affected by this advance in technology," Tan added.

Even those who predicted that computers would eventually surpass humans at the chessboard could not have anticipated Sunday's massacre in New York City.

Until a week ago, the 34-year-old Kasparov was unquestionably the best chess player in the world.

More than once he

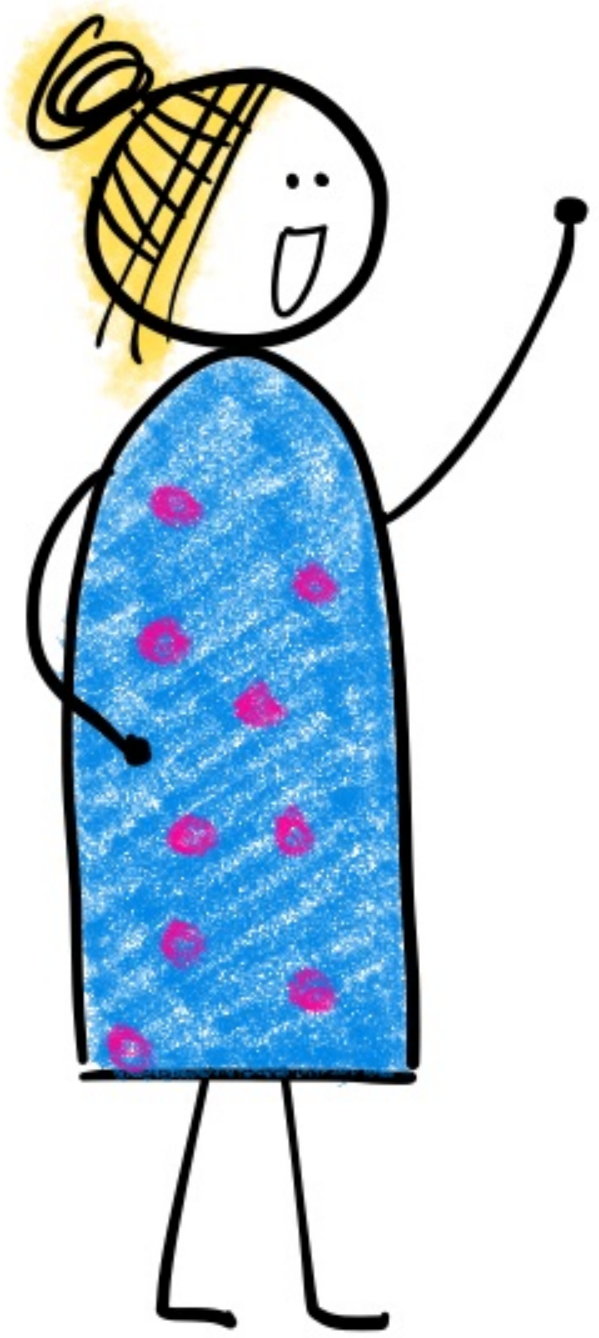
When directly asked whether he was accusing the IBM team of cheating, he said: "I suggested that there were things in this match well beyond my understanding. . . . There's probably no way to prove that Deep Blue is making this move or that move."

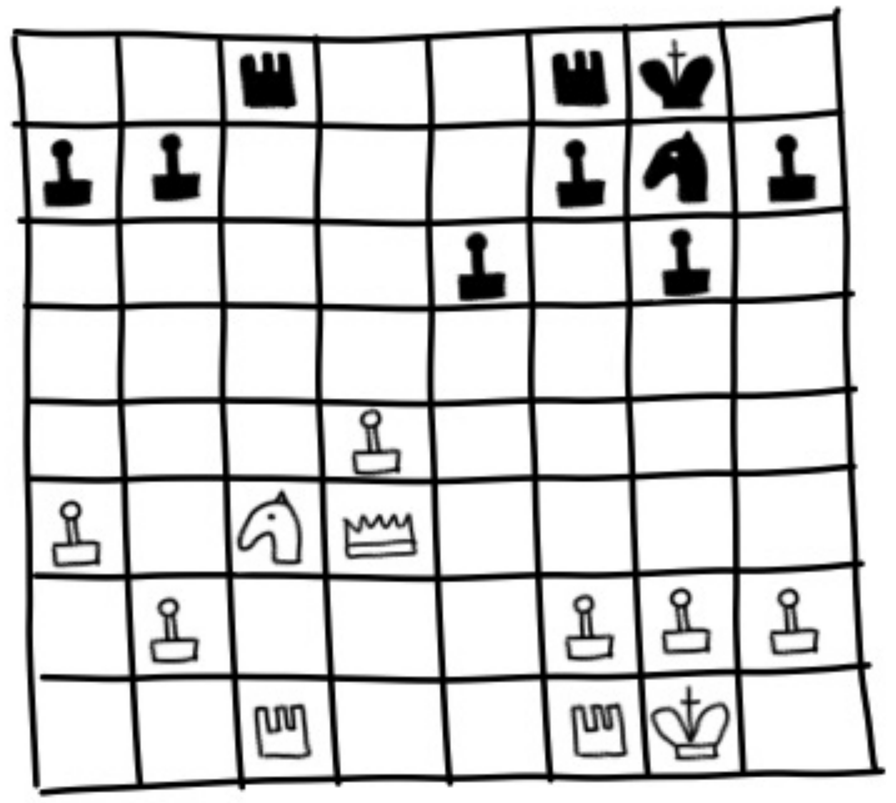
During the news conference, Kasparov also said the match was unfair because he had not seen any games played by this version of Deep Blue and could not prepare for his opponent as he would for another grandmaster.

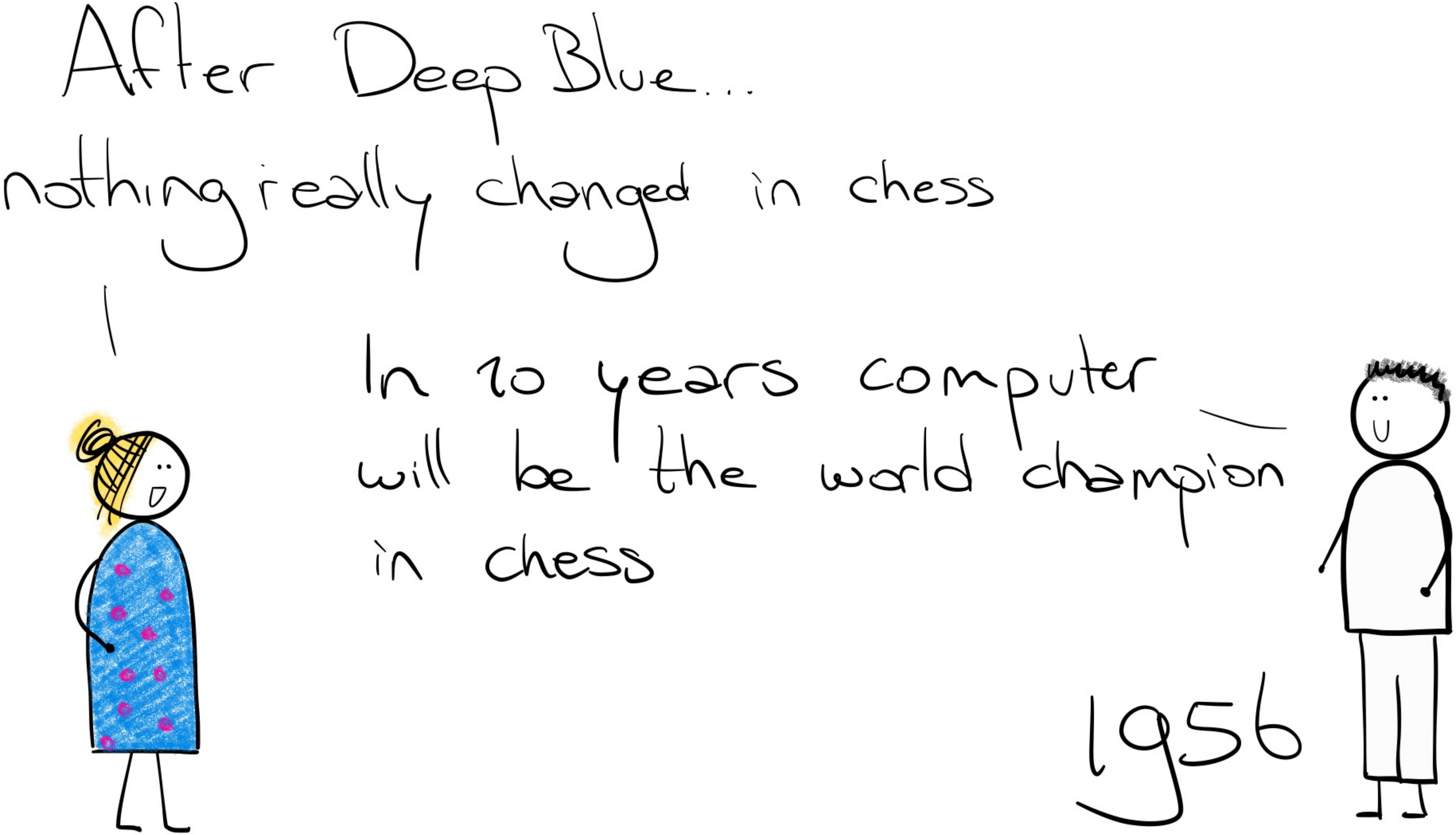
Kasparov said he would like a rematch with the machine, but with a "neutral match sponsor."

Kasparov had beaten an earlier version of the computer by a 4-2 score in Philadelphia in February 1996.

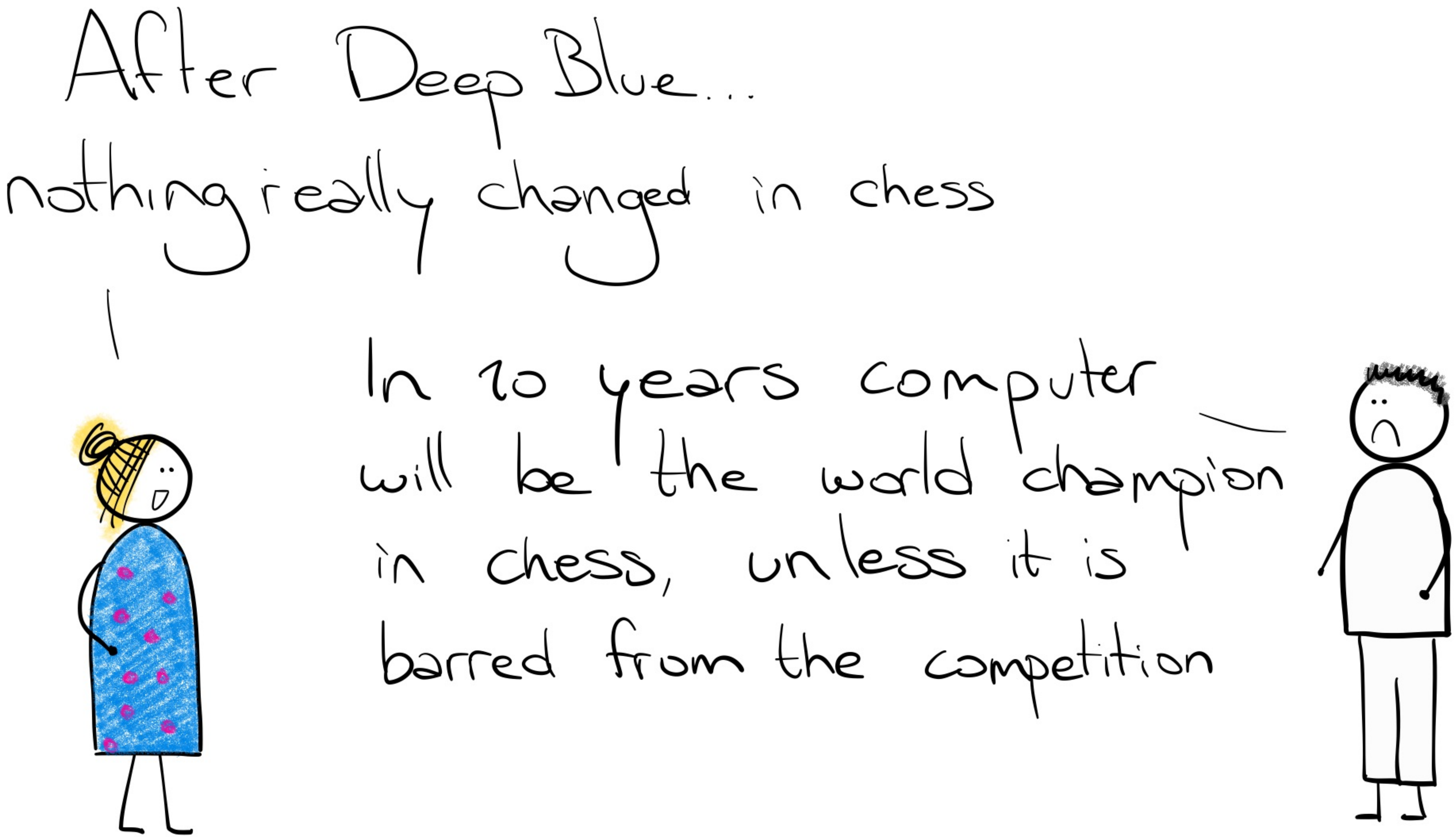
This was the







After Deep Blue...
nothing really changed in chess
In 10 years computer will be the world champion in chess
1956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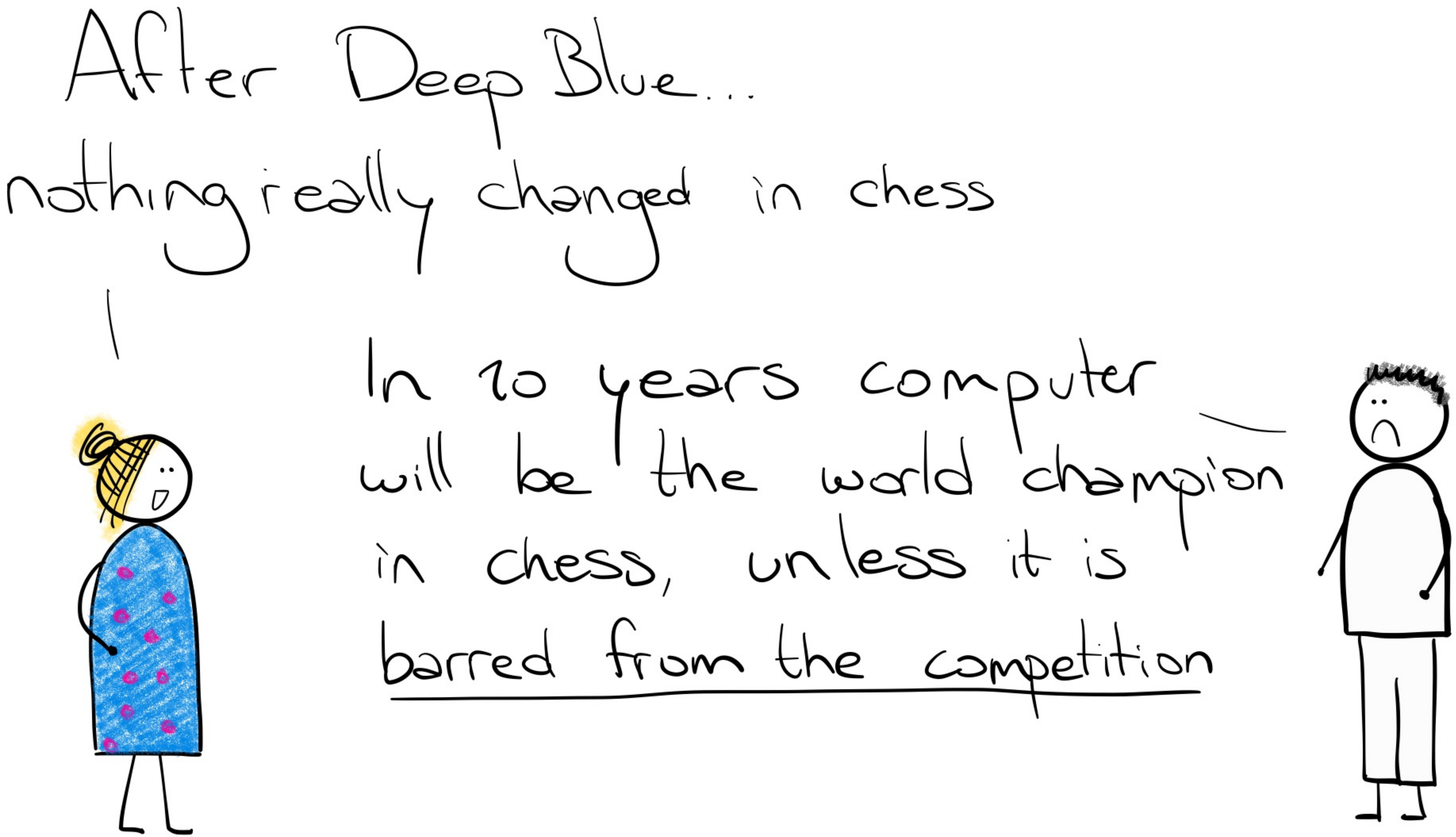
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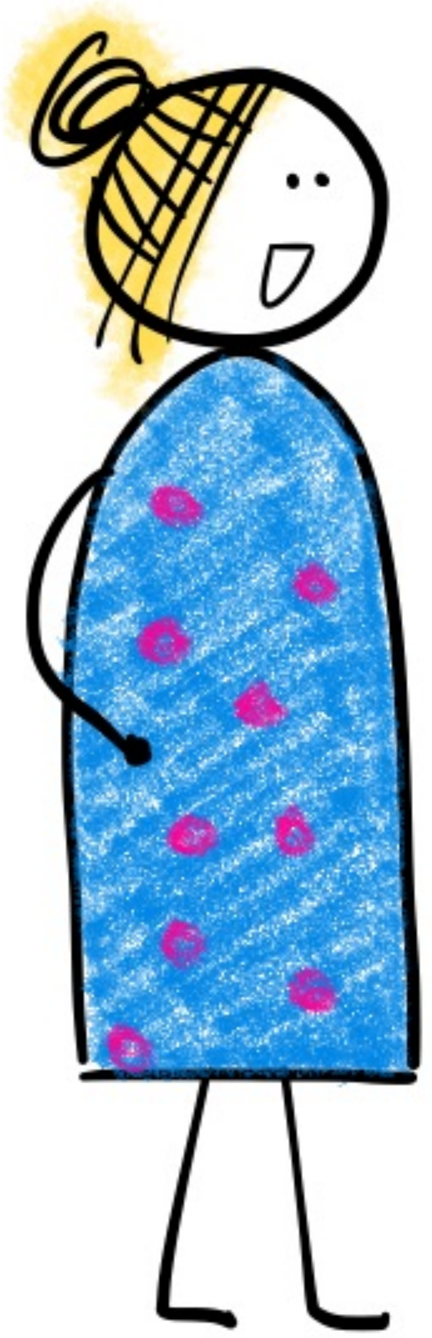
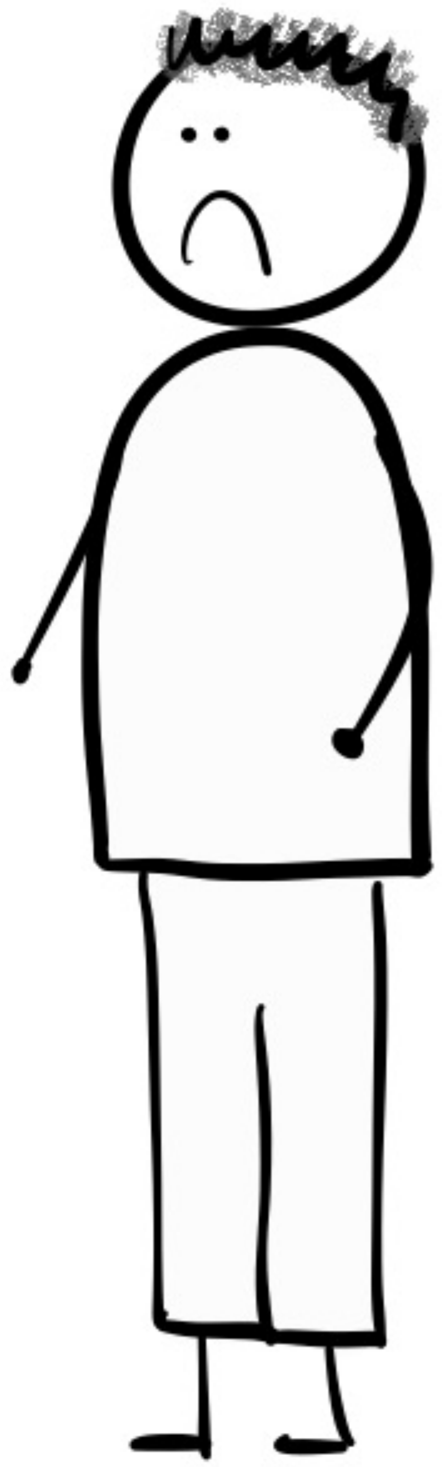
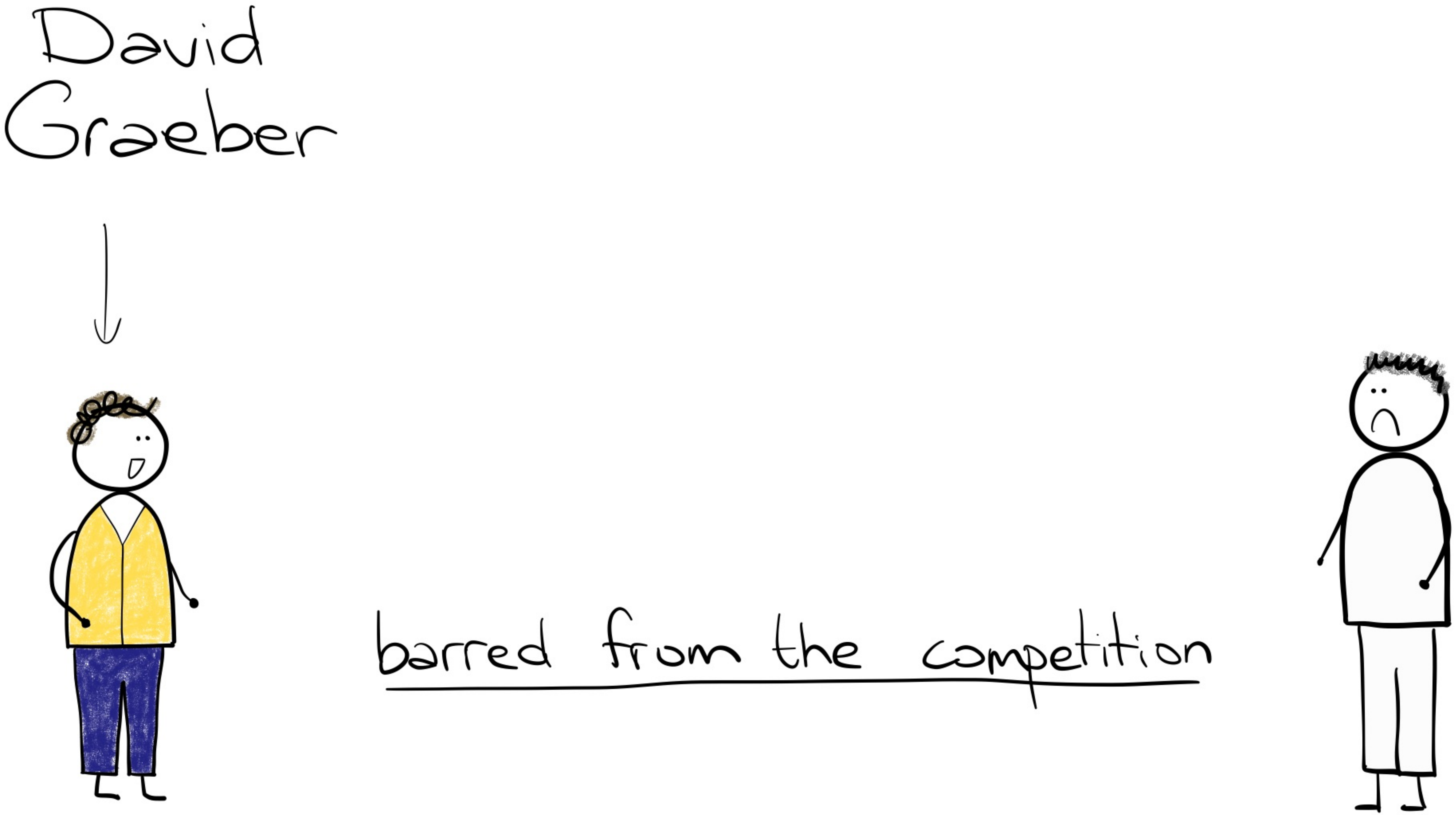


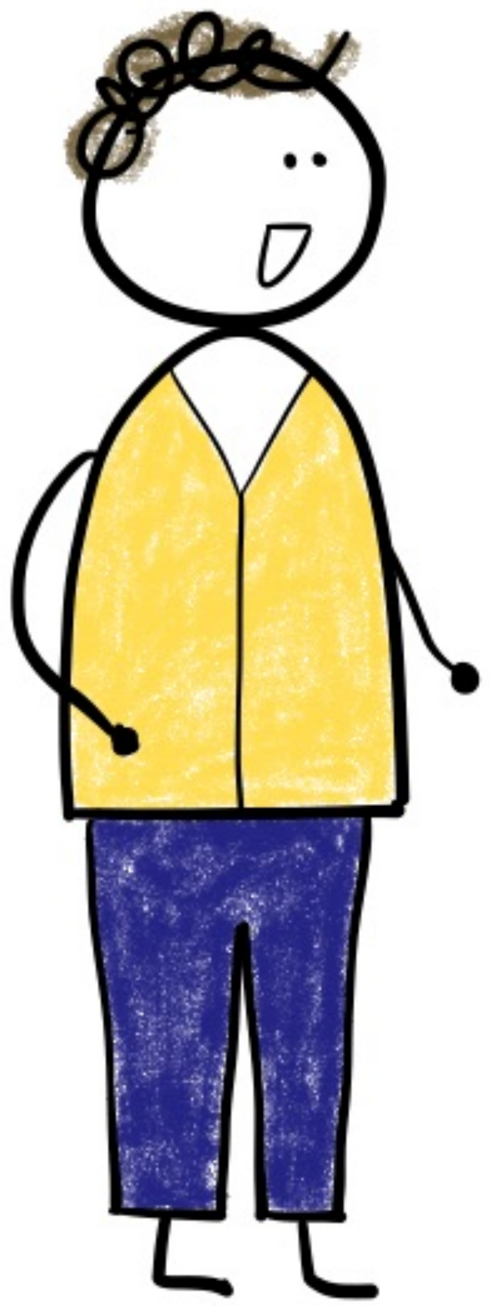
barred from the competition



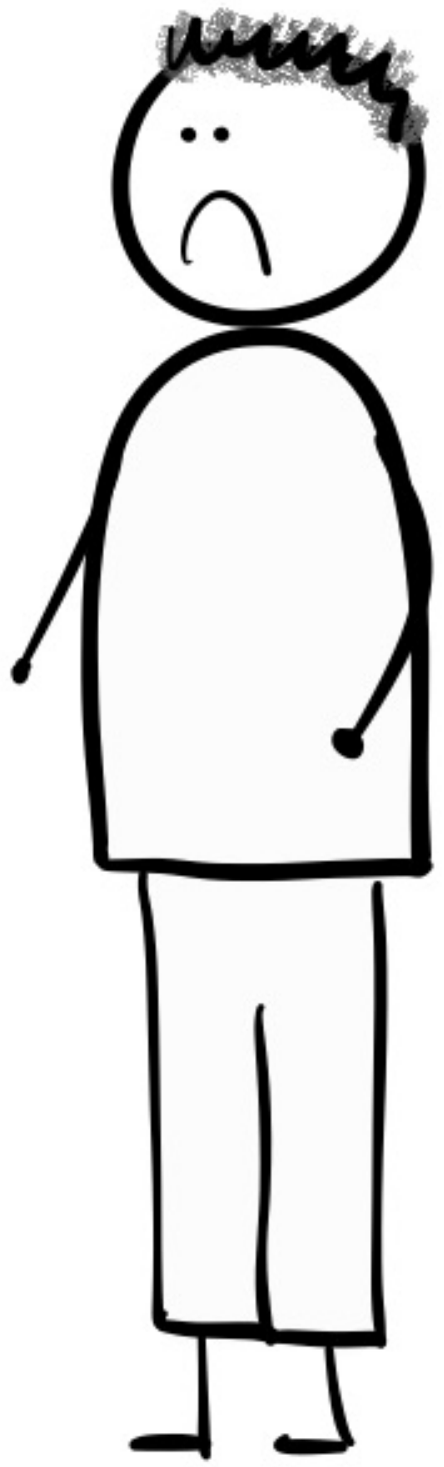

David Graeber
barred from the competition

David Graeber

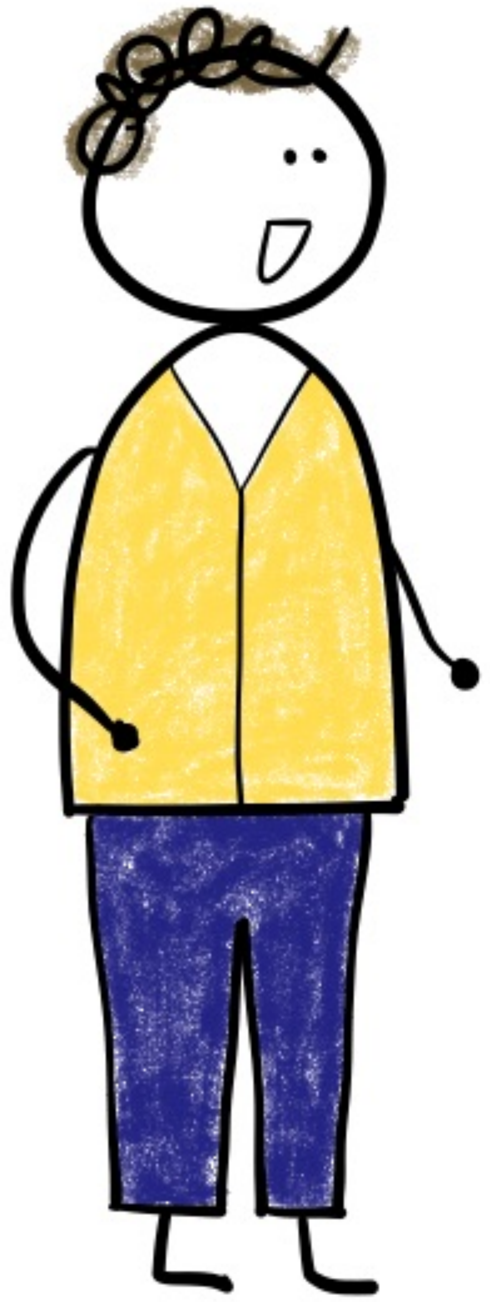
"The ultimate hidden truth of the world is that it is something that we make



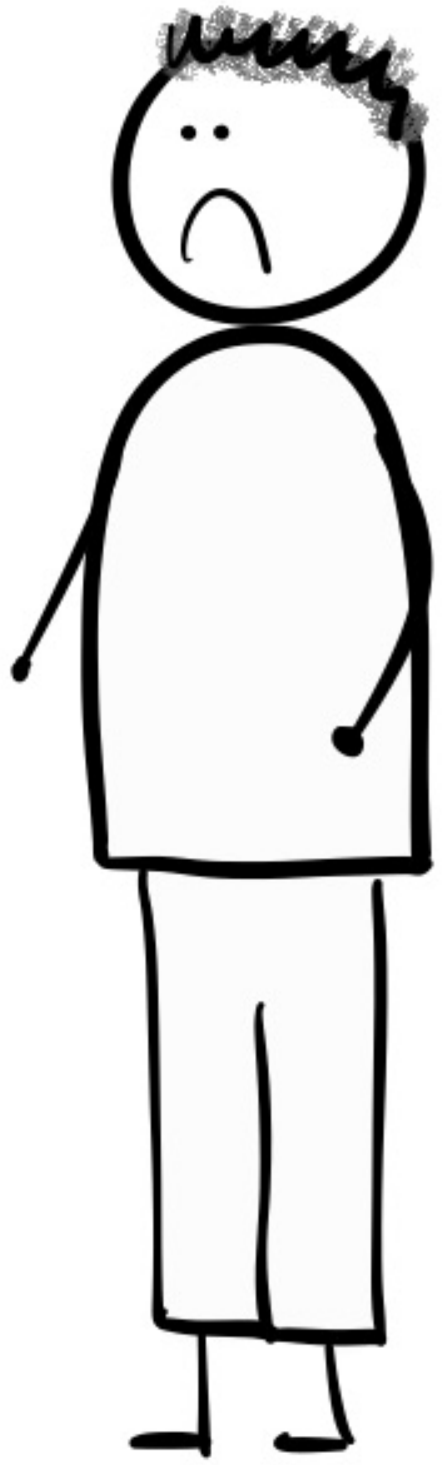
barred from the competition



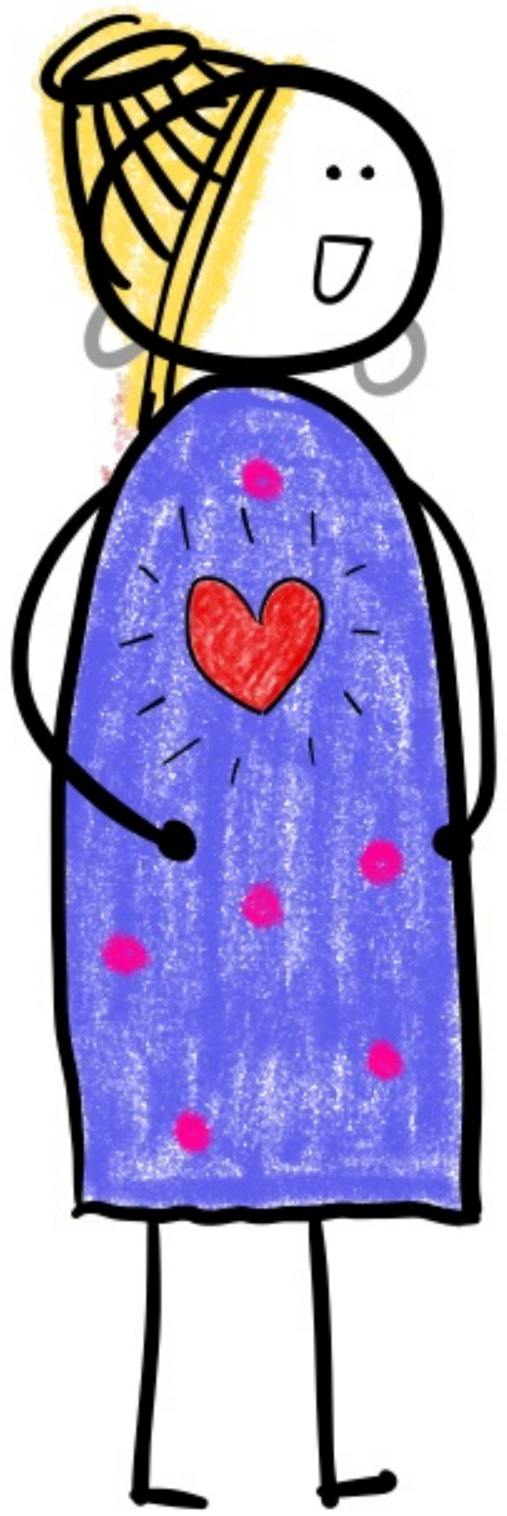
David Graeber

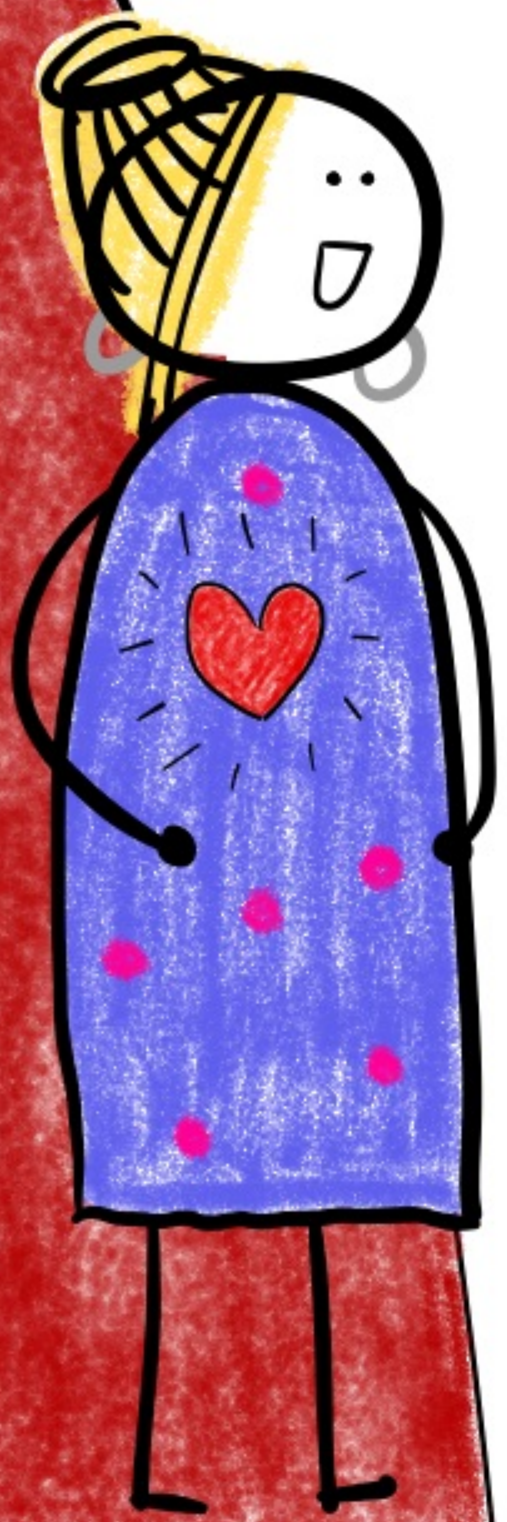


"The ultimate hidden truth of the world is that it is something that we make, and could just as easily make it different"



<u>barred from the competition</u>





Felienne Hermans

AGAINST THE UNCRITICAL ADOPTION OF 'AI' TECHNOLOGIES IN ACADEMIA

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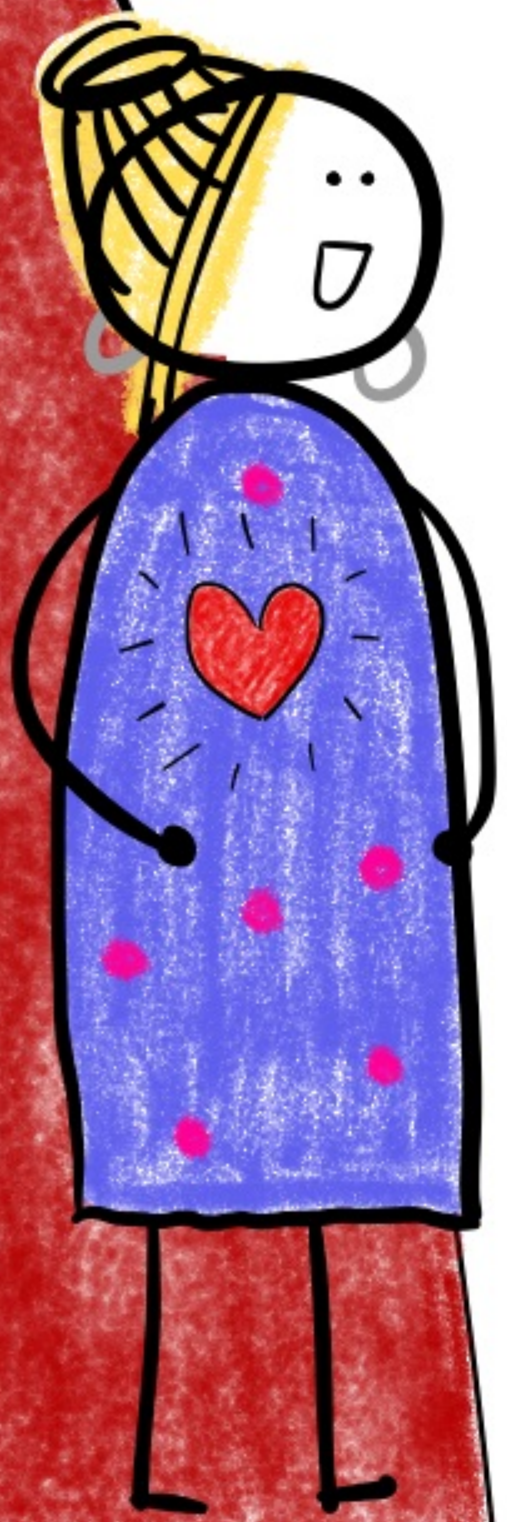
Abstract: *Under the banner of progress, products have been uncritically adopted or even imposed on users — in past centuries with tobacco and combustion engines, and in the 21st with social media. For these collective blunders, we now regret our involvement or apathy as scientists, and society struggles to put the genie back in the bottle. Currently, we are similarly entangled with artificial intelligence (AI) technology. For example, soft-*



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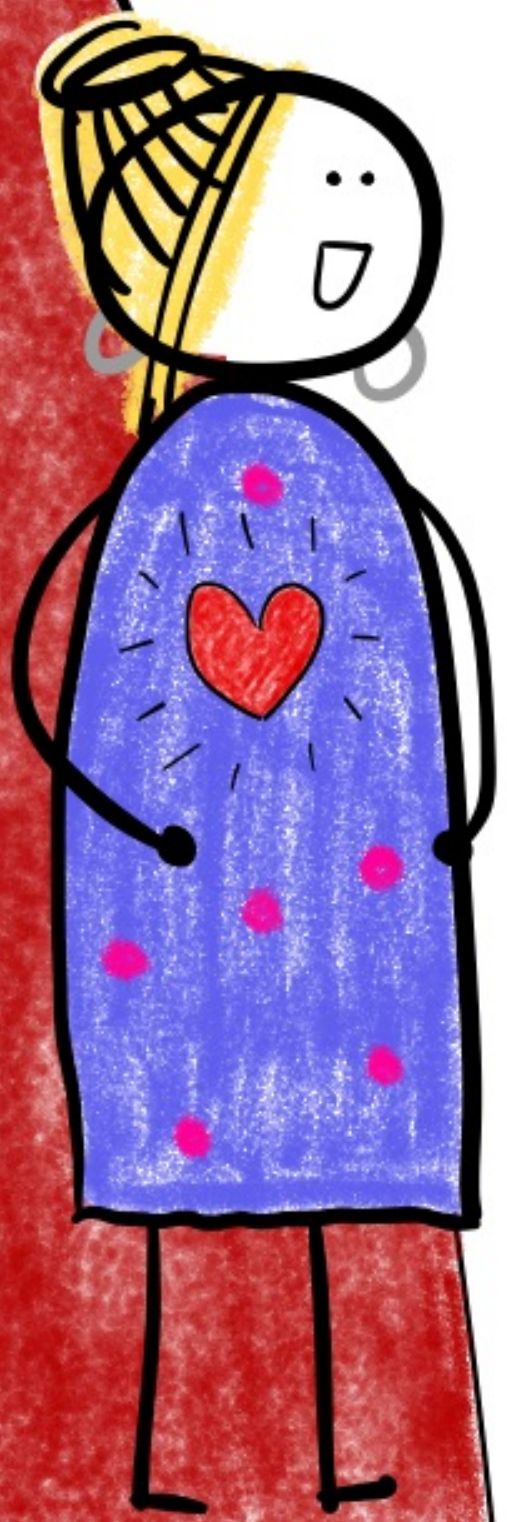

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