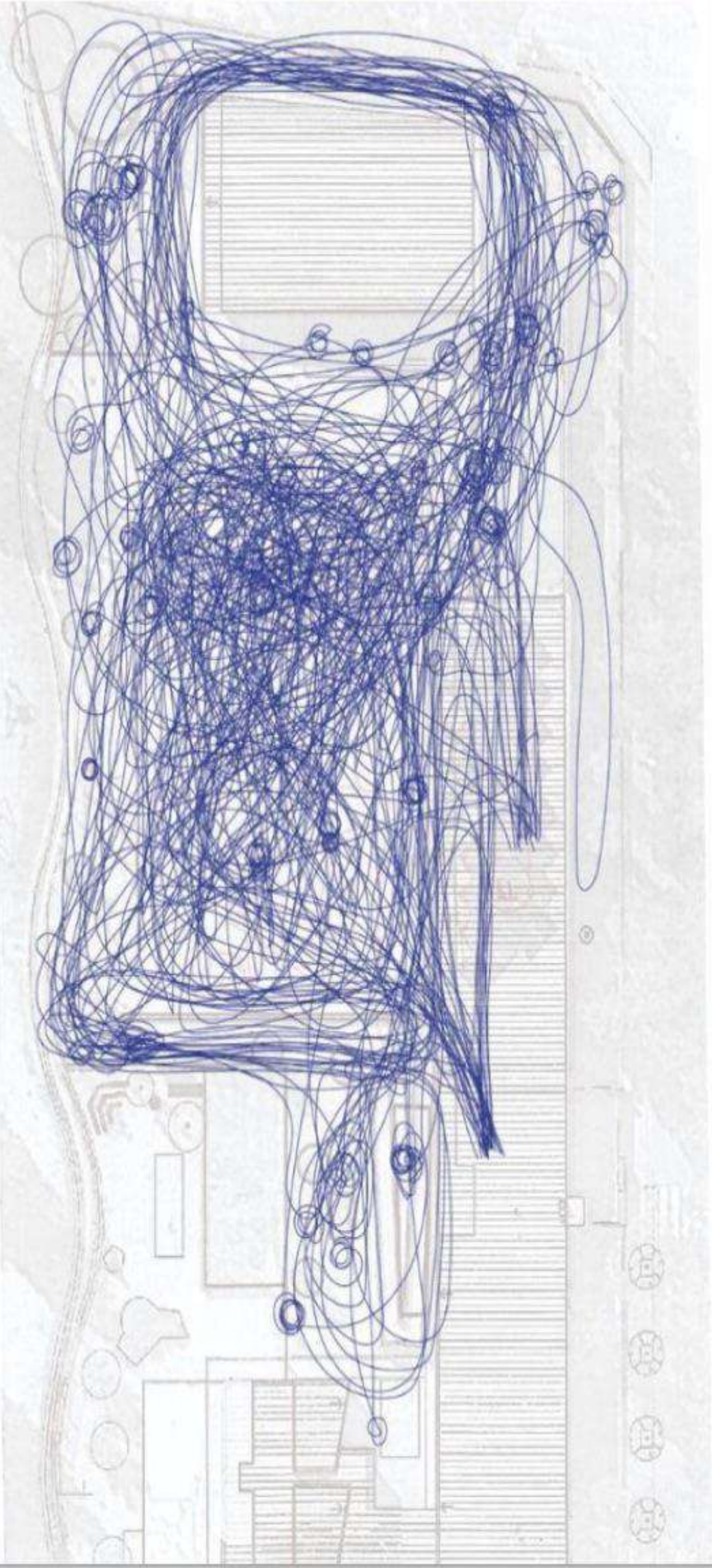


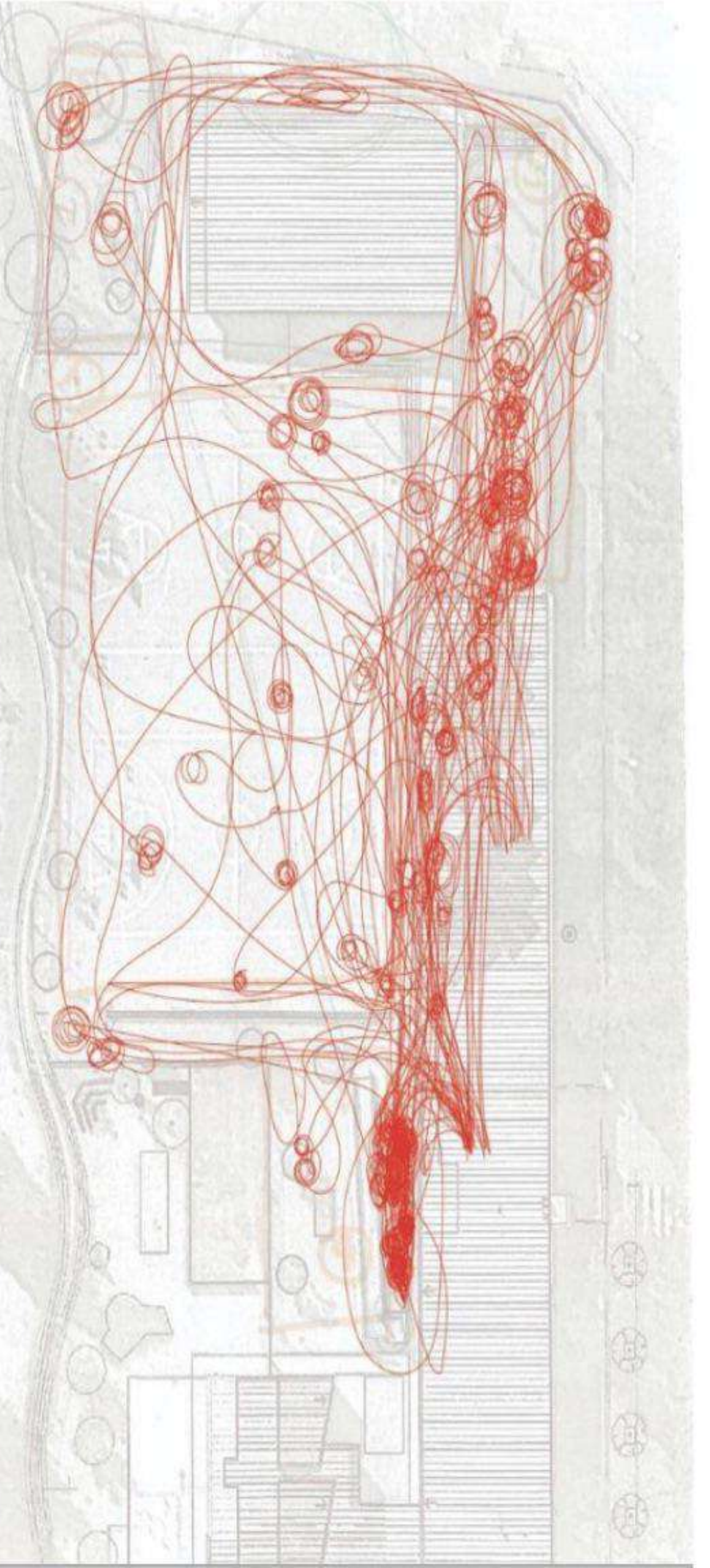
DATA: 07/06/23
 HORA: 10.30-11.00
 GRUP: P3, P5, (ter. 2on)
 NEN: 2on
 NENA: ter
 Tota Polona jugant a la borsa de sota Pasada

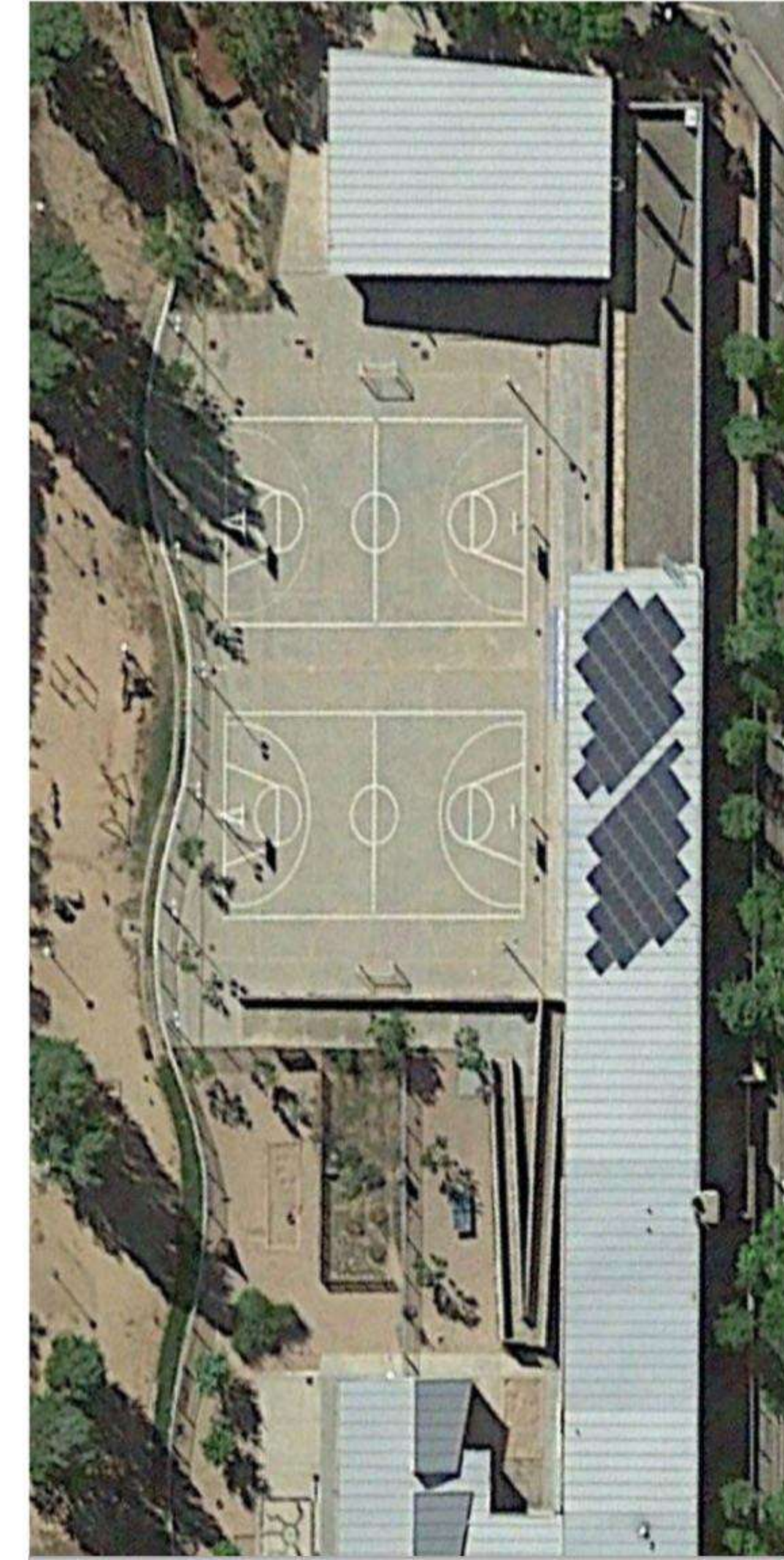
	I	F
1	12	11
2	3	8
3	6	18
4	8	2



DATA: 18/10/23
 HORA: 11.00h.
 GRUP: Ser
 NEN: Biel Gombau
 NENA: Mica Miralles

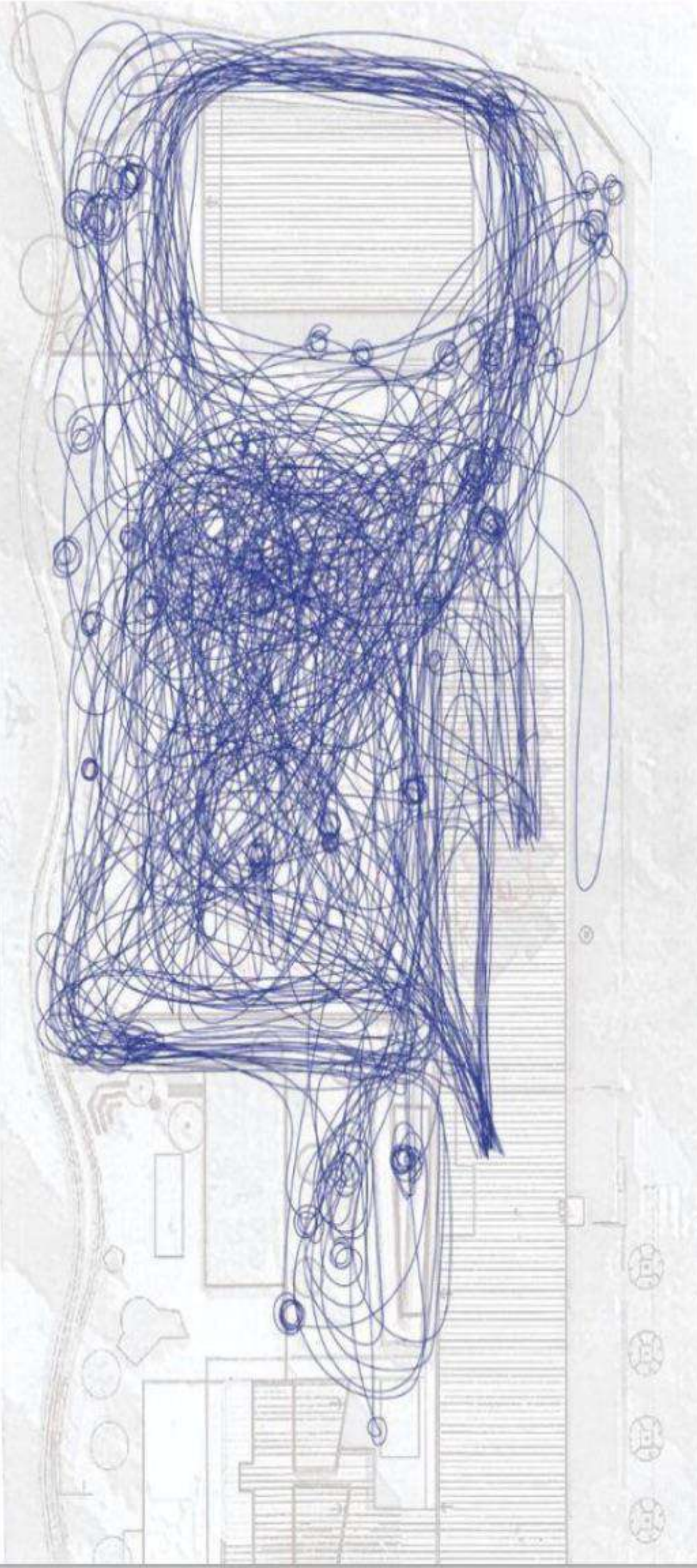
	I	F
1		
2		
3		
4		





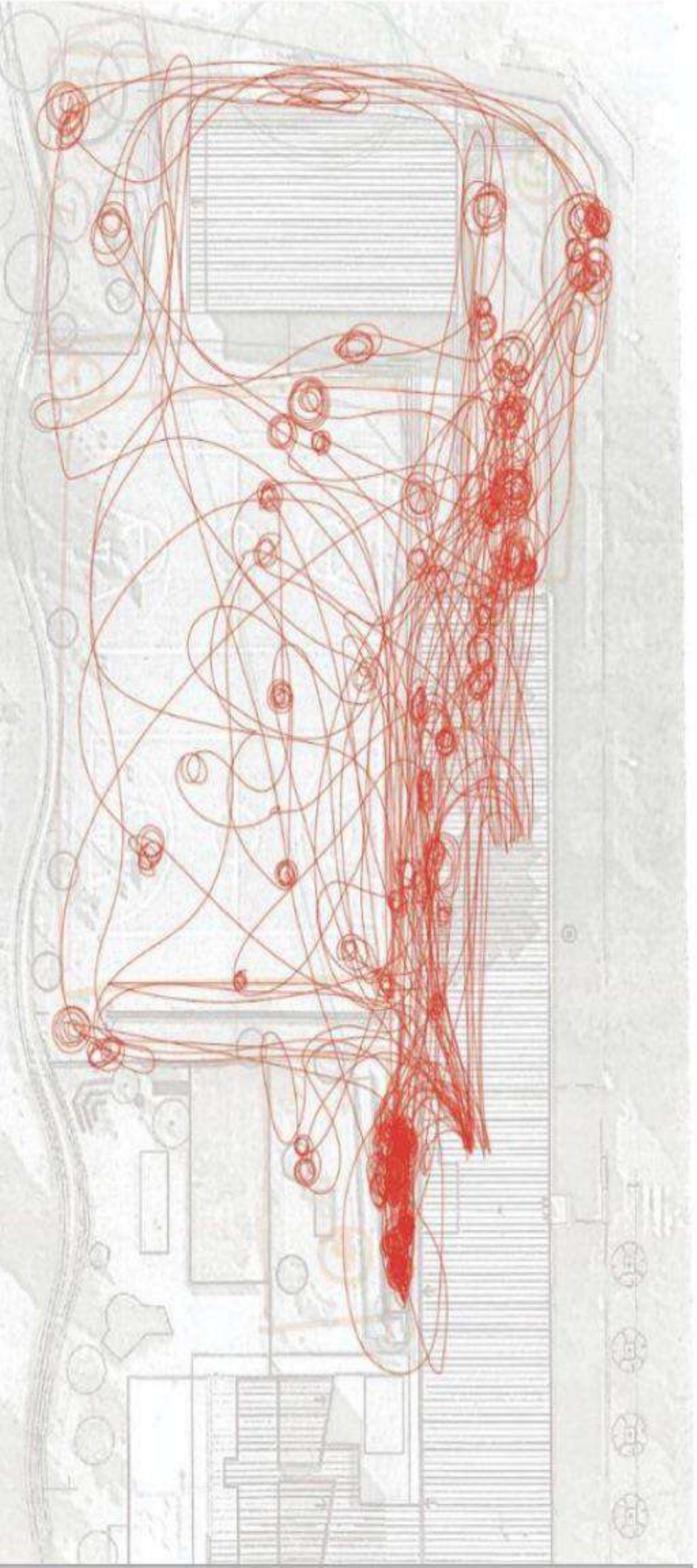
DATA: 07/06/23
 HORA: 10.30-11.00
 GRUP: P3, P5, (Ar. 2on)
 NEN: 2on
 Filled
 NENA: 1er
 Tota Polona jugant a la borsa de sots P. nord

	I	F
1	12	11
2	3	8
3	6	18
4	8	2

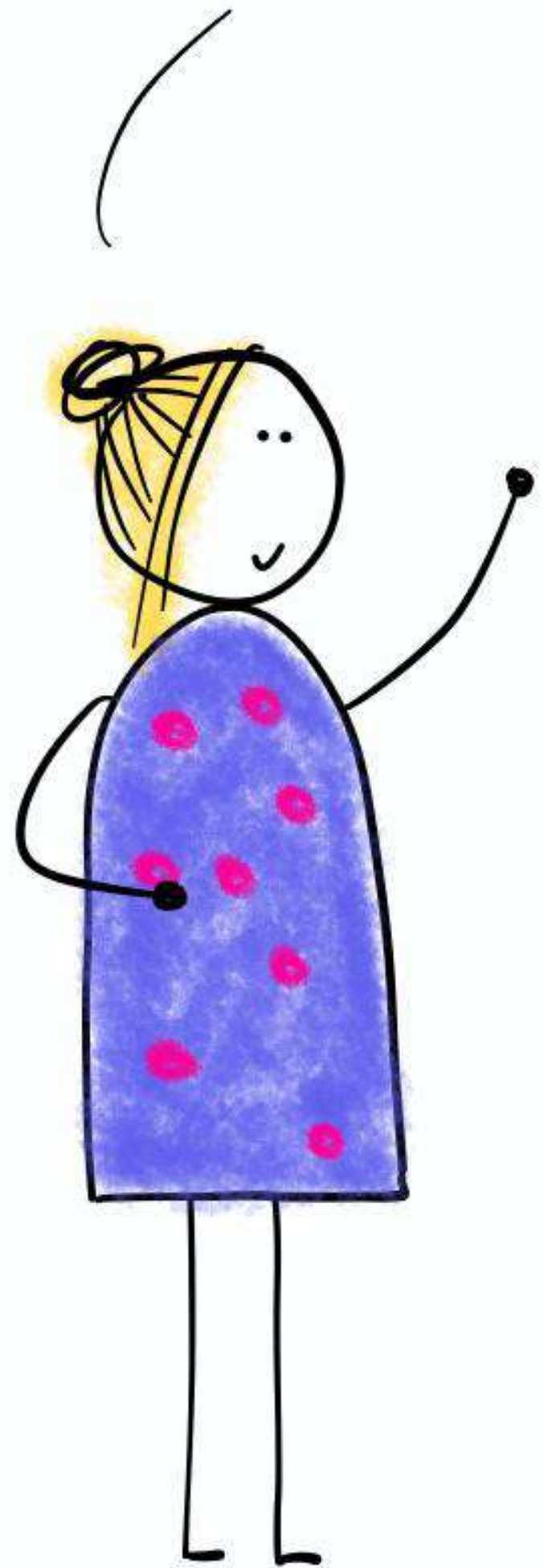


DATA: 18/10/23
 HORA: 11.00h.
 GRUP: Ser
 NEN: BIEL 1on
 NENA: Mida 10000

	I	F
1		
2		
3		
4		

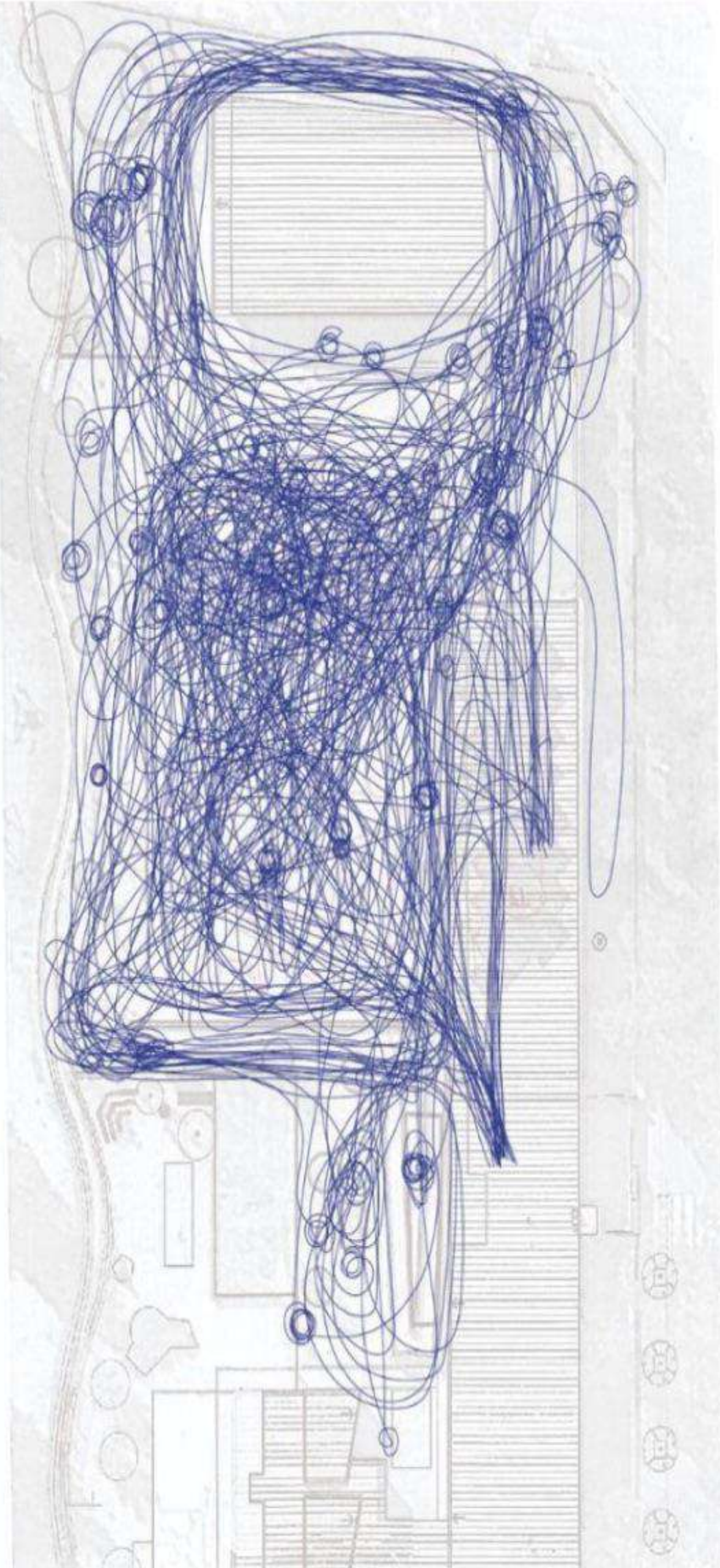


An opt metaphor



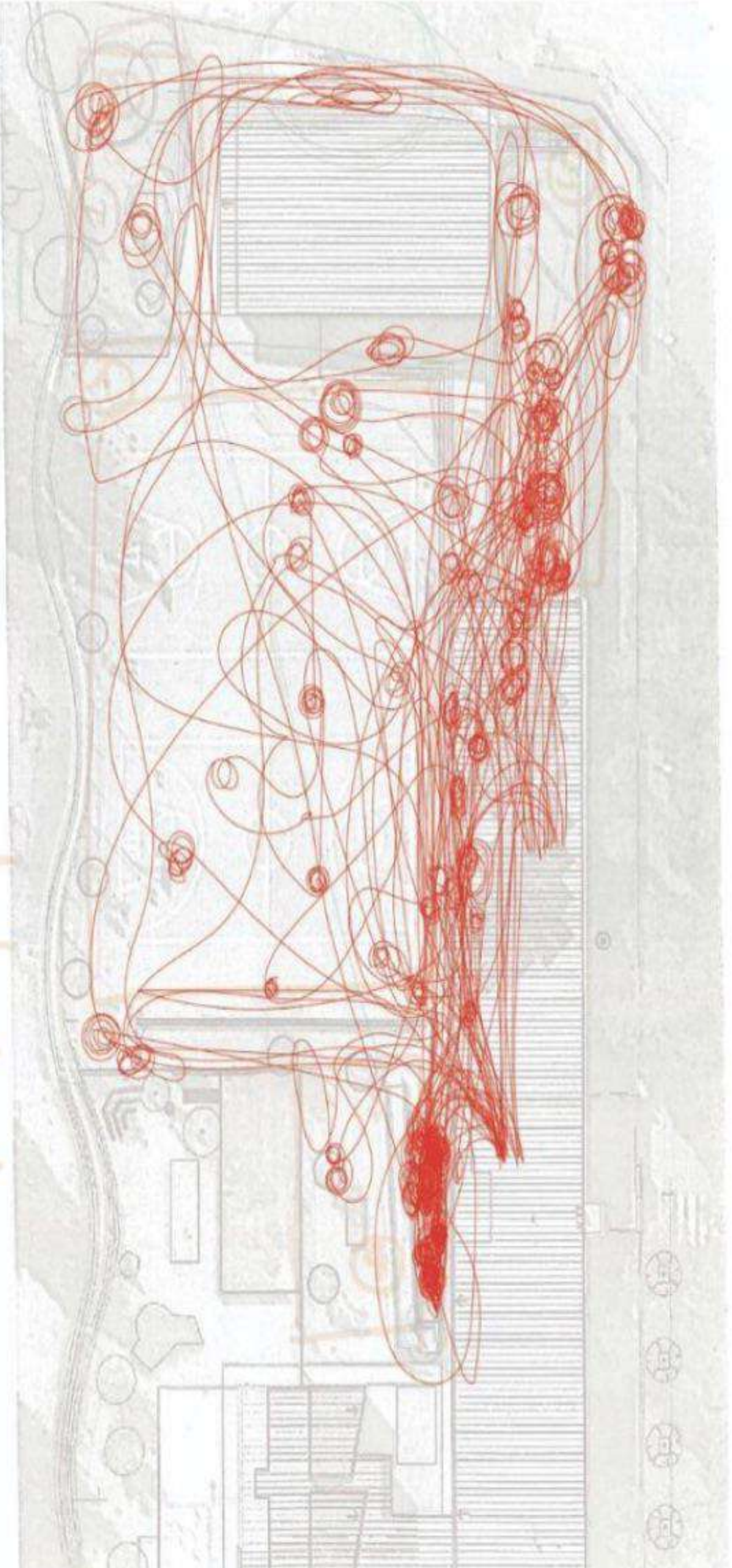
DATA: 07/06/23
HORA: 10.30-11.00
GRUP: P3, P5, (Ar. 2on)
NEN: 2on
NENA: 1er
Tota Polona jugant a la borsa de sots Penedès

	I	F
1	12	11
2	3	8
3	6	18
4	8	2



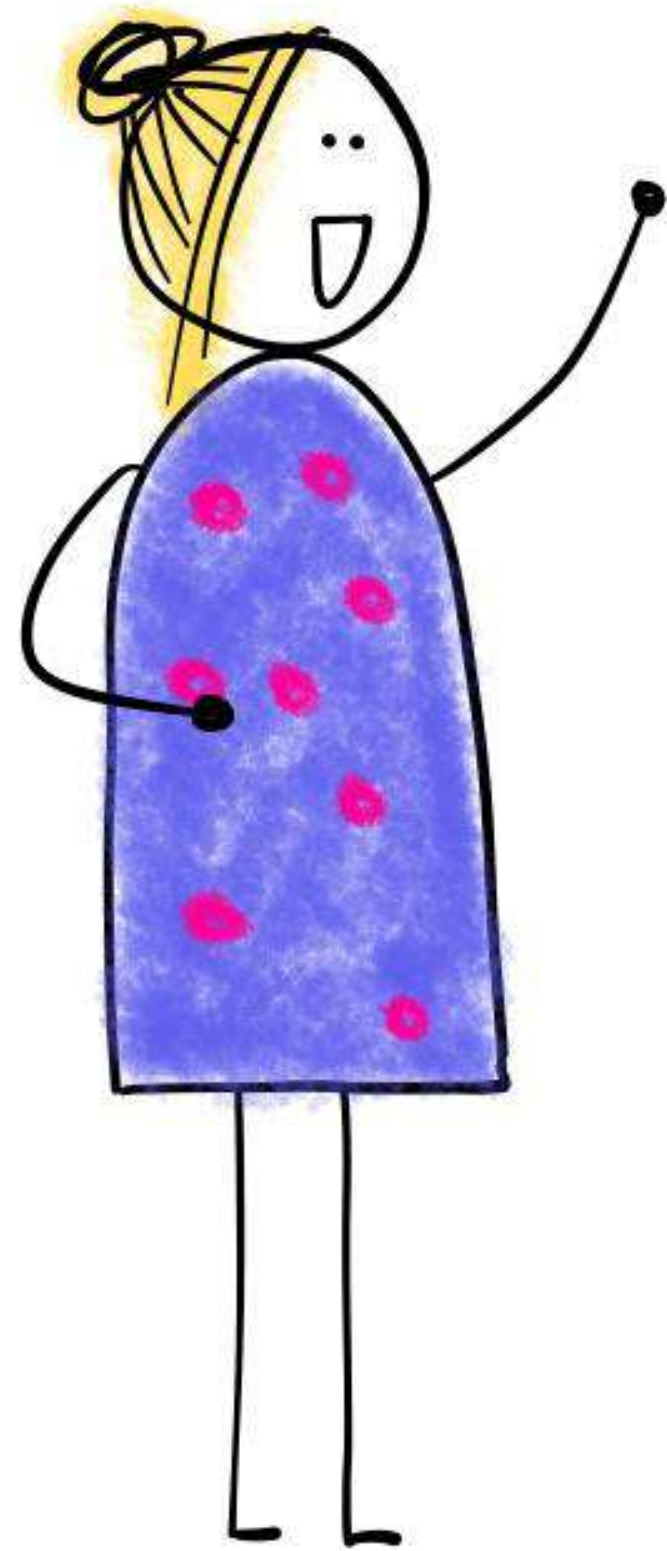
DATA: 18/10/2023
HORA: 11.00h.
GRUP: Ser
NEN: BIEL GARCIA
NENA: MIRA MATEO

	I	F
1		
2		
3		
4		



Felienne Hermans

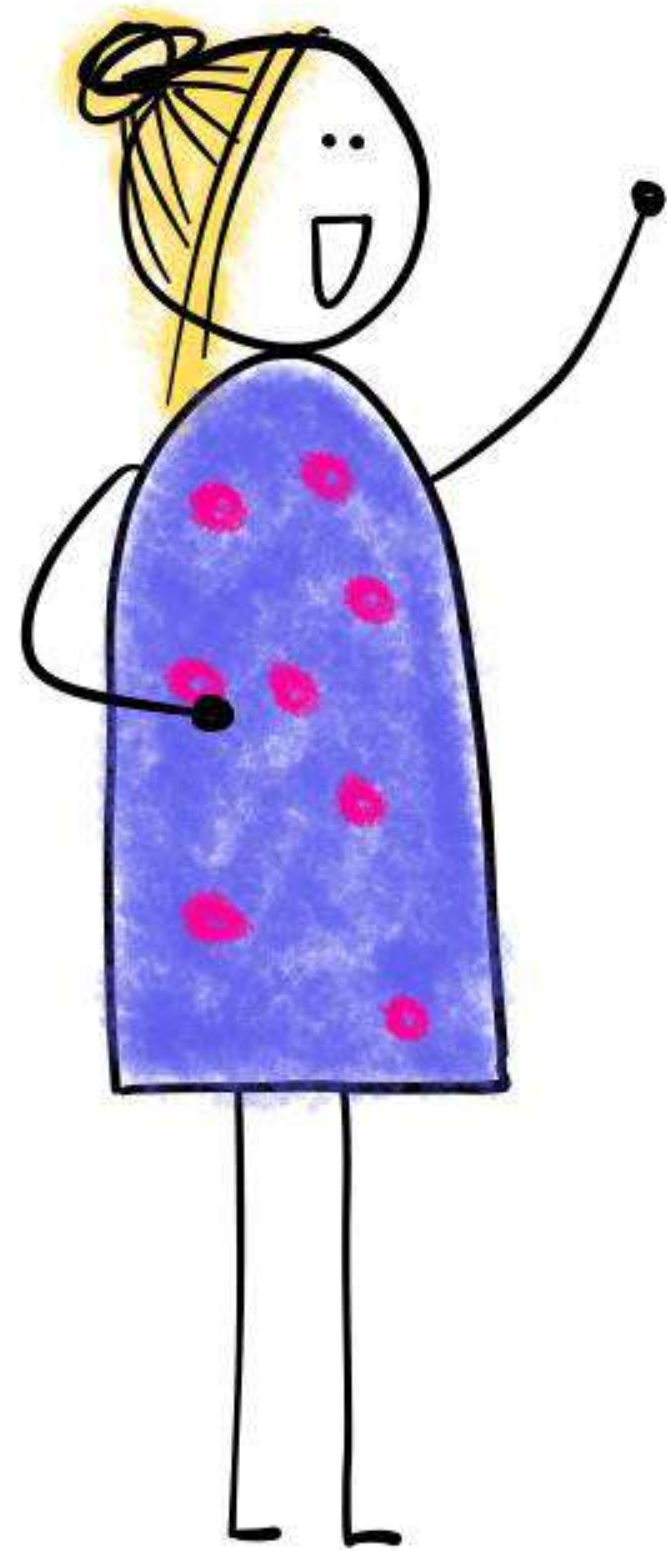
Professor of Computer Science Education at VU



&

Computer Science teacher at OSB

Felienne Hermans



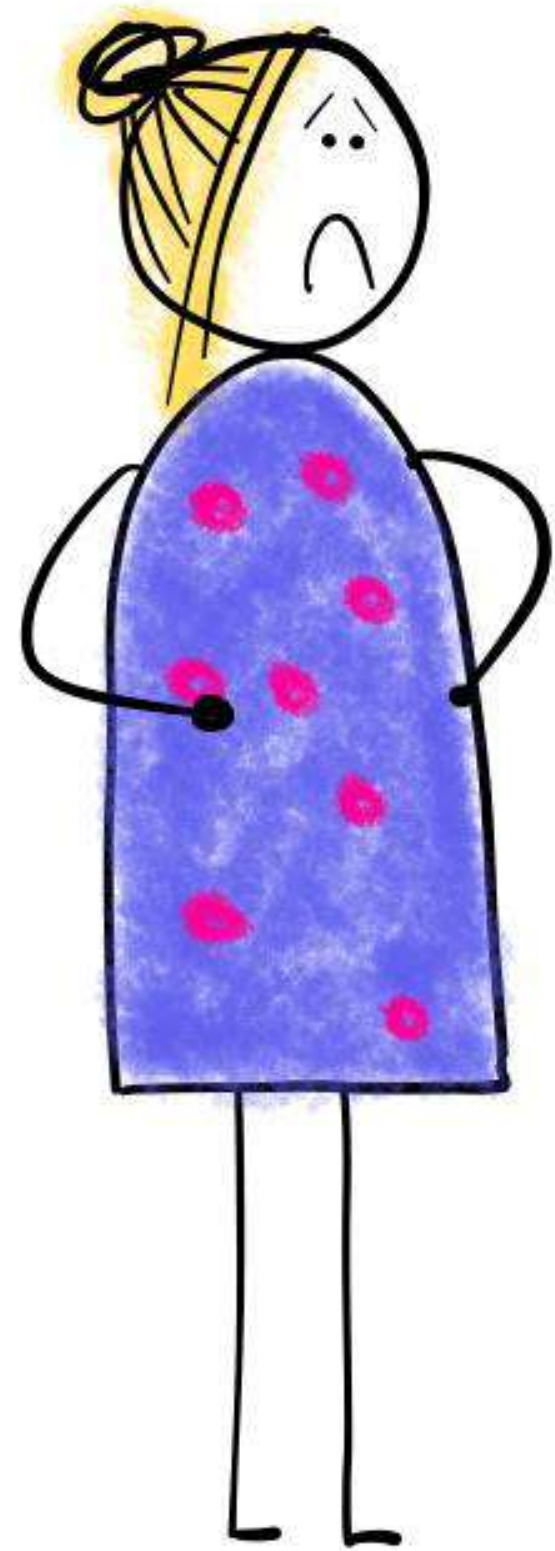
Computer Science

Felienne Hermans

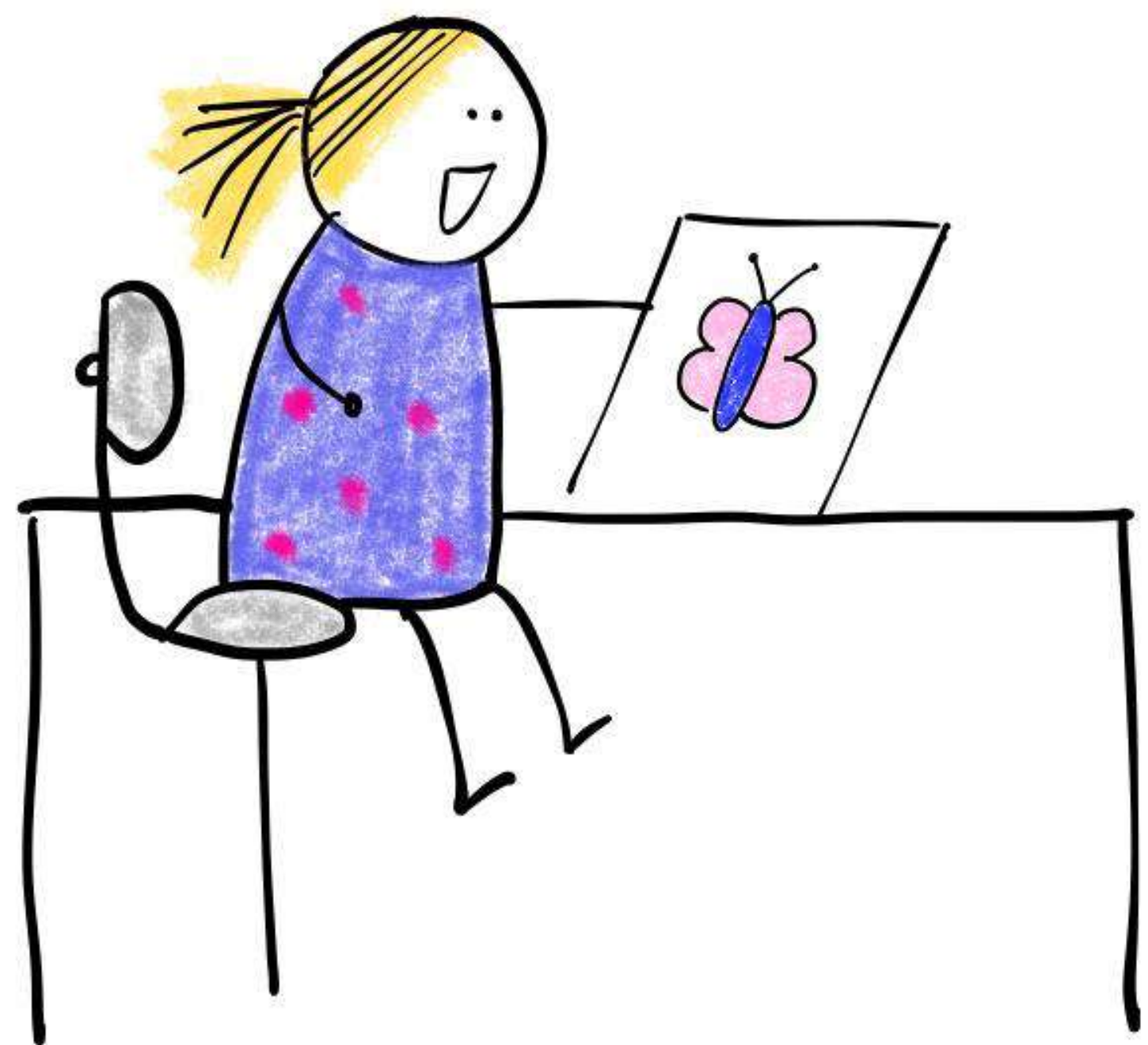
How I fell out of love

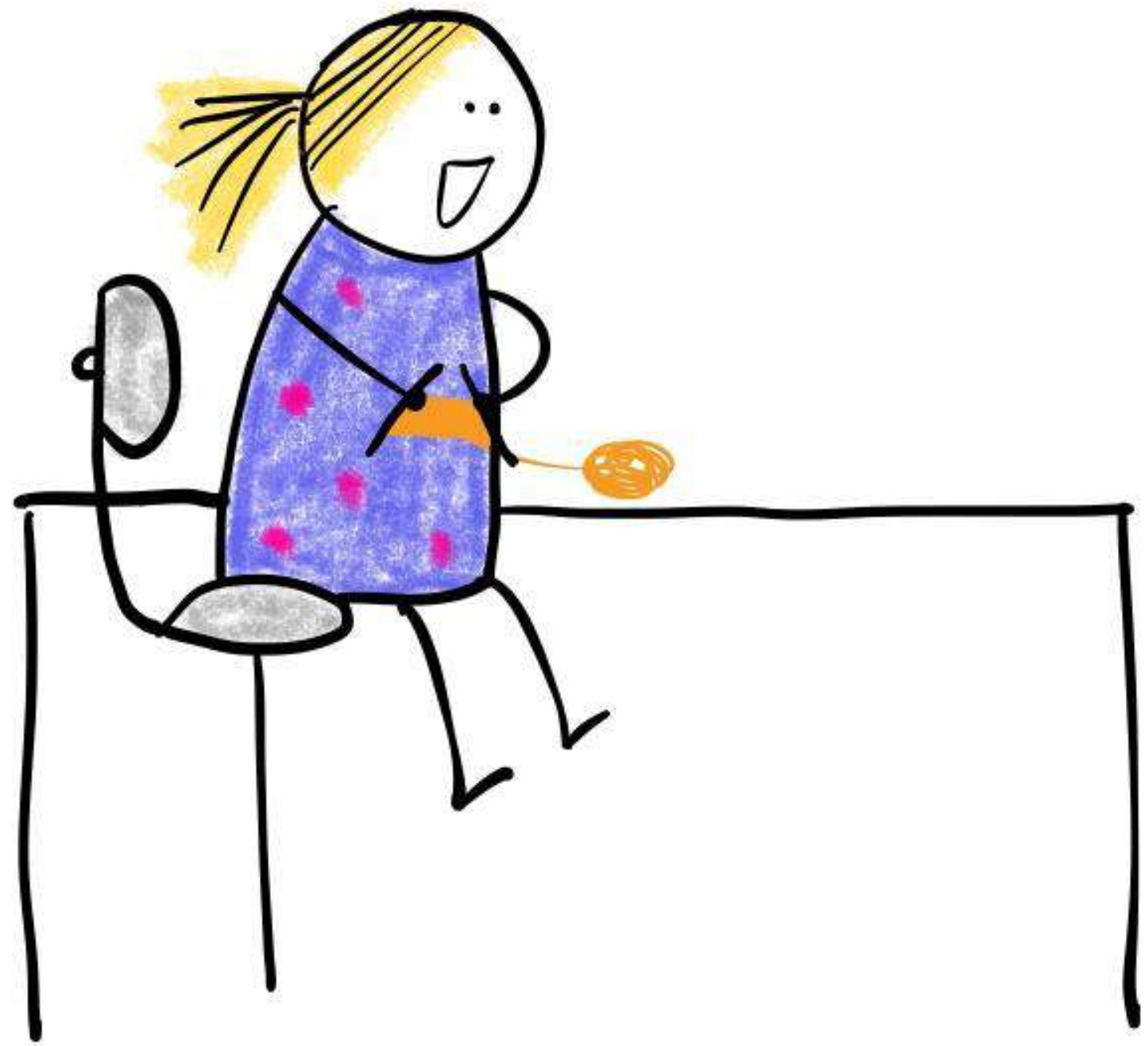
with

Computer Science













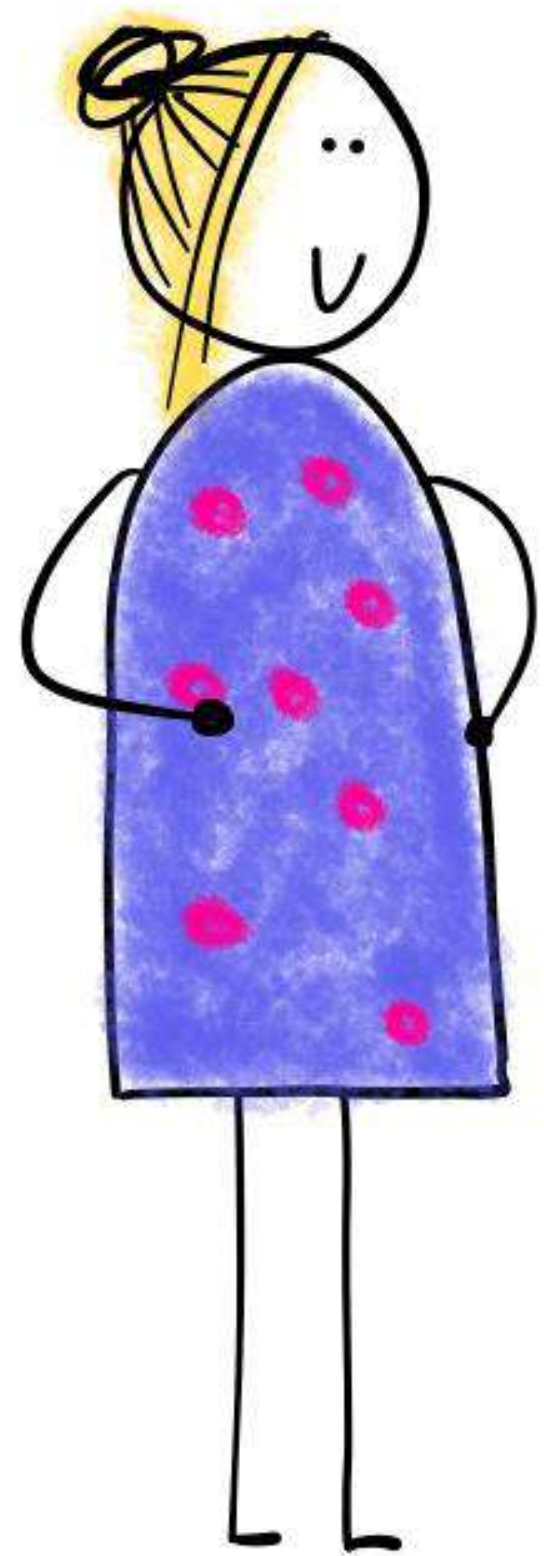
**Een slimme
meid is op
haar toekomst
voorbereid.**



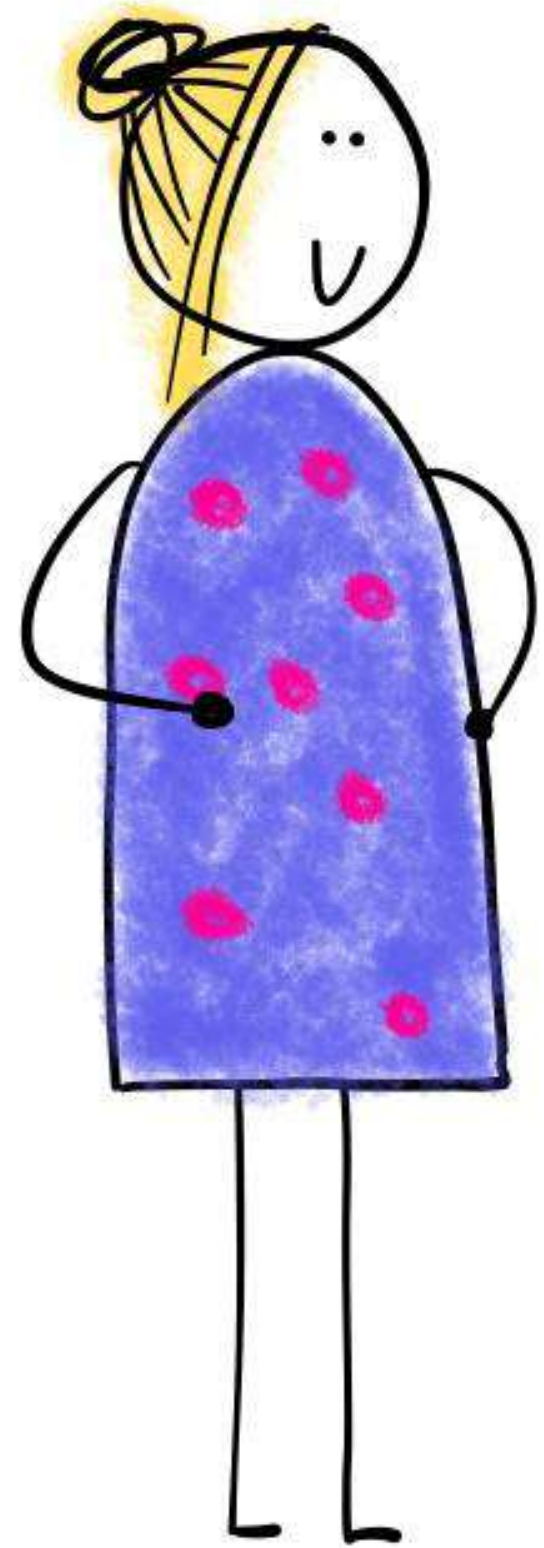
Haal de folder bij postkantoor of bibliotheek.



©Collectie 1997



PhD from TU Delft



Made a programming language

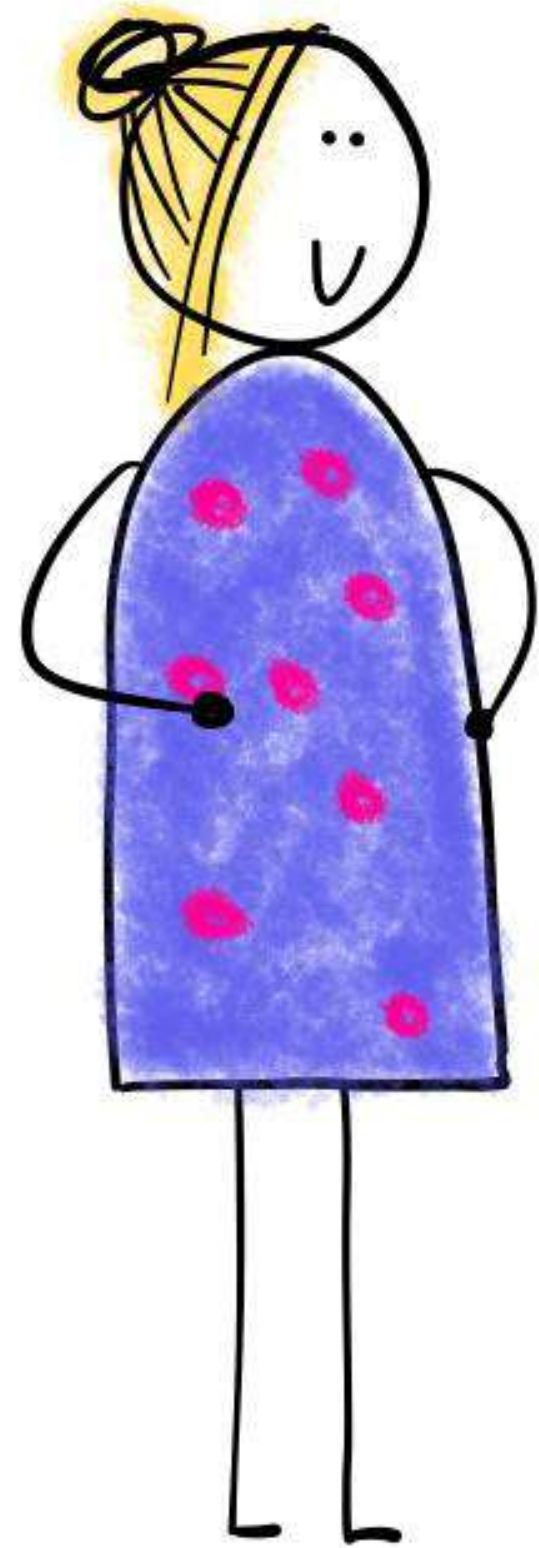


PhD

from

TU

Delft





Level 1 – Tekenen

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`.

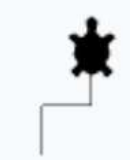
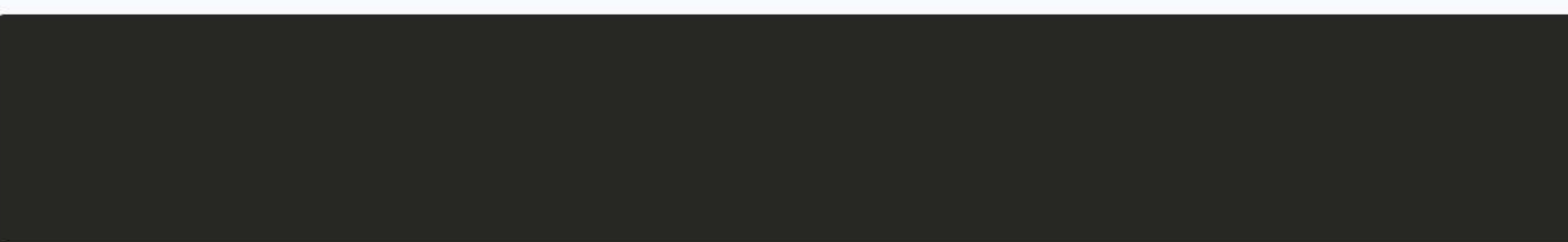
```
vooruit 100
draai links
```

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
```

```
1 vooruit 20
2 draai rechts
3 vooruit 20
4 draai links
5 vooruit 20
6
```



Made a programming language

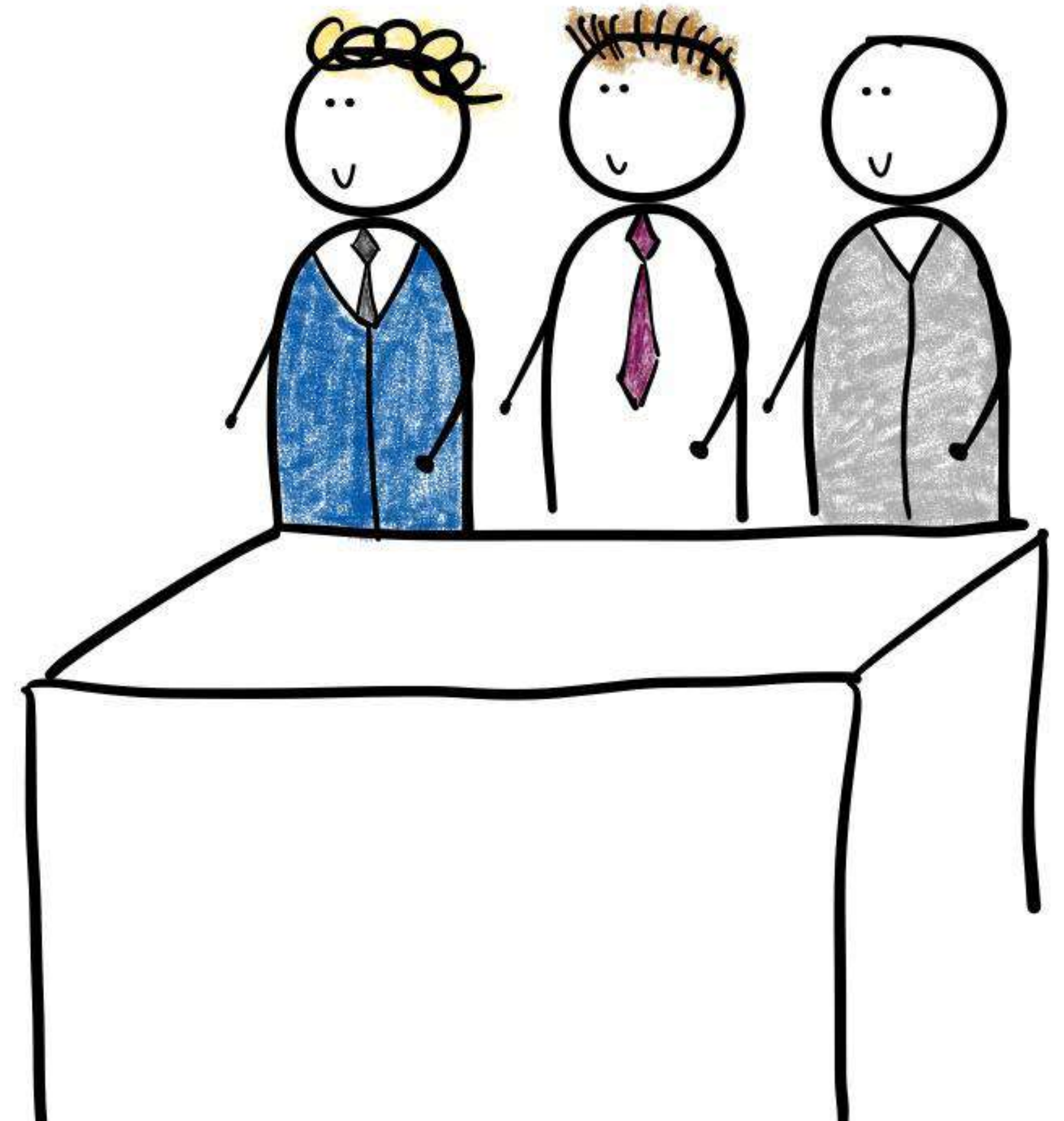
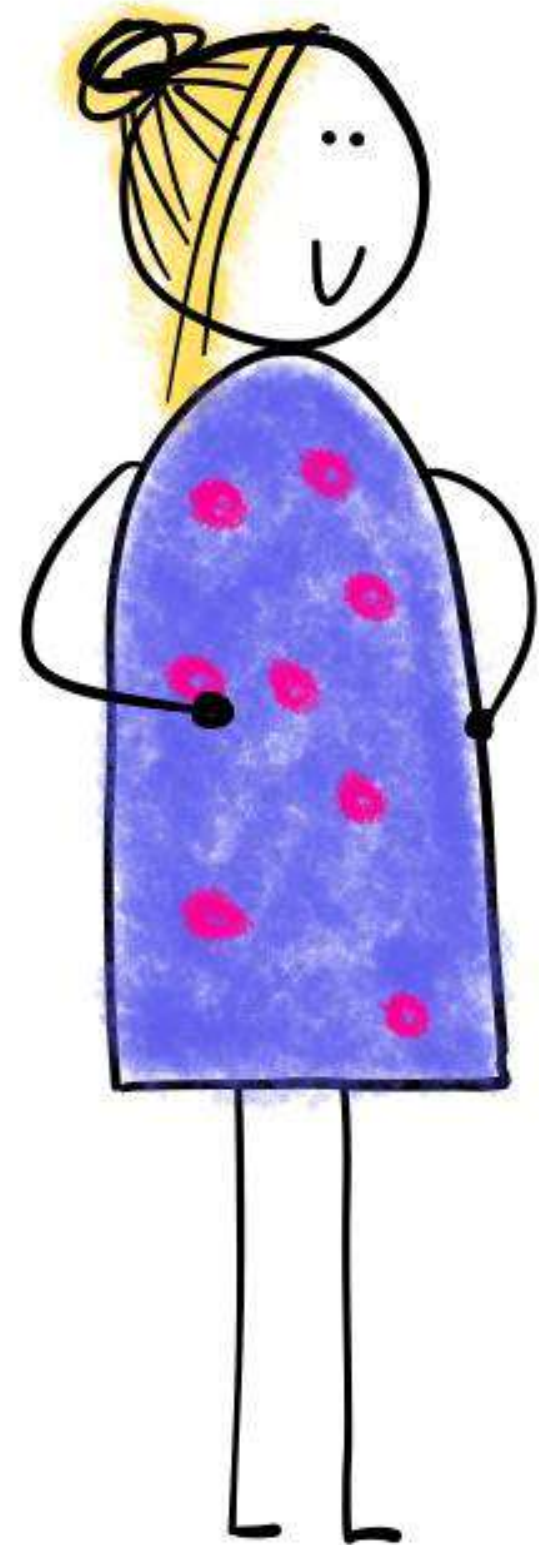


PhD

from

TU

Delft



Made a programming language



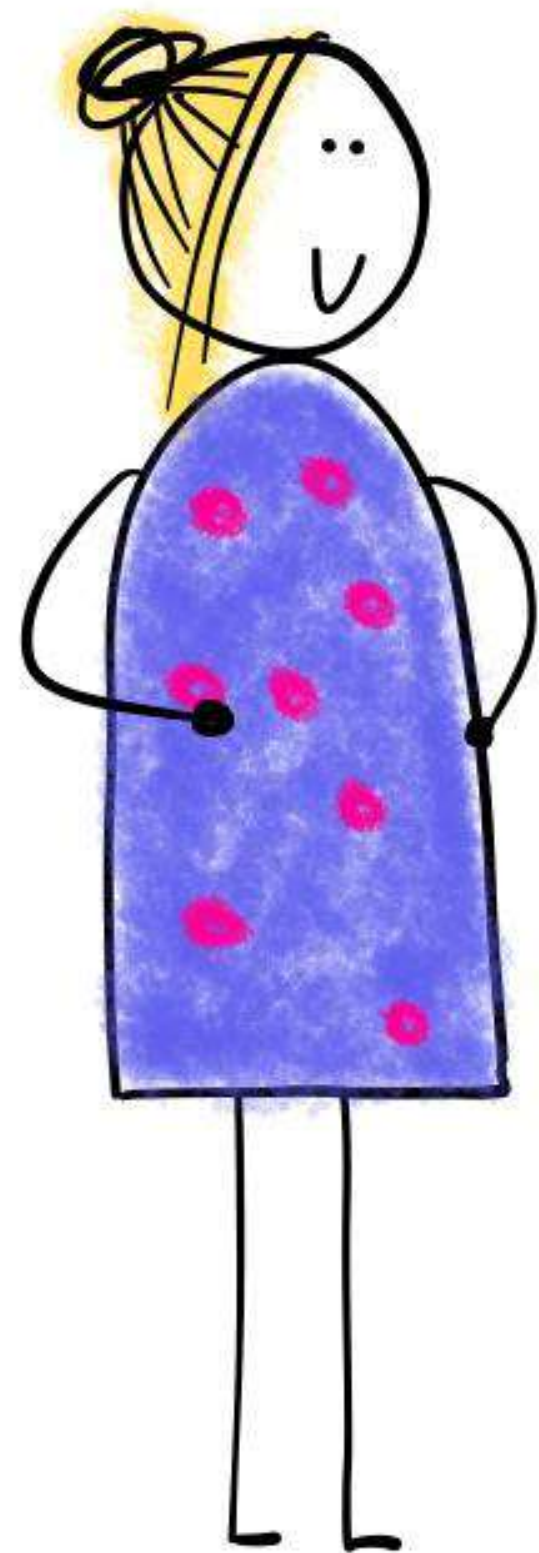
PhD



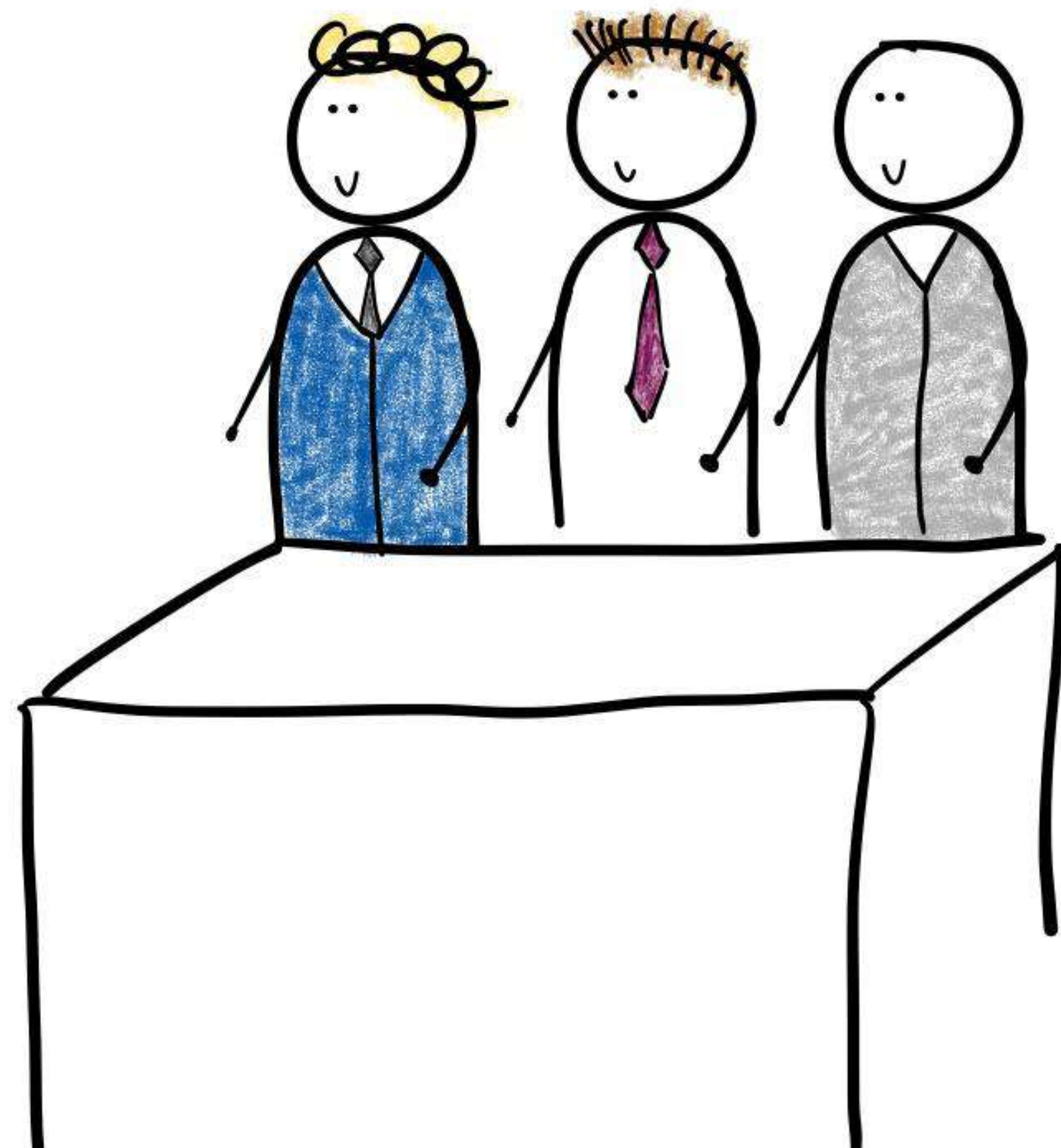
from

TU

Delft

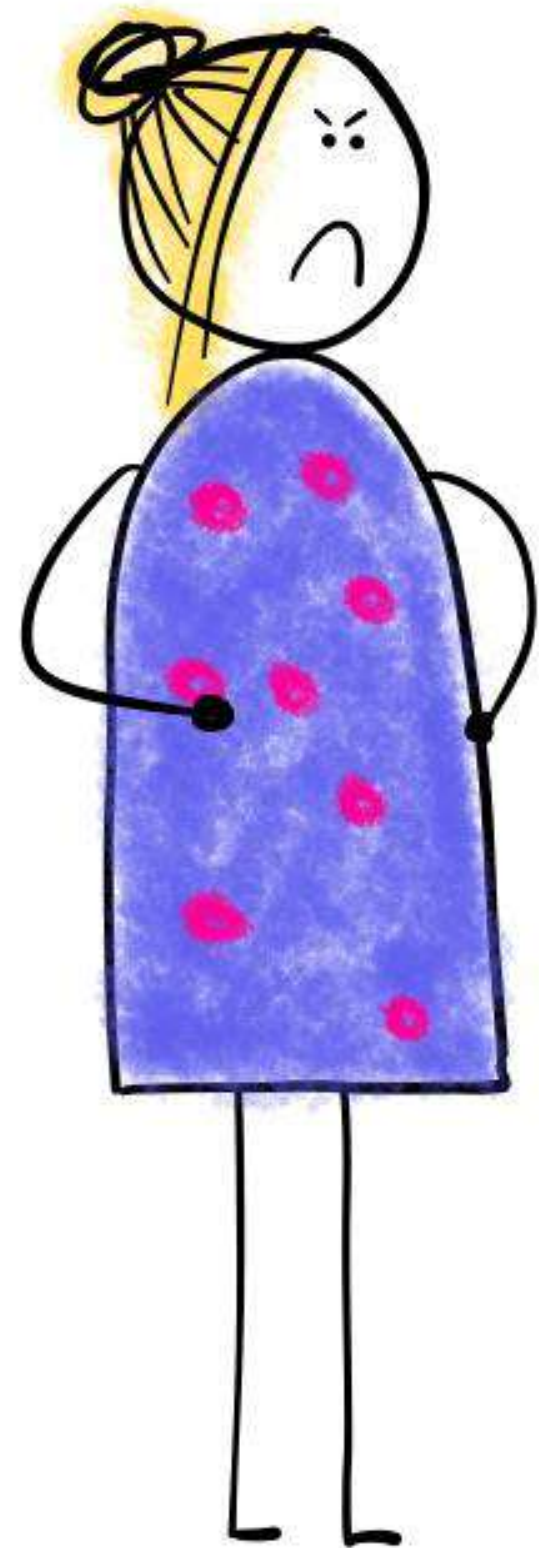


Are you technical
enough?

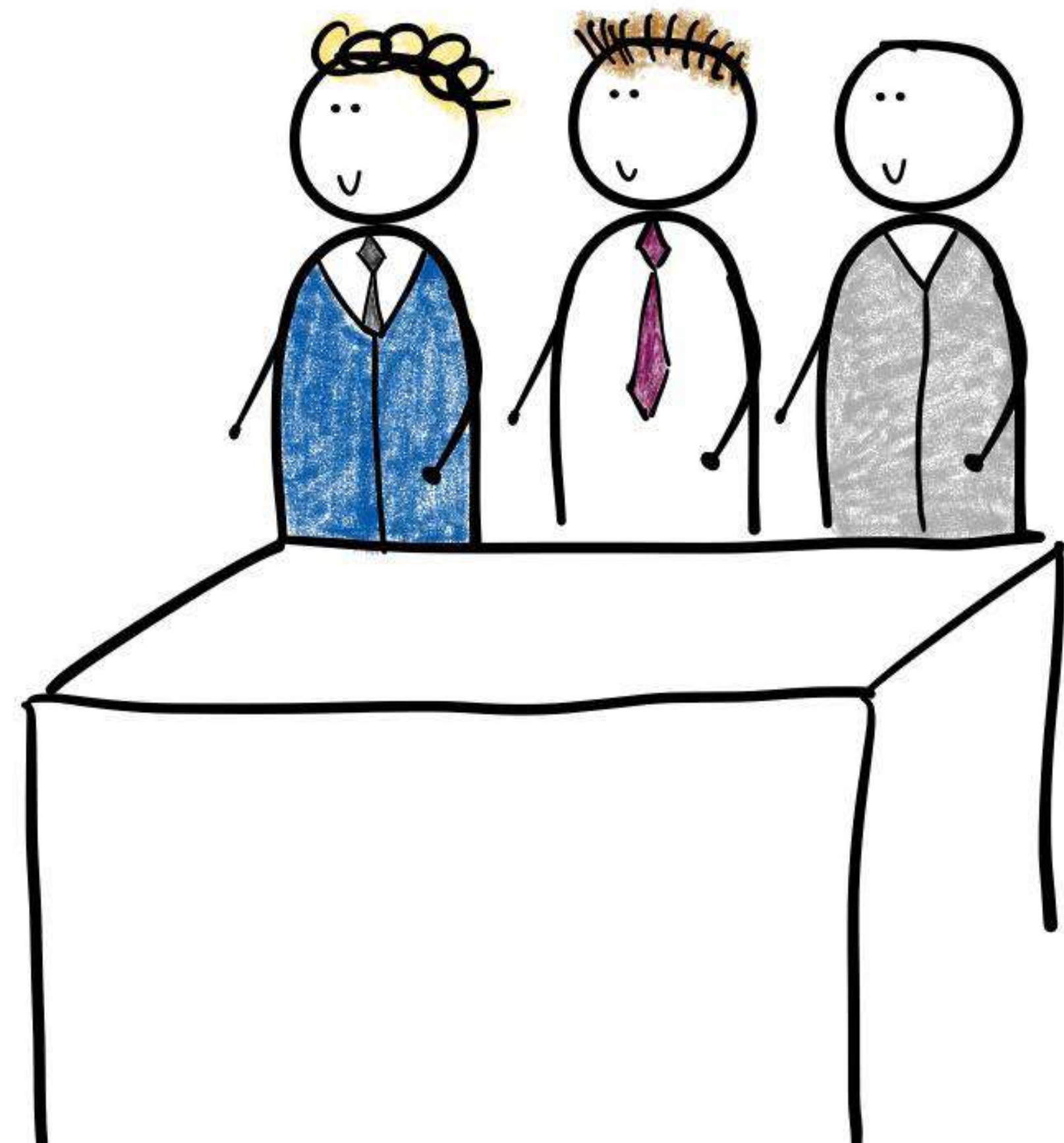


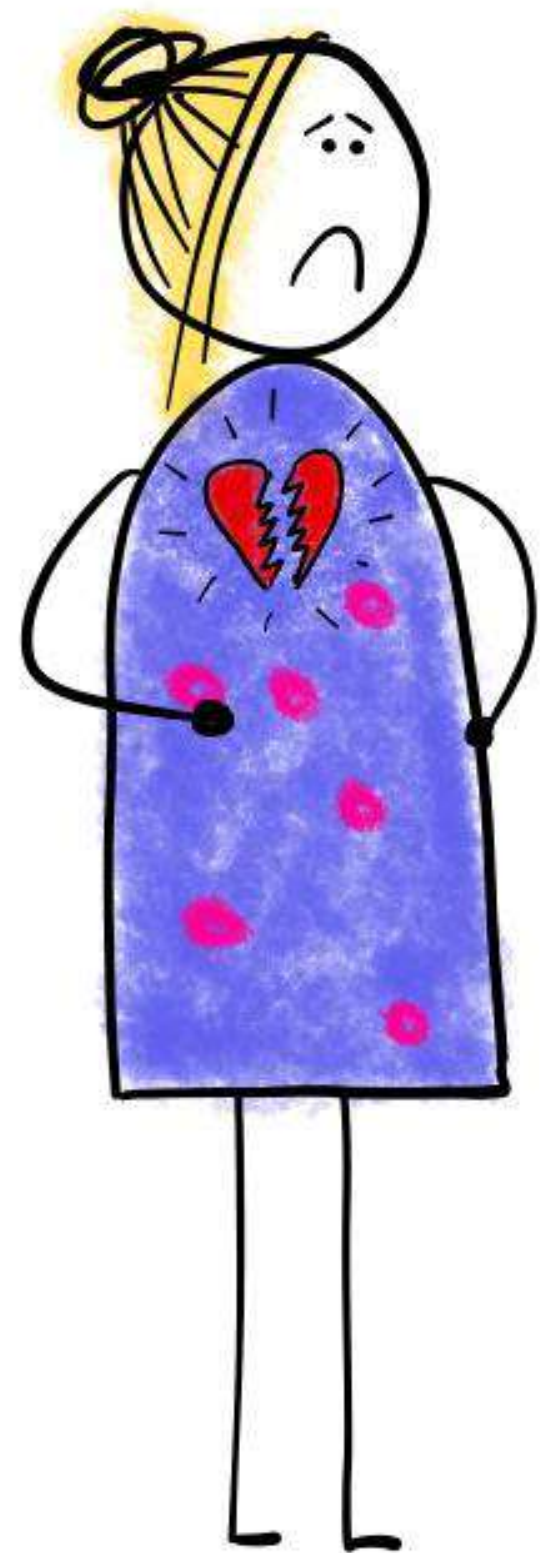
Made a programming language

PhD from TU Delft

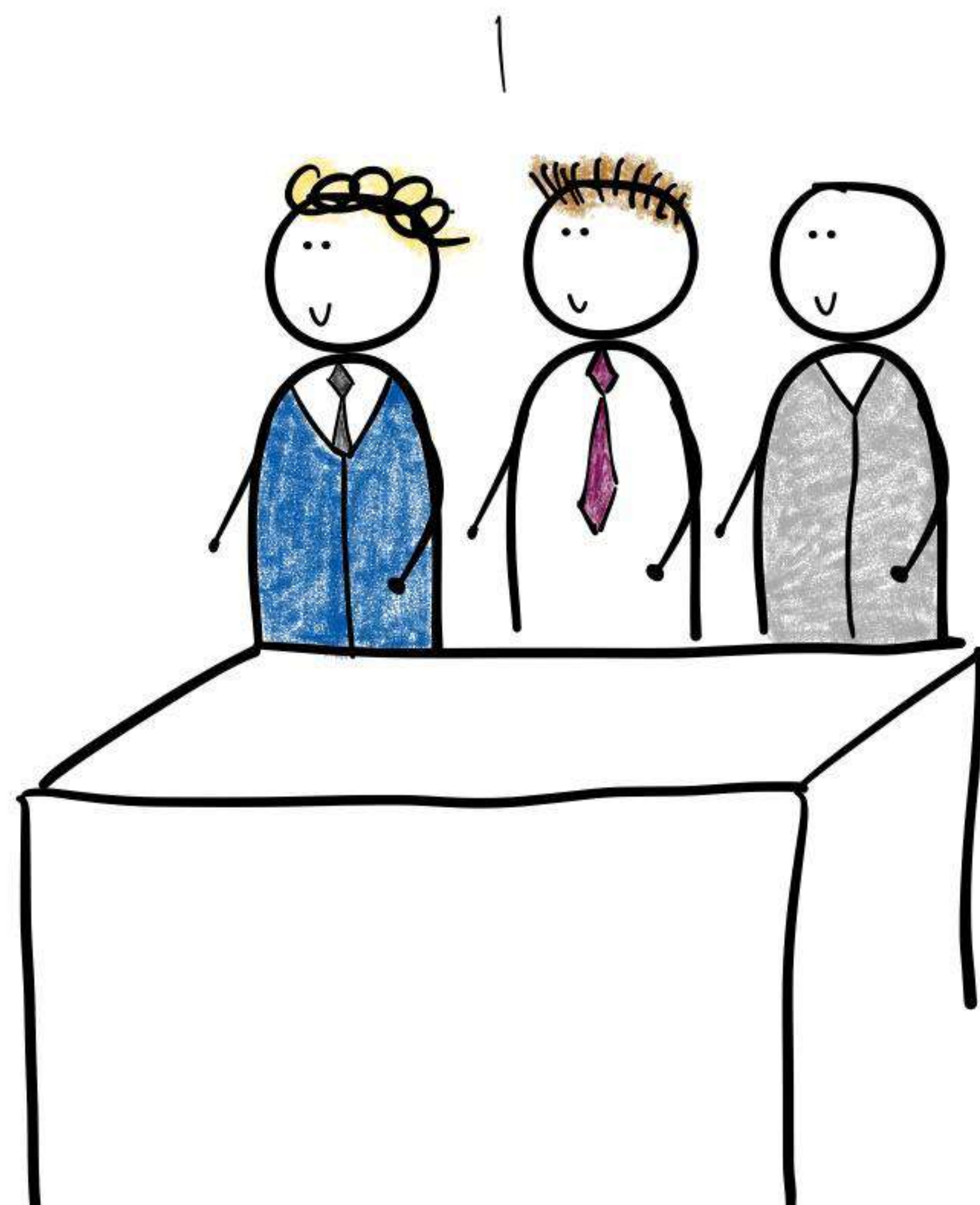


Are you technical
enough?



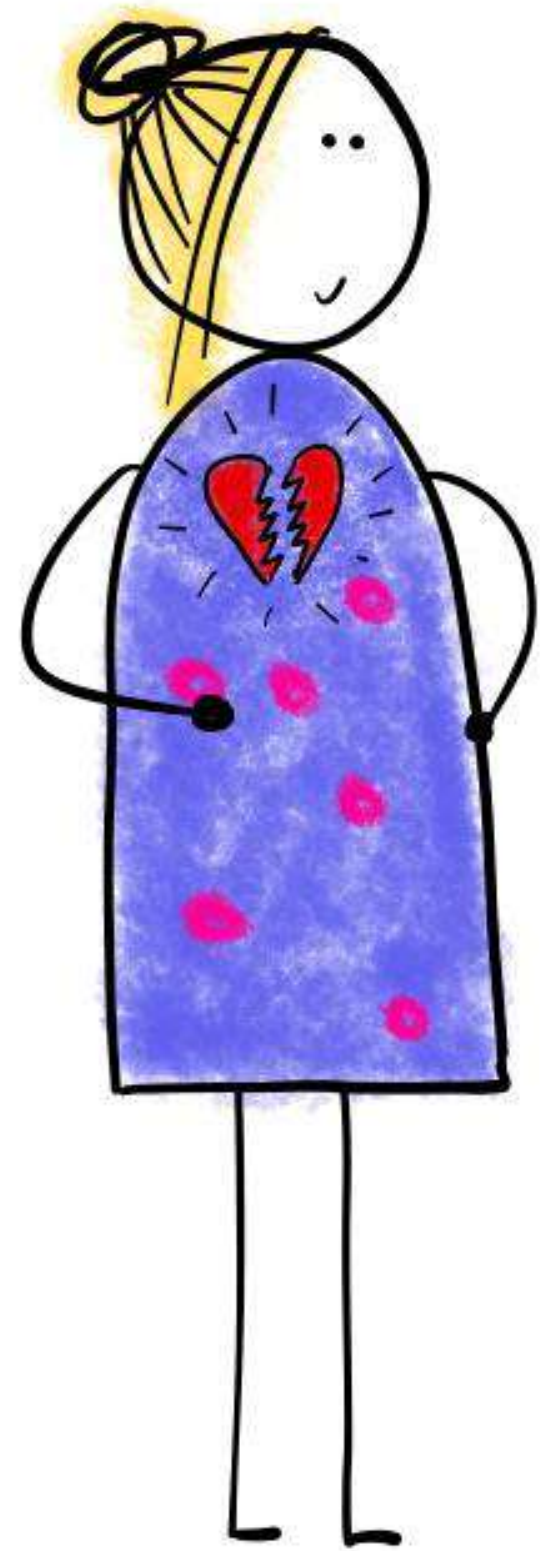


Are you technical
enough?

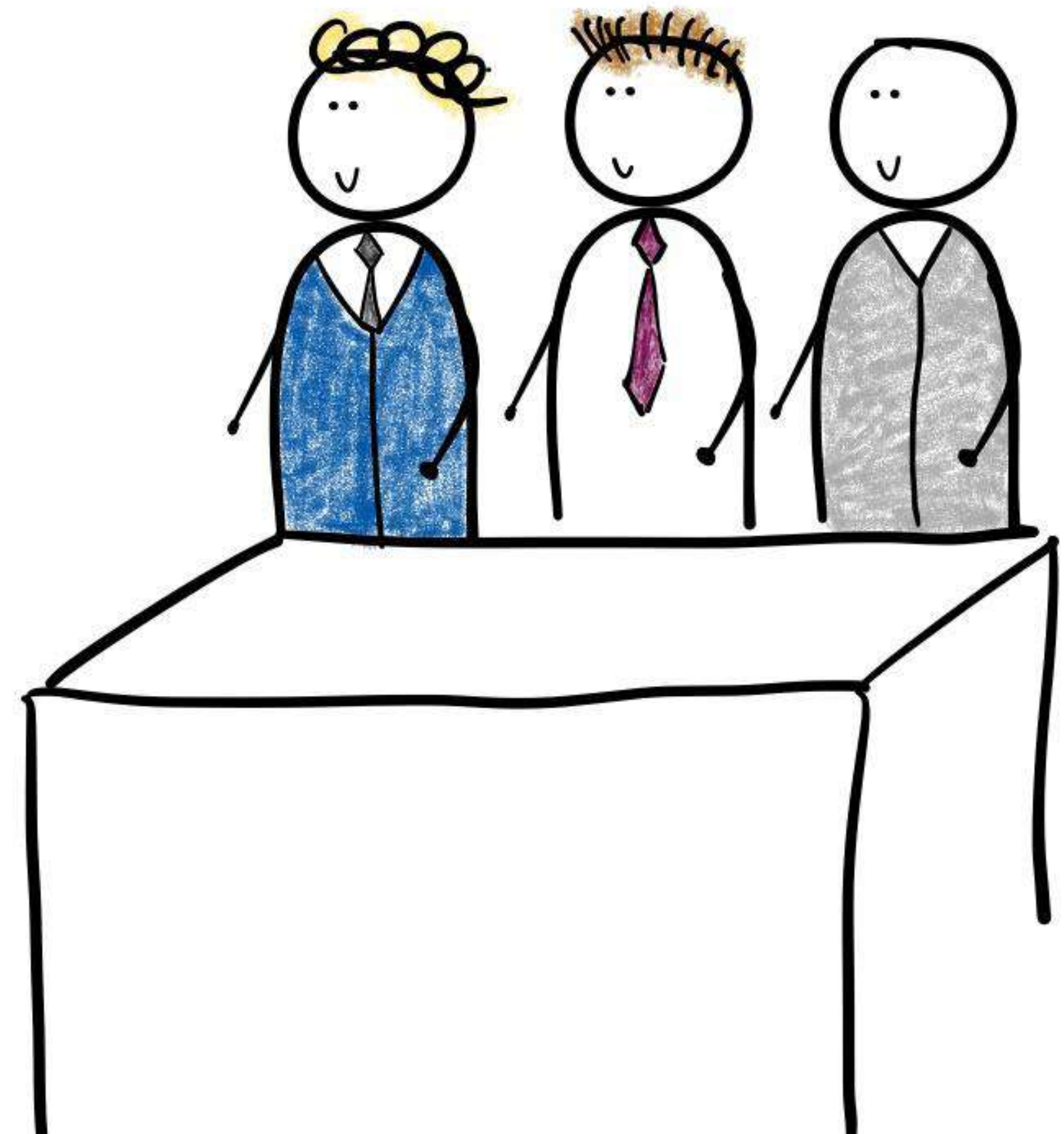


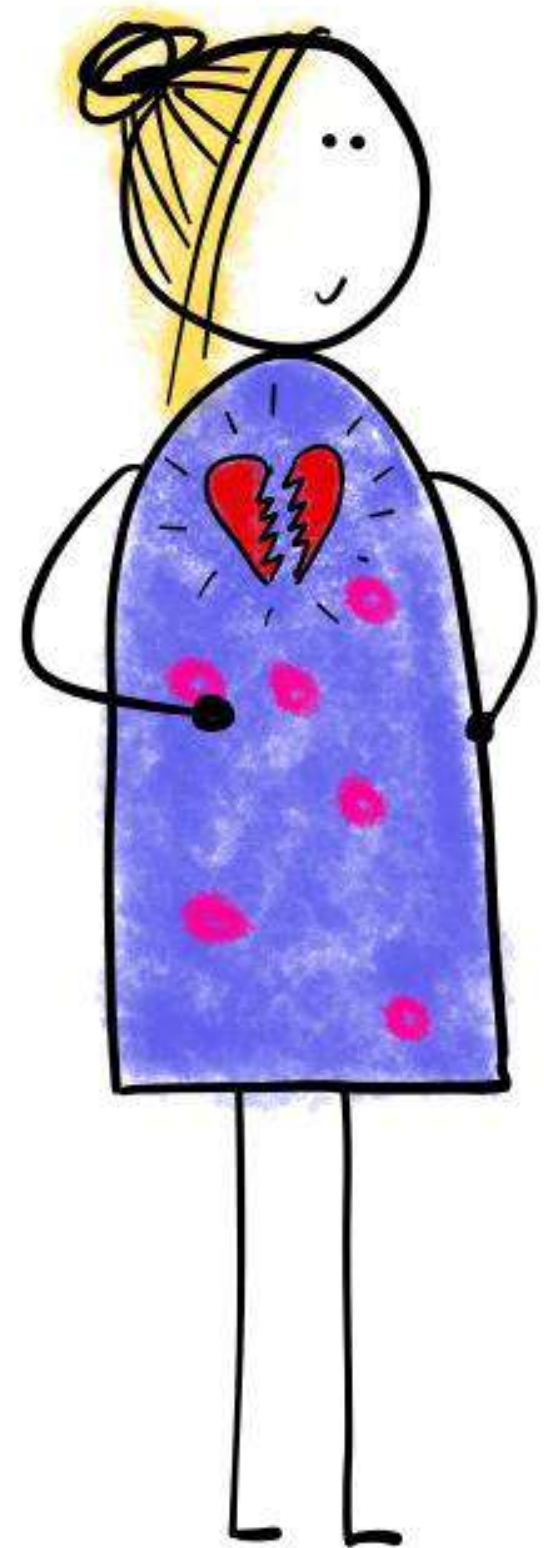
I understand

your question...

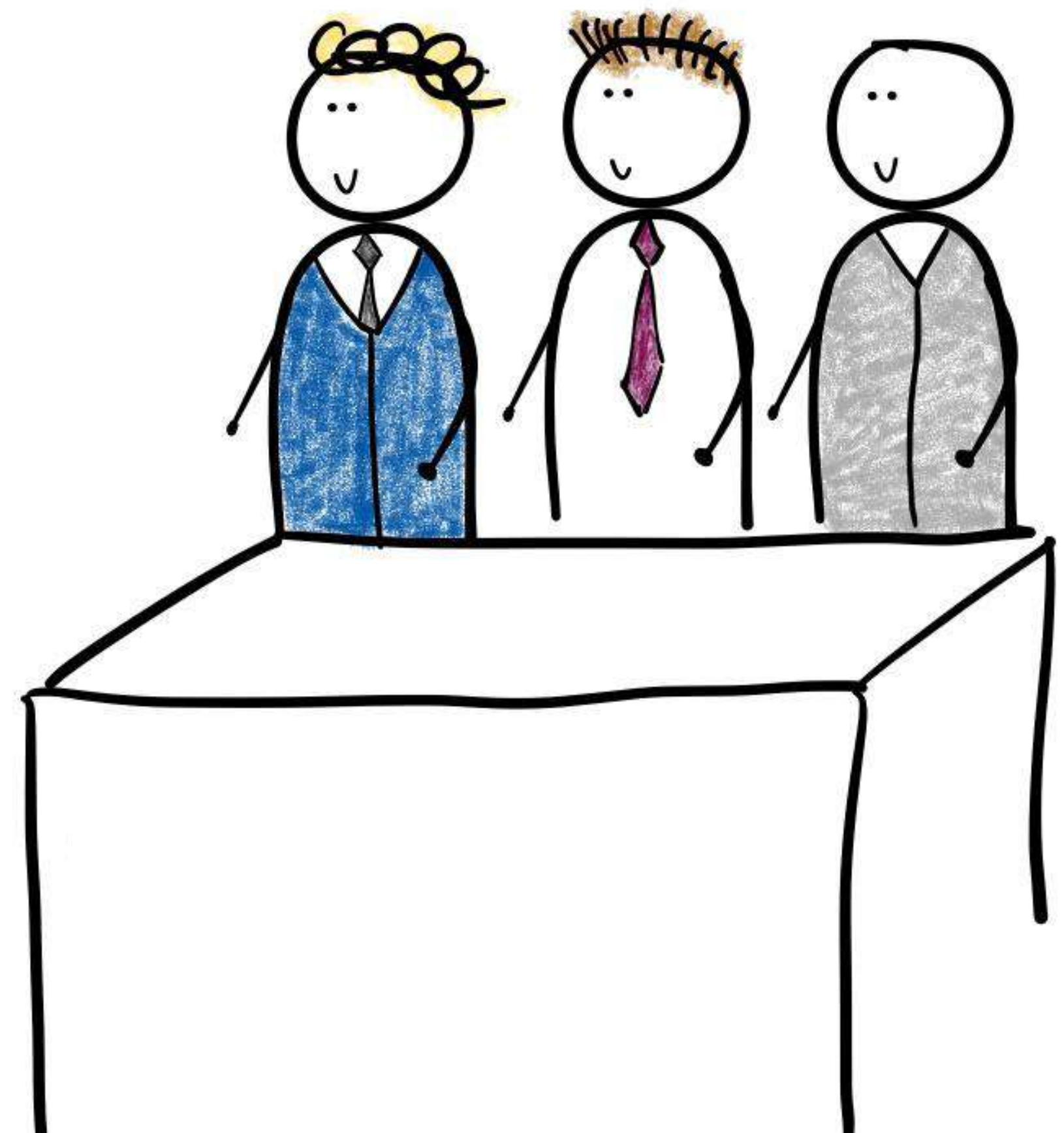


Are you technical
enough?

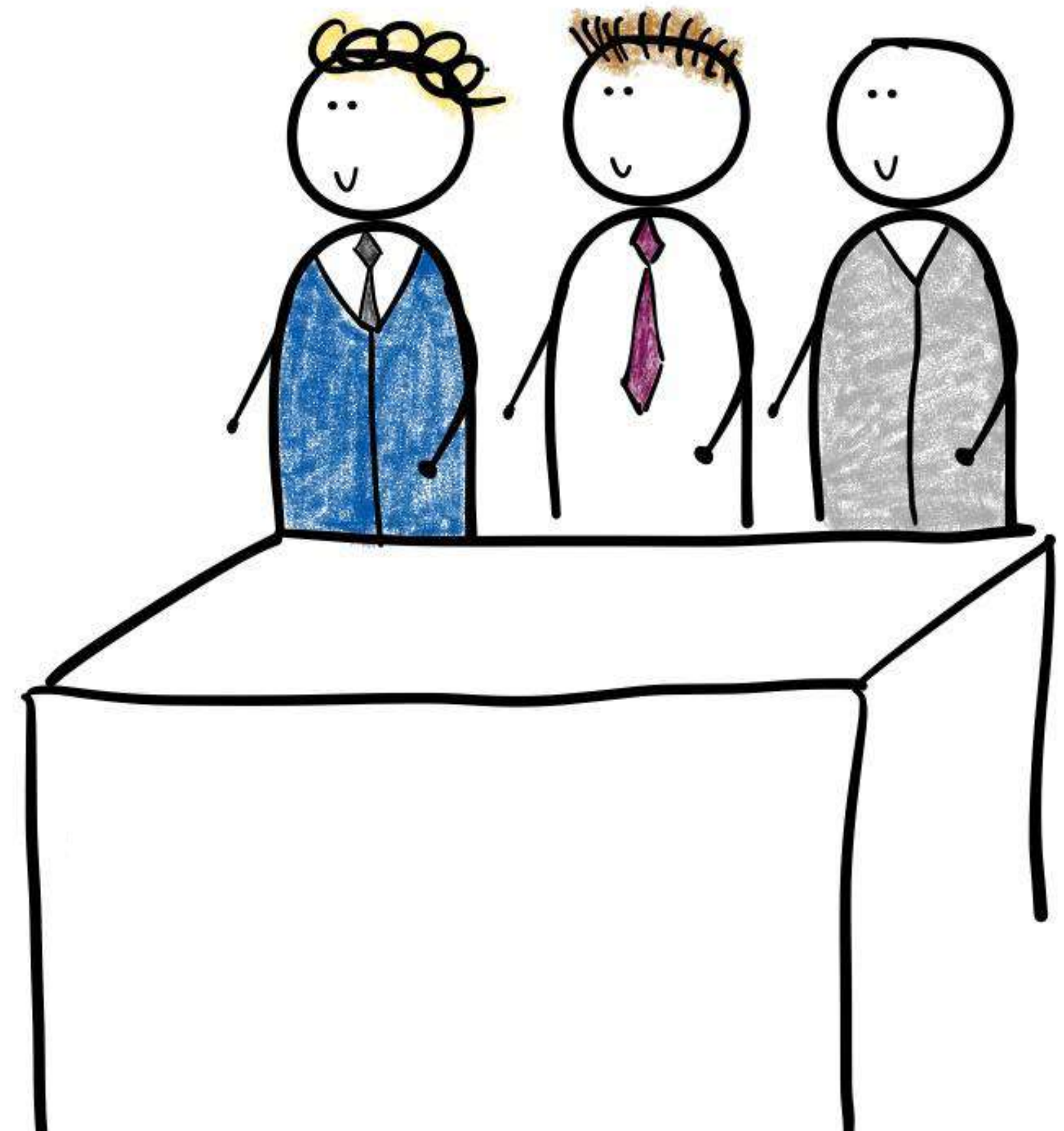
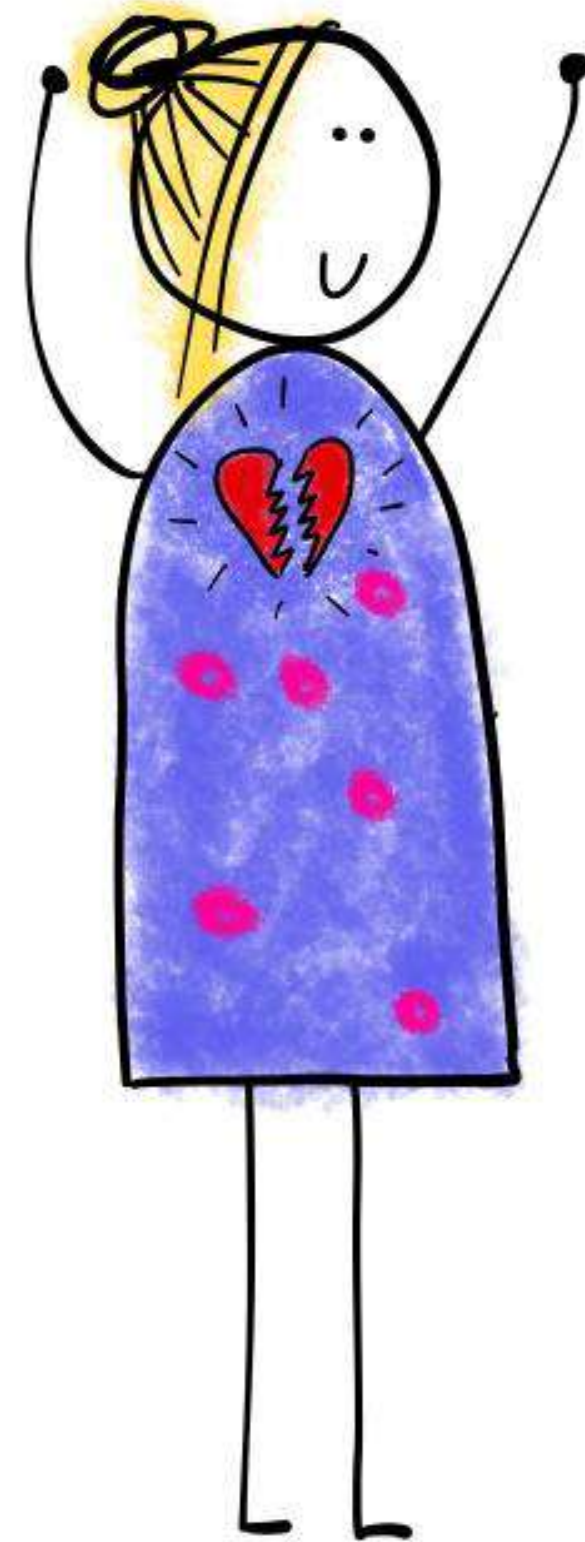


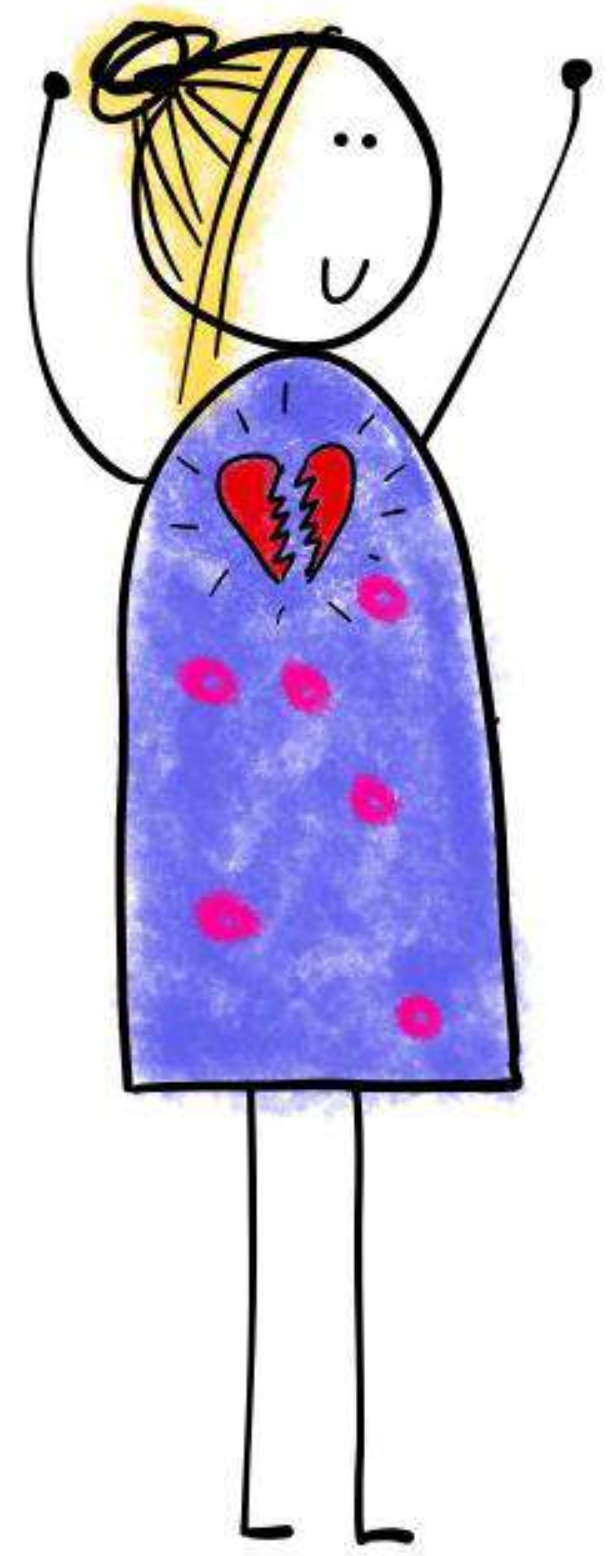


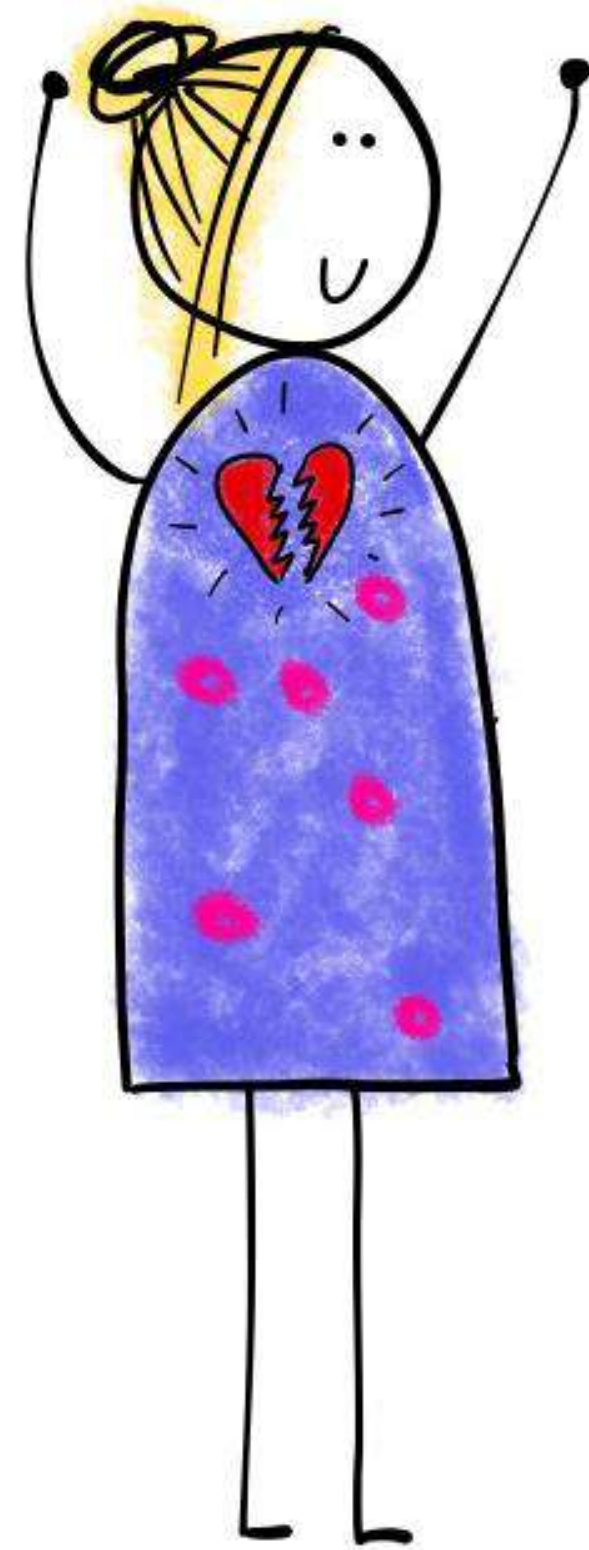
You got the job



You got the job





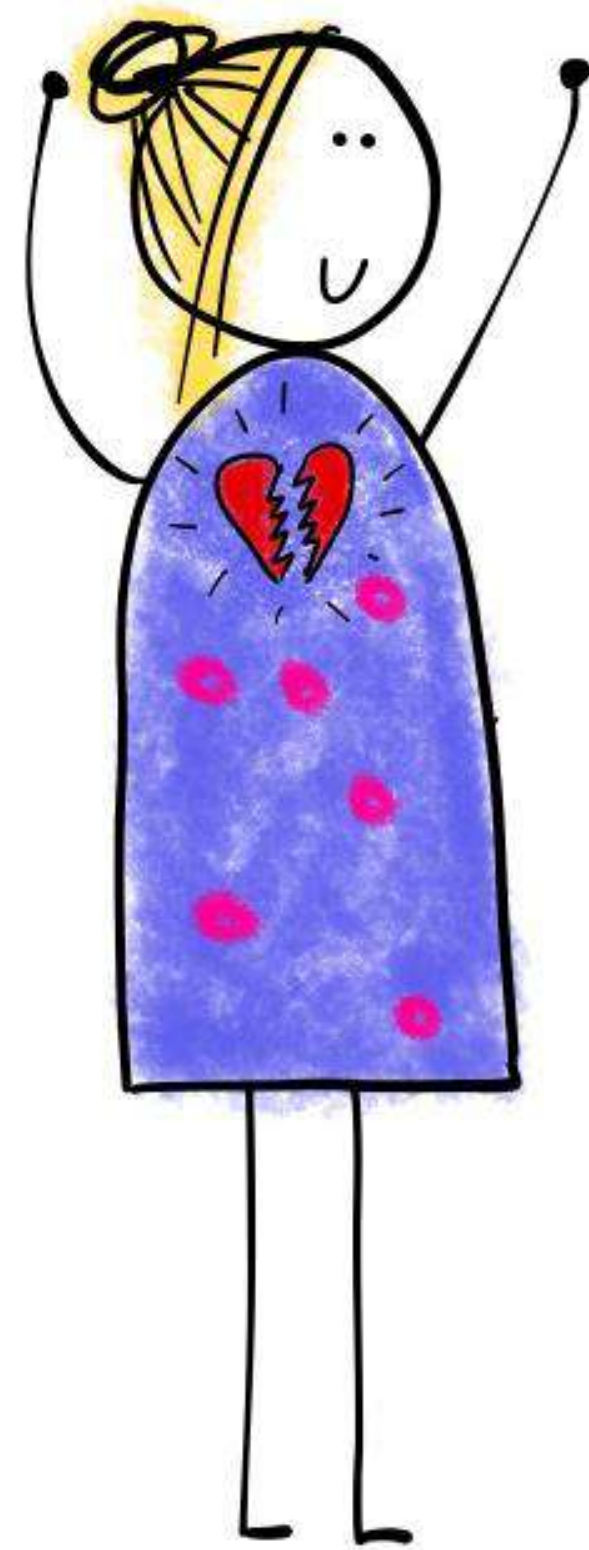


**Een slimme
meid is op
haar toekomst
voorbereid.**



Haal de folder bij postkantoor of bibliotheek.



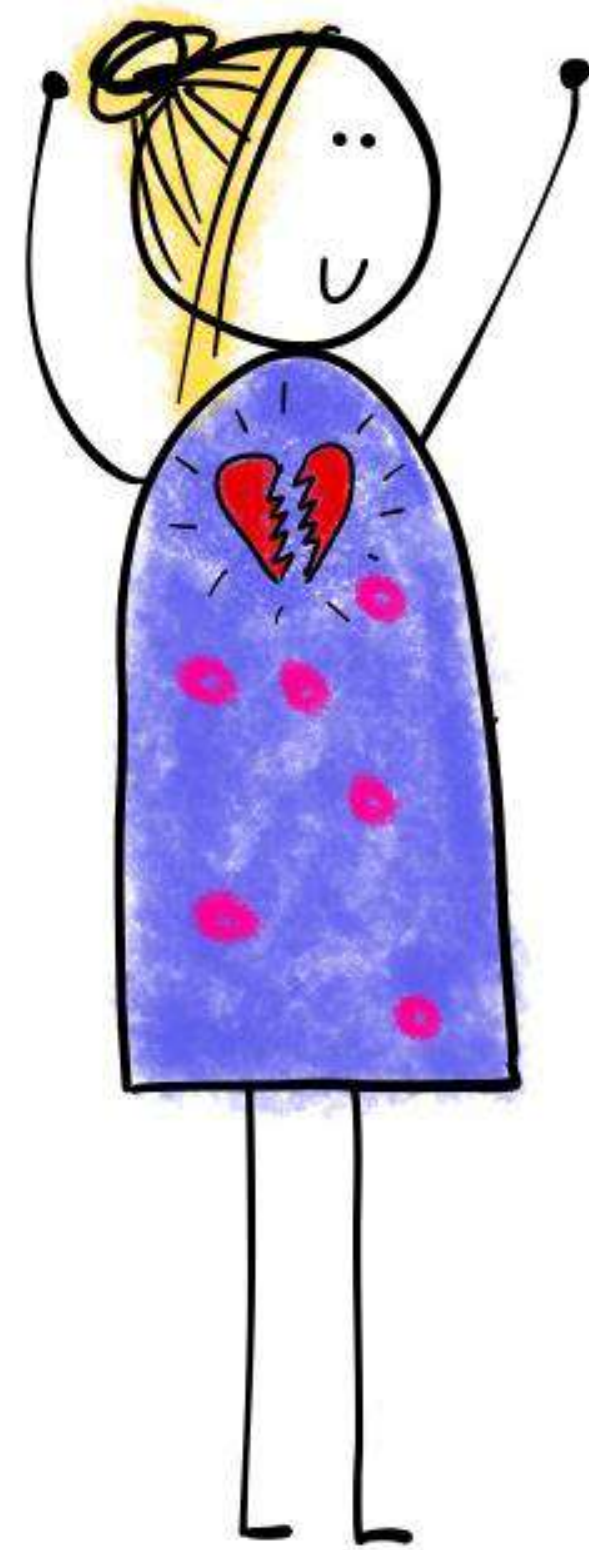


**Een slimme
meid is op
haar toekomst
voorbereid.**

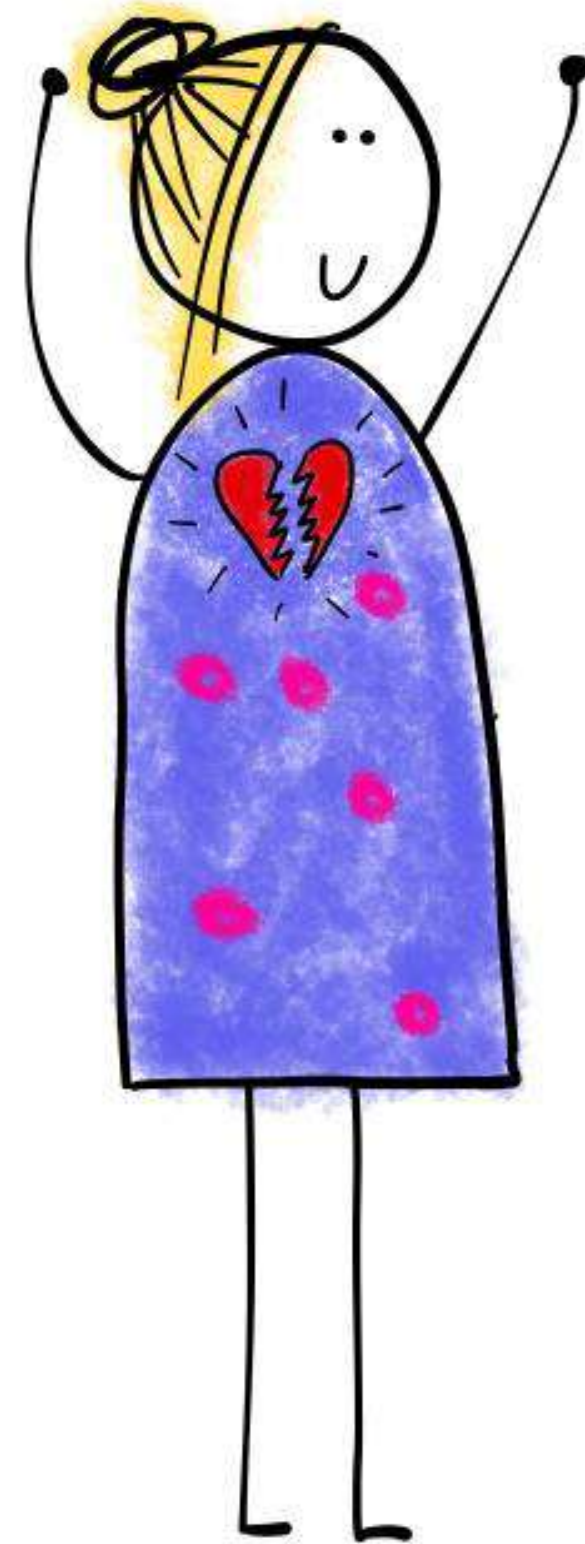


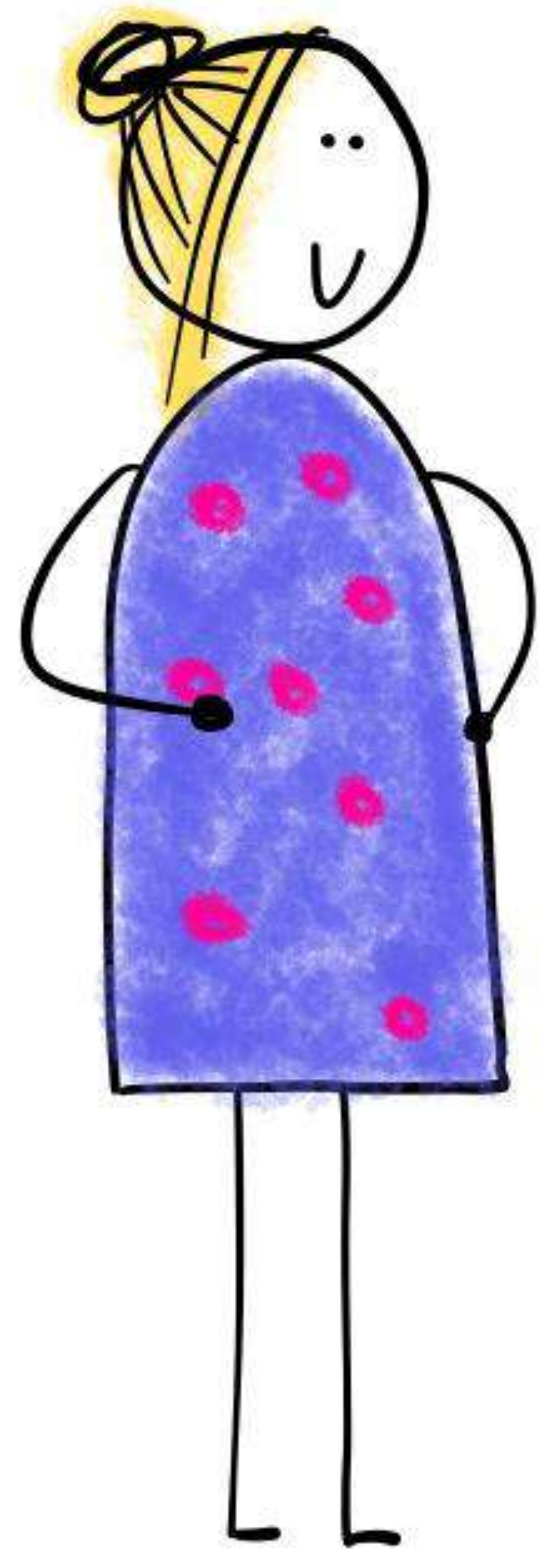
Haal de folder bij postkantoor of bibliotheek.





I don't feel welcome in CS





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`.

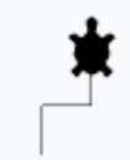
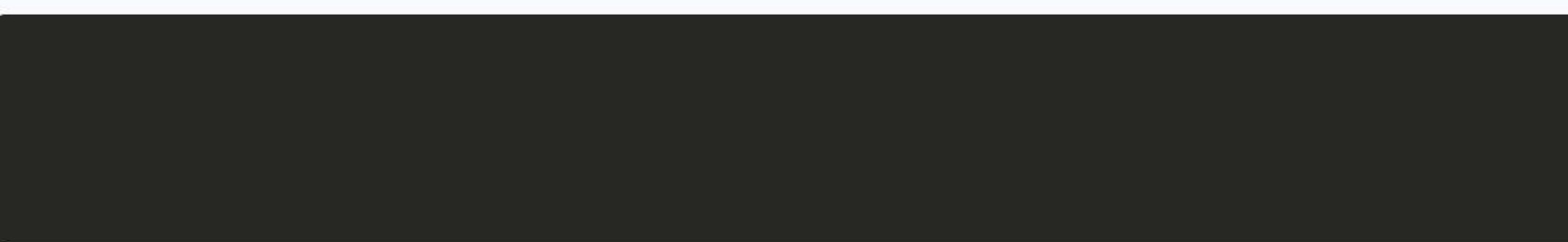
```
vooruit 100
draai links
```

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
```

```
1 vooruit 20
2 draai rechts
3 vooruit 20
4 draai links
5 vooruit 20
6
```



Voer de code uit

Debug

Expand output

Save drawing

Choose a voice

More adventures

Nivel 1 – La tortuga ▼

Idioma ▼

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

Usando `adelante` dibujas una línea hacia adelante. El número 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`

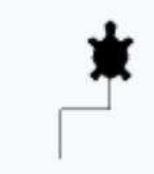
Ejercicio

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

```
1 adelante 20
2 girar derecha
3 adelante 20
4 girar izquierda
5 adelante 20
6
```

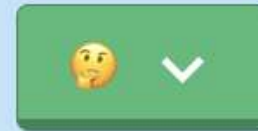
```
adelante 100
girar izquierda
```

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





Nivel 1



- Introducción
- imprimir
- preguntar
- Loro
- Piedra, papel o tijera
- La Casa Embrujada
- Historia
- música
- La tortuga
- ¡Dibújalo!
- Restaurante
- El adivino
- depurando
- Puzzle
- Cuestionario

¡Bienvenido a Hedy! Aquí puedes aprender a cómo programar paso a paso.

¡Prueba el código por ti mismo! El botón amarillo copia el código de ejemplo a tu bloque de programación. Después pulsa el botón verde 'Ejecutar código' debajo del campo de programación para ejecutar el código.

¿Preparado? ¡Entonces ve a la siguiente pestaña para hacer tus propios códigos!

```
imprimir ¡Hola Mundo!
```



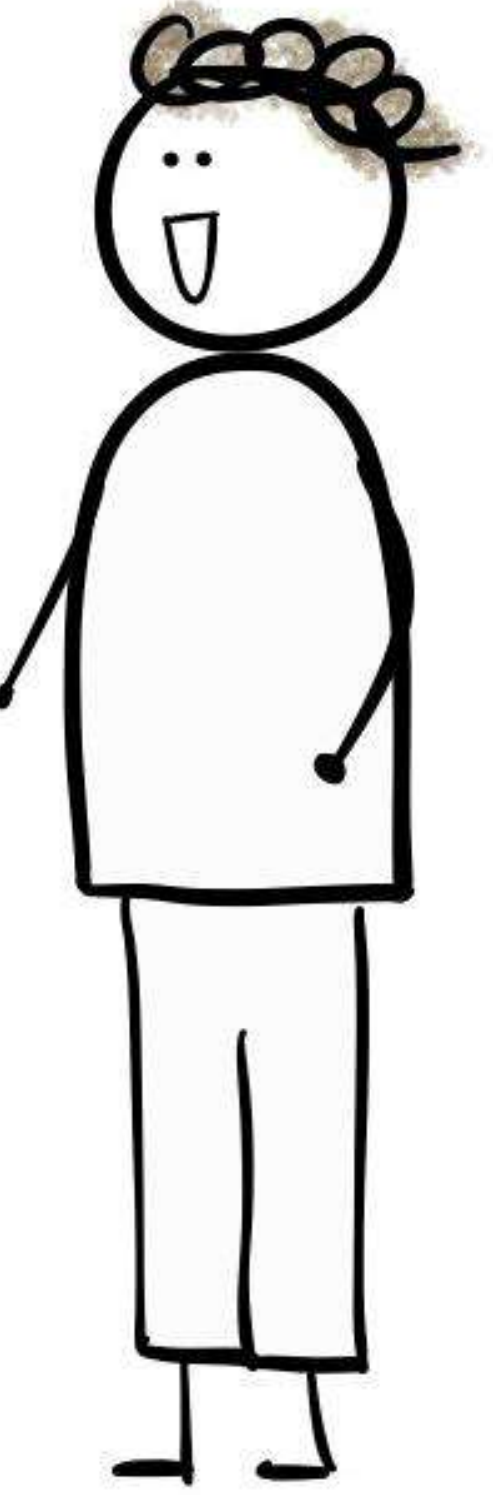
```
1 |
```



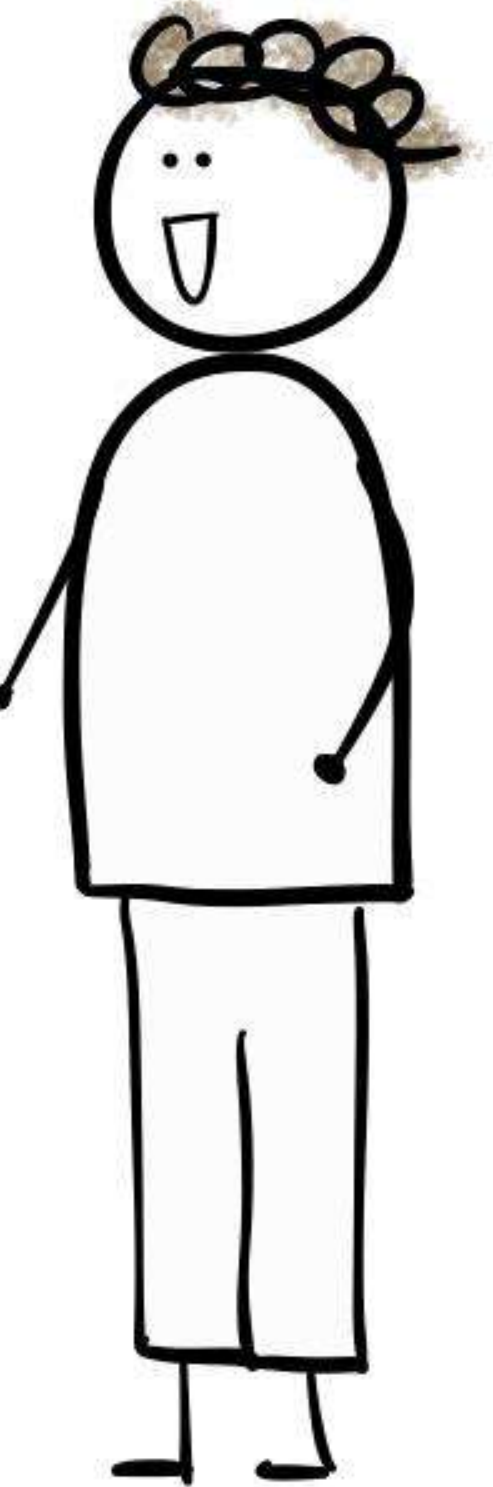
Ejecutar código



imprimir →

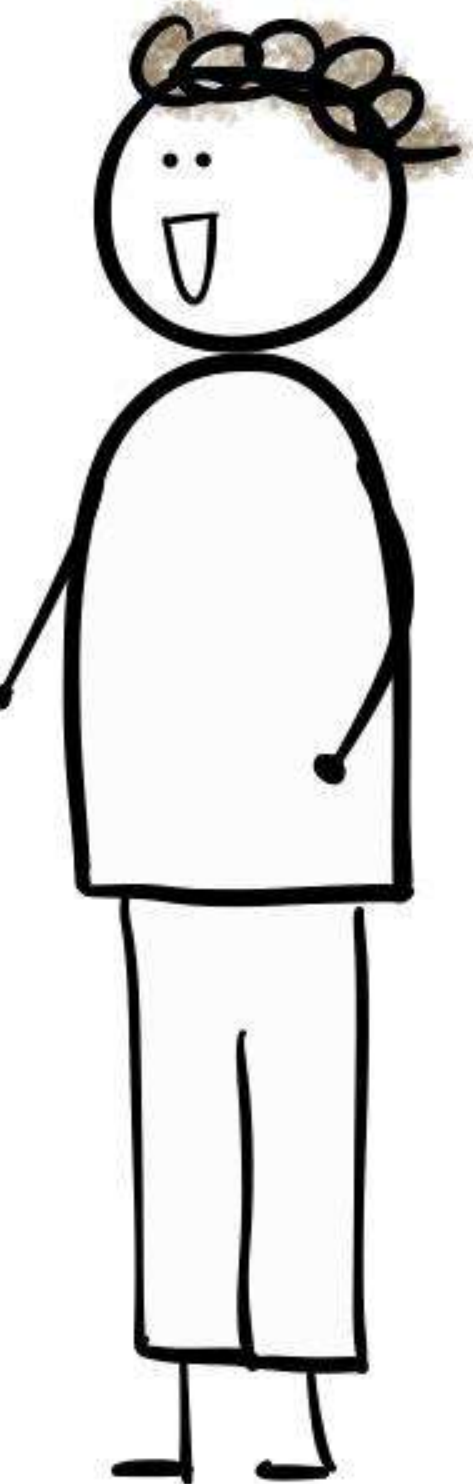
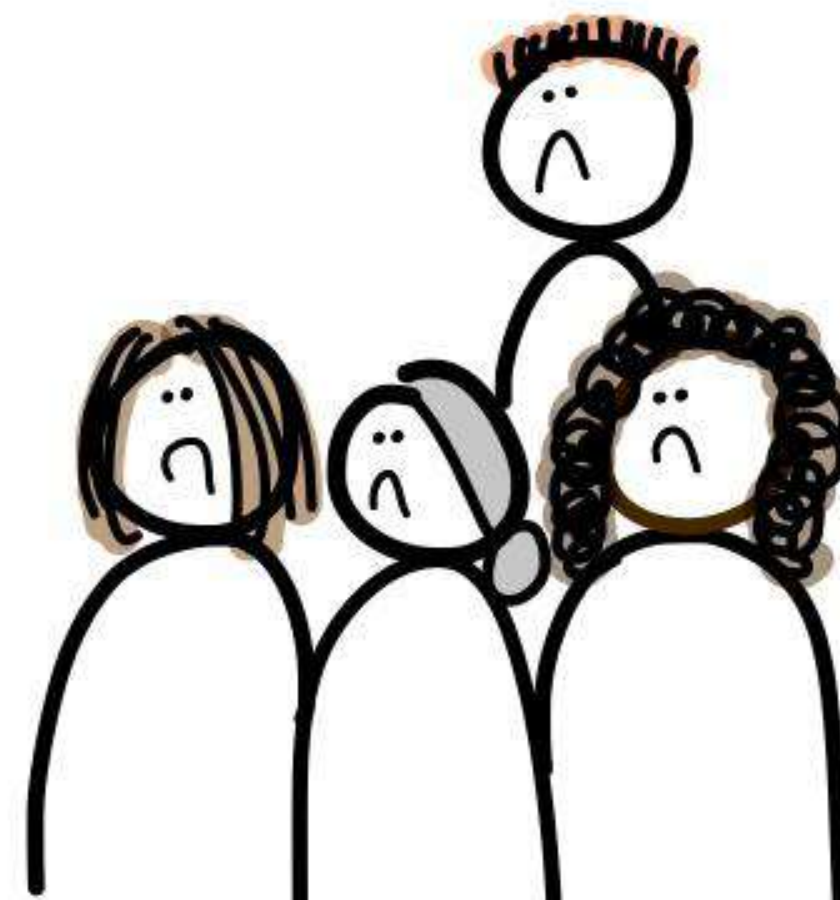
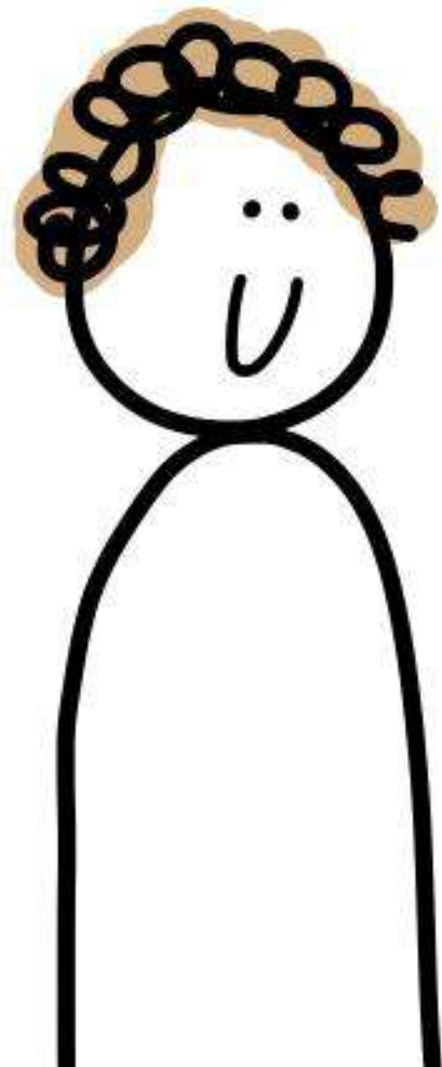


What about Arabic?



What about Arabic?

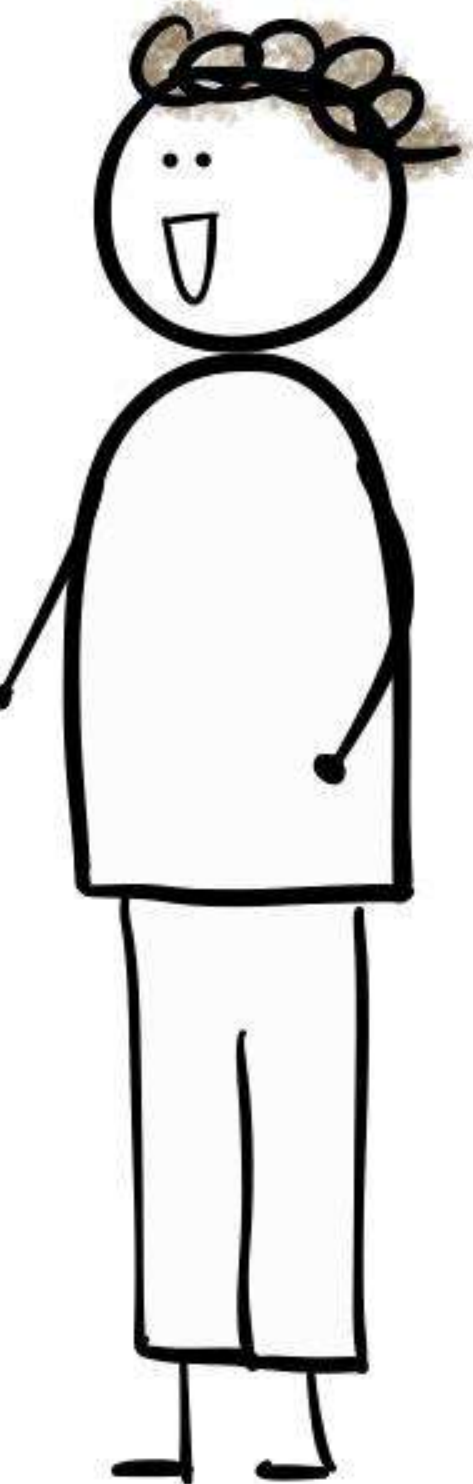
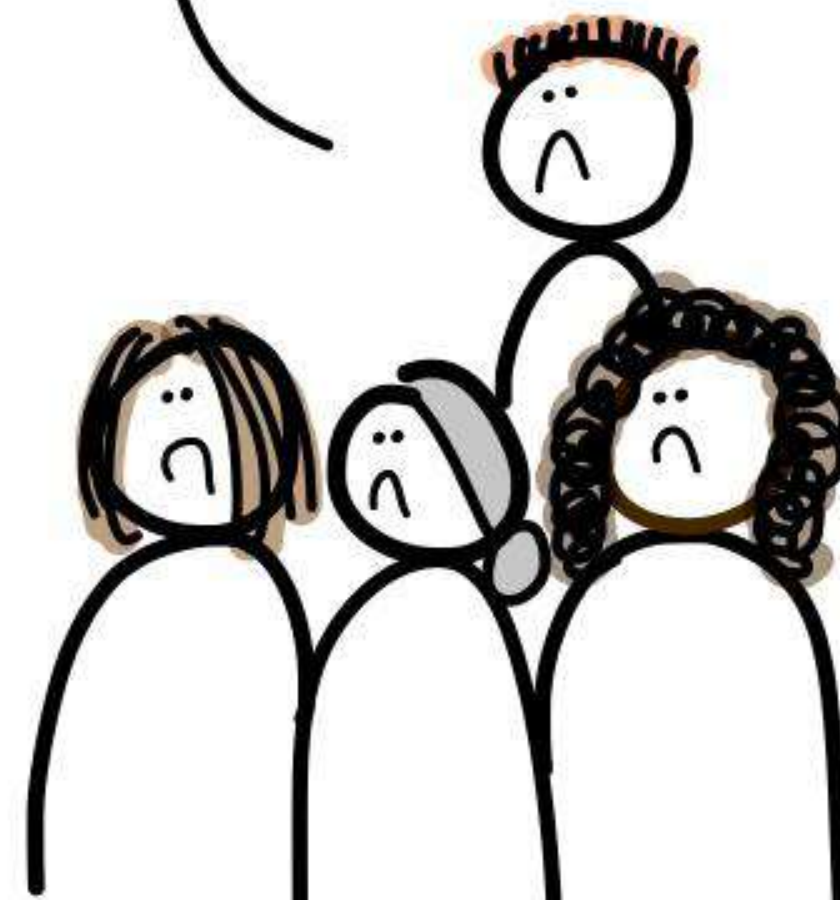
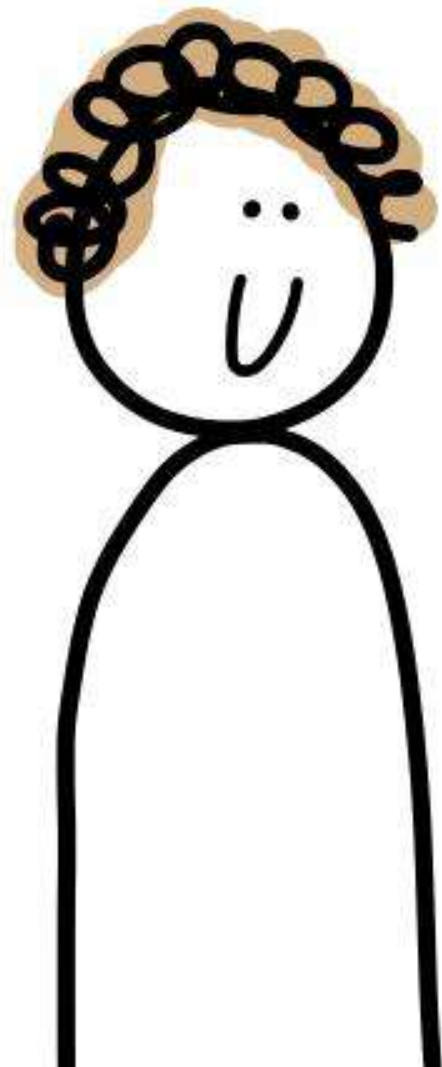
p..r..i..n..t



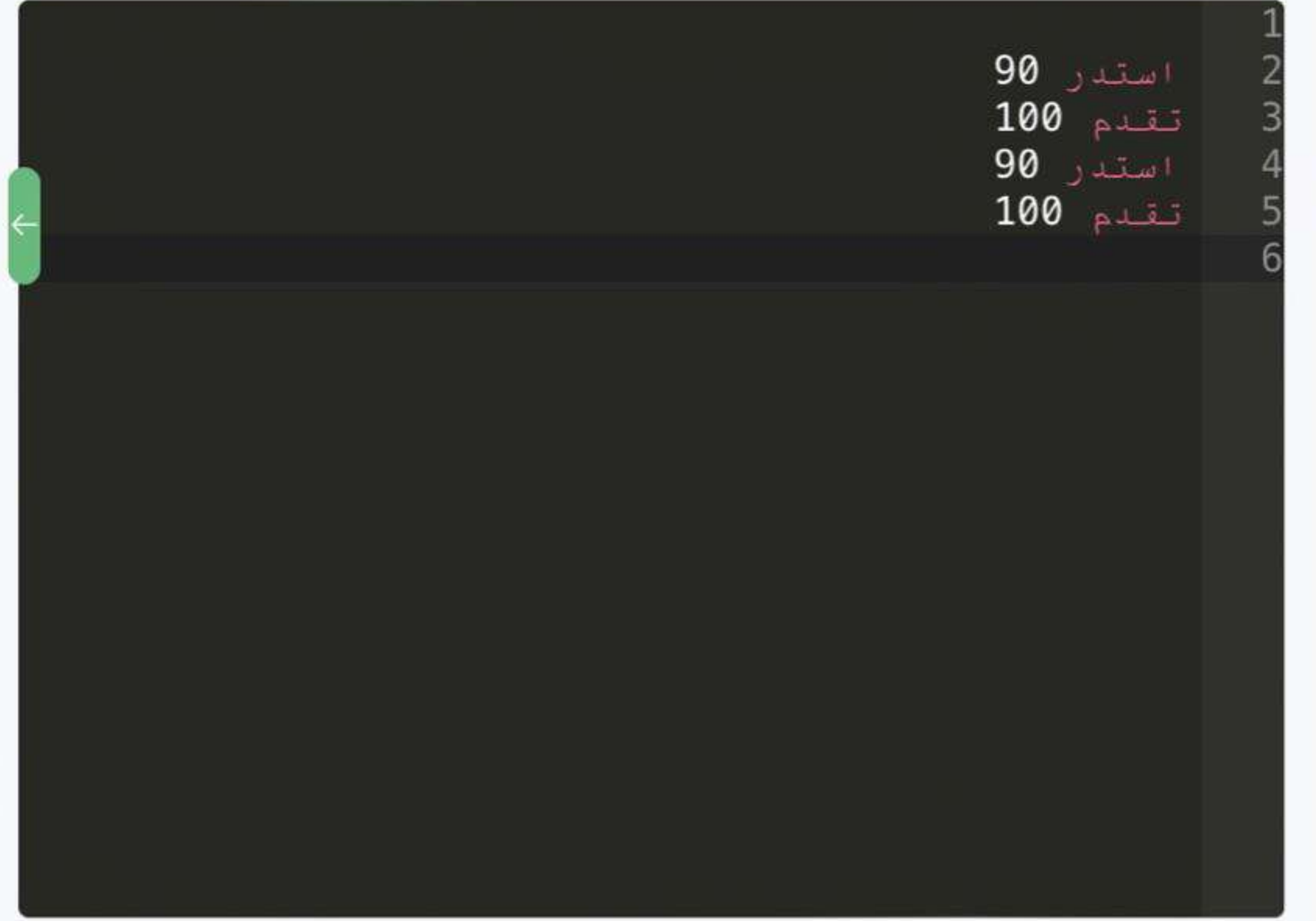
What about Arabic?

p..r..i..n..t

What is a p?



Arabic!

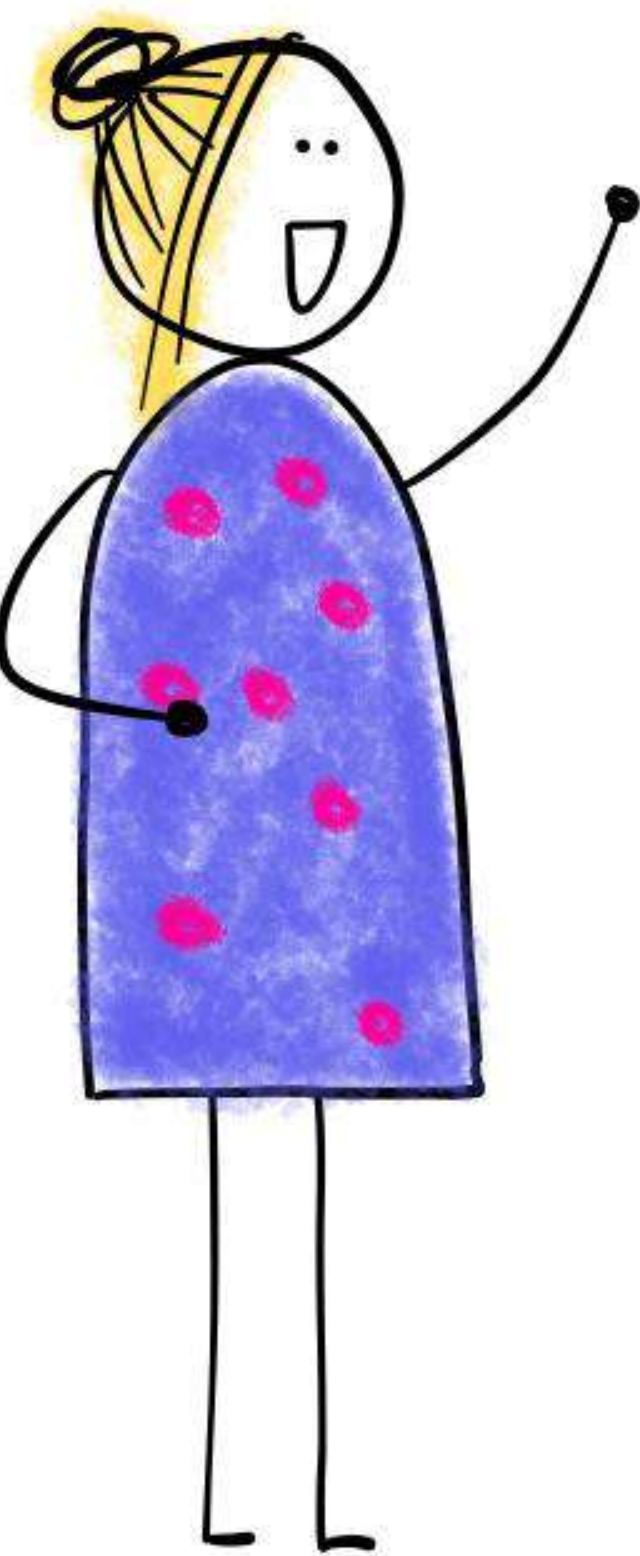


الذهاب الى المستوى 3

الرجوع الى المستوى 1



تنفيذ البرنامج



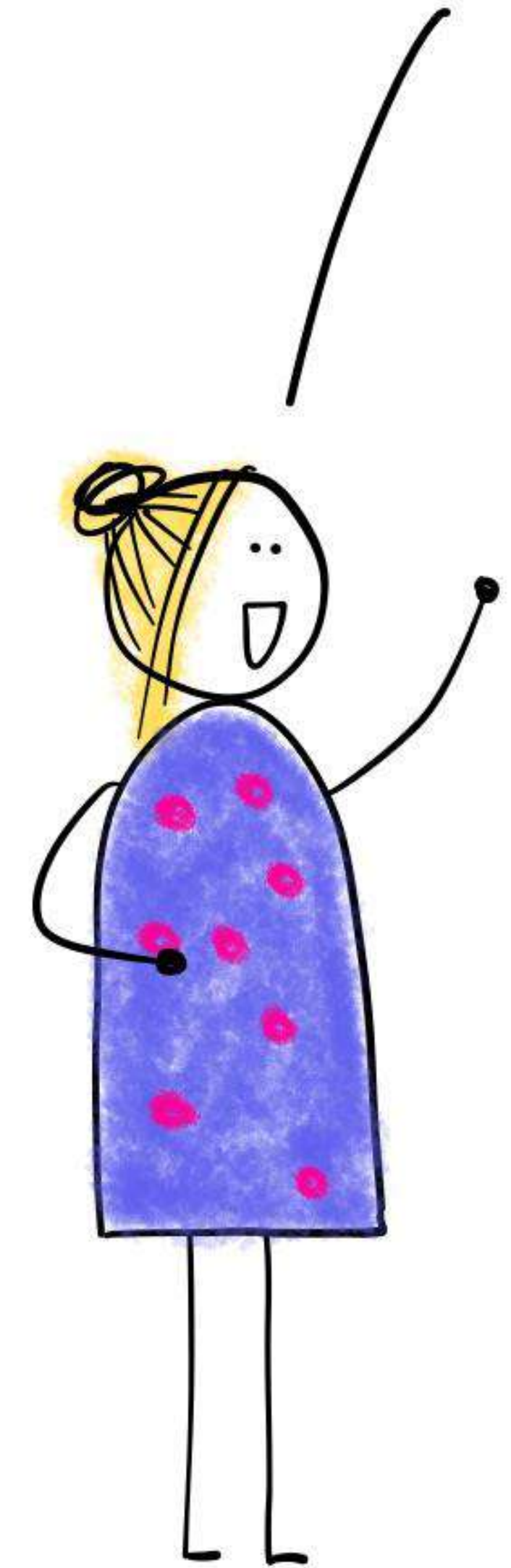
Arabic!

1
2 استدر 90
3 تقدم 100
4 استدر 90
5 تقدم 100
6

الذهاب الى المستوى 3

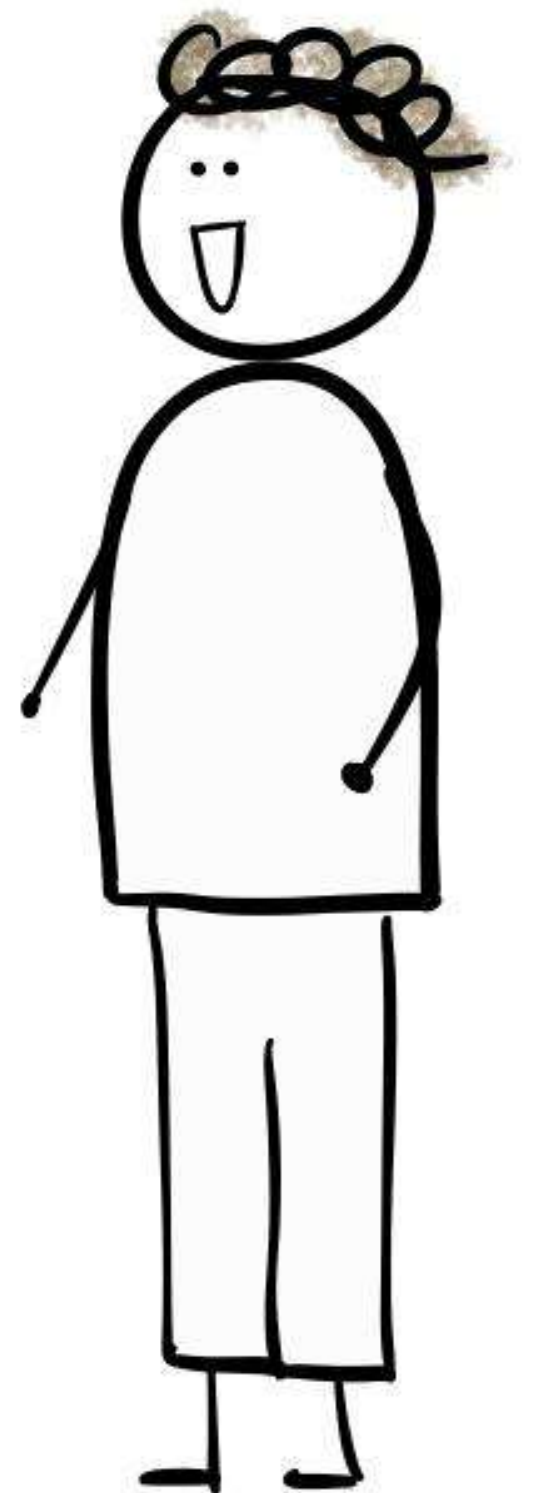
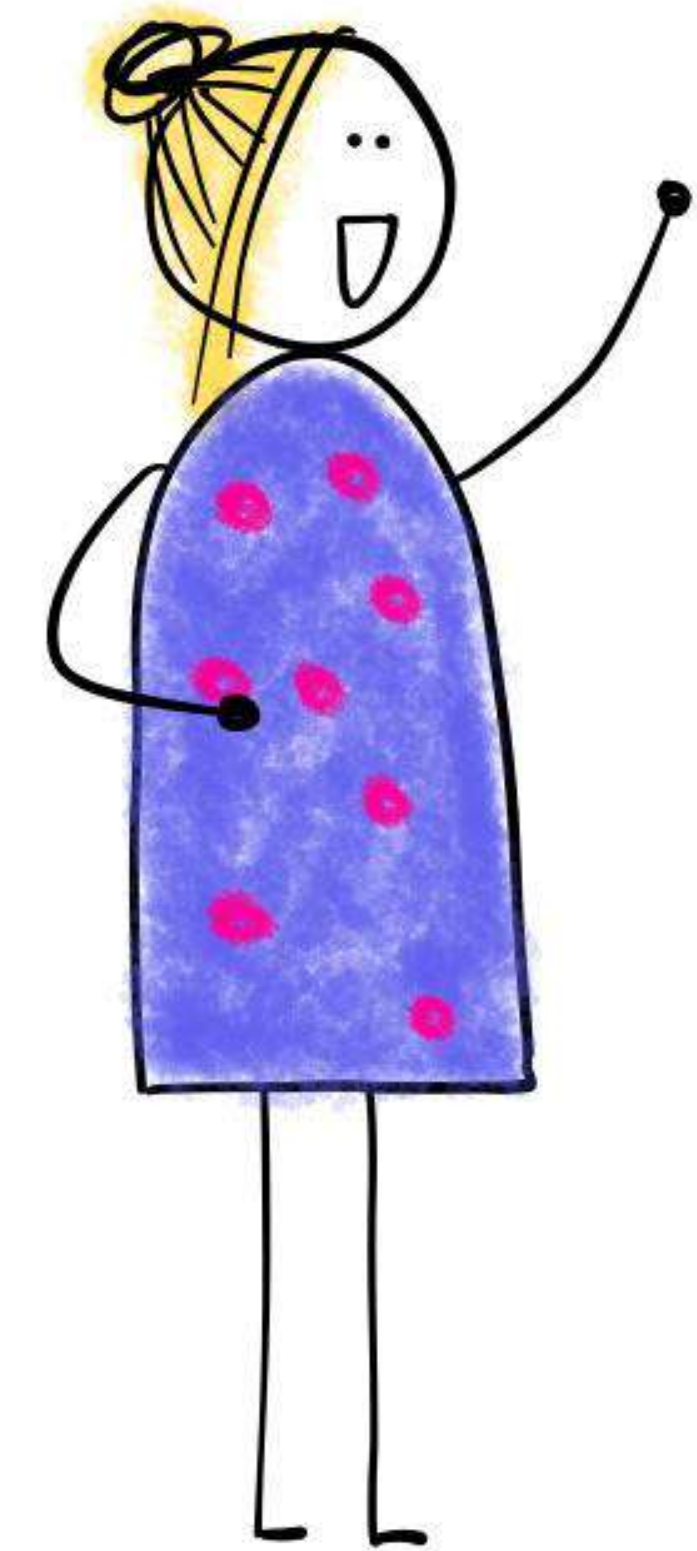
الرجوع الى المستوى 1

تنفيذ البرنامج

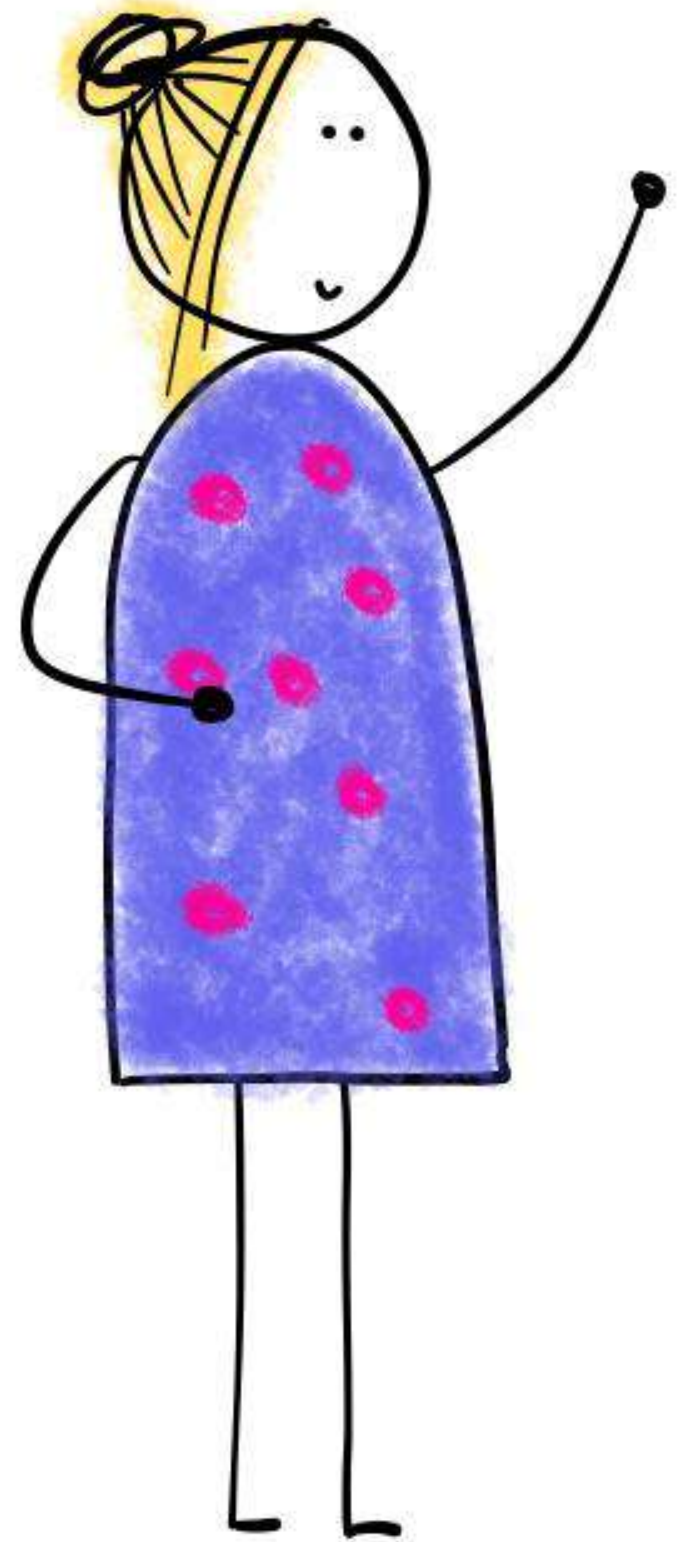


Arabic!

Cool! Can you add
Arabic numerals?



?



0

1

2

3

4

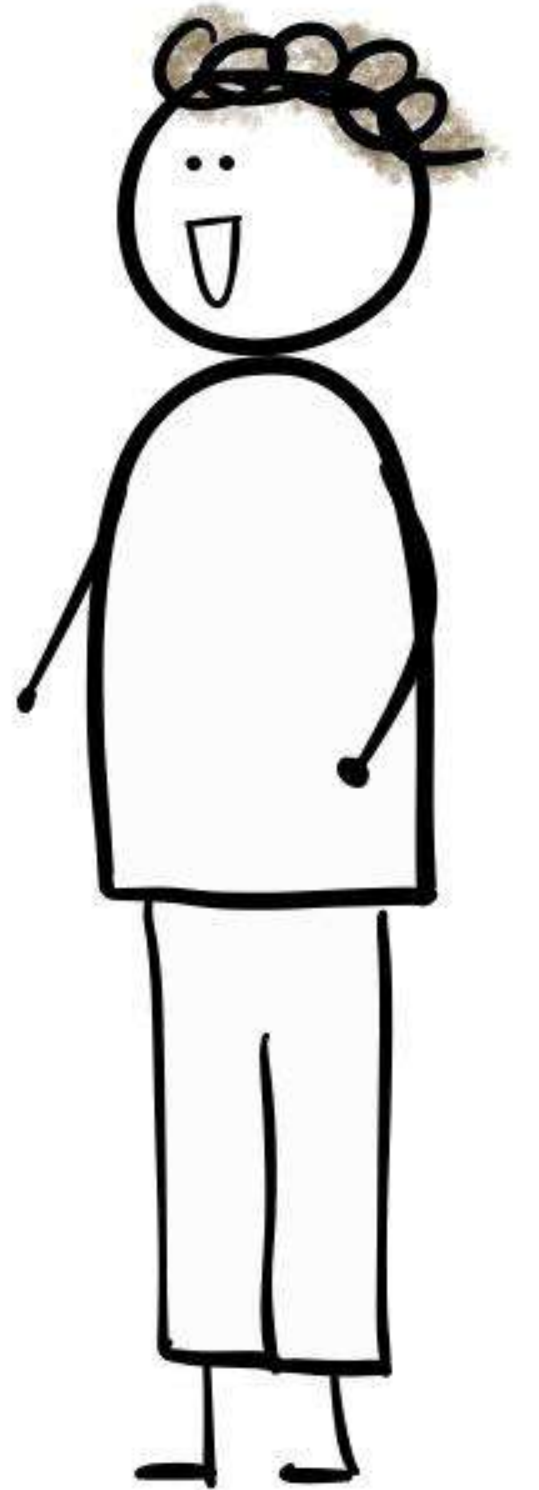
5

6

7

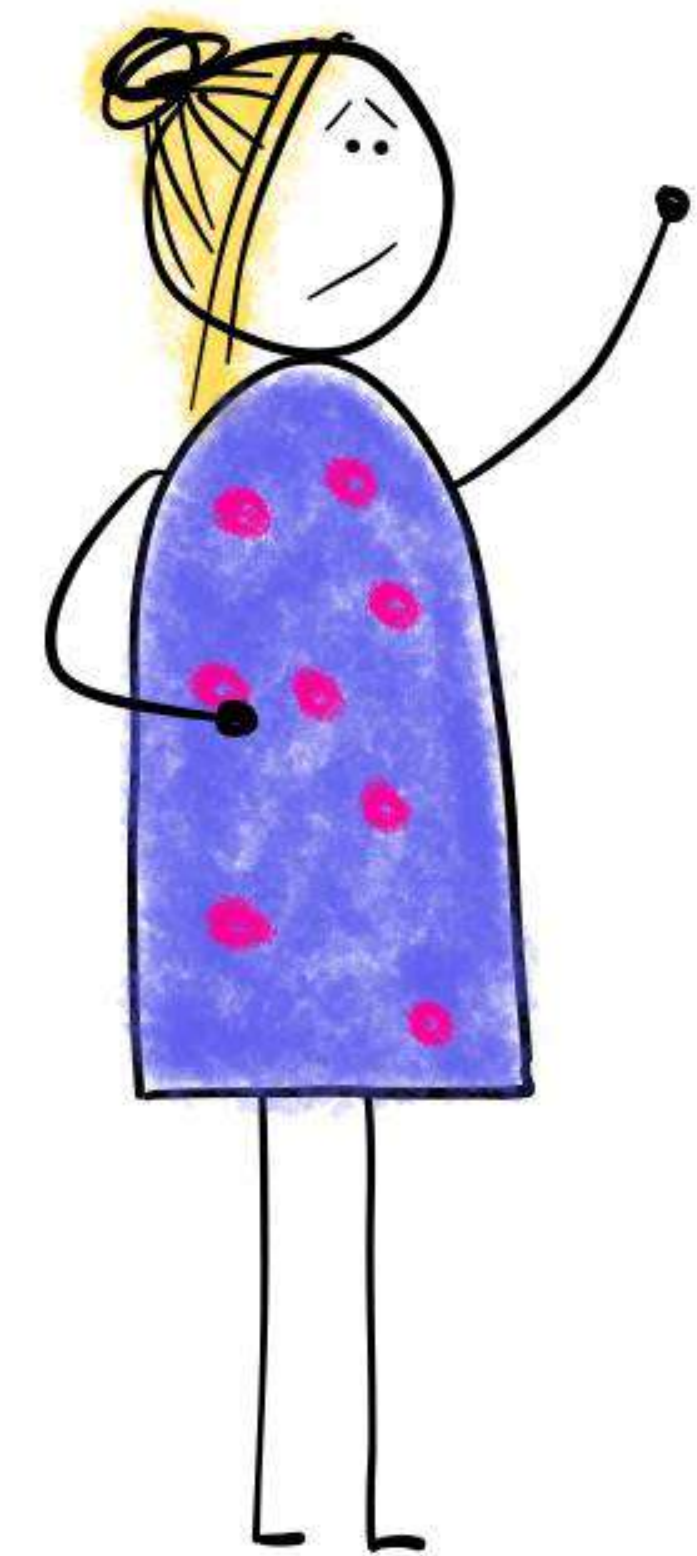
8

9

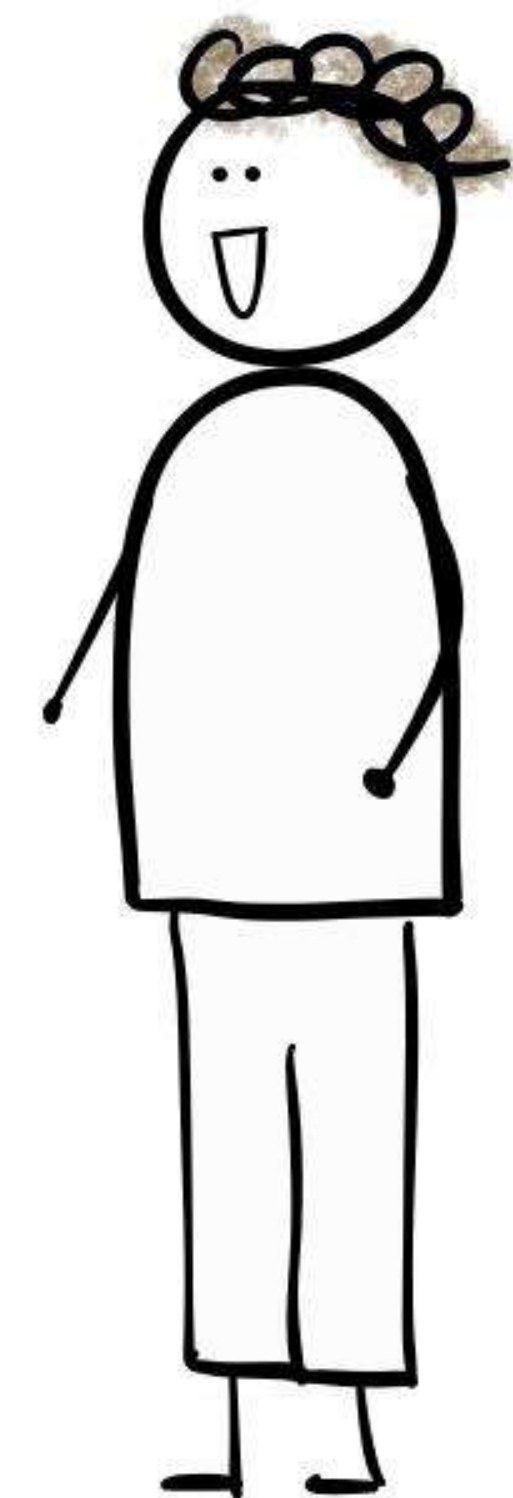


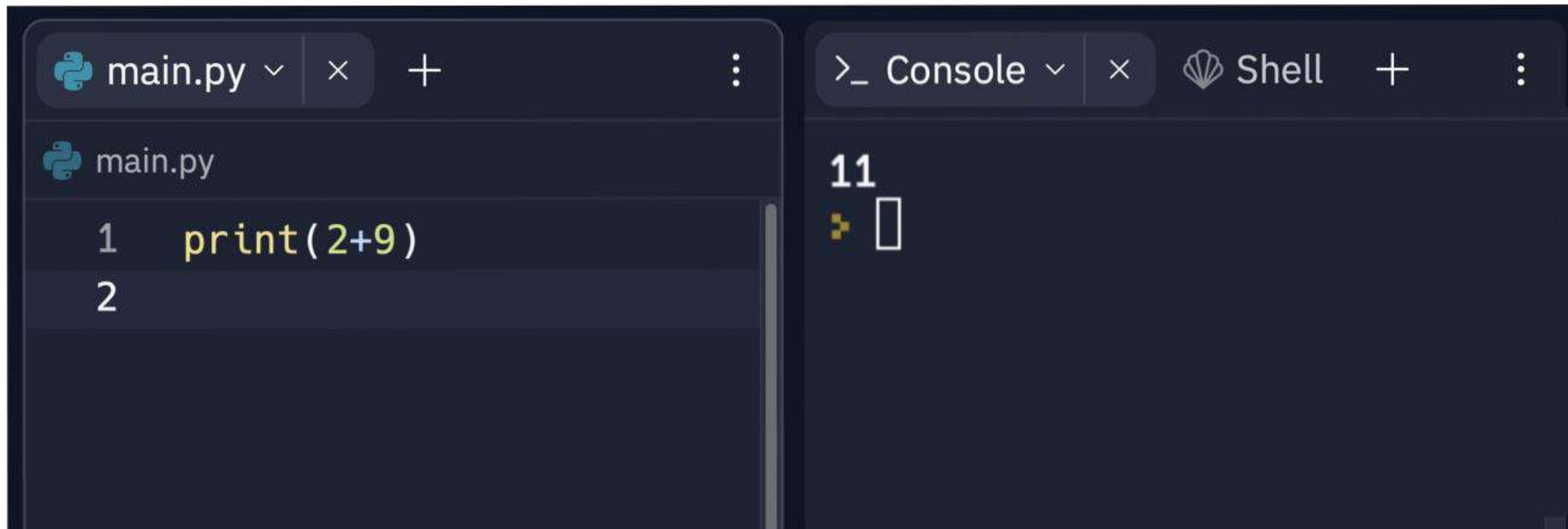
Wut?

|



~~0~~ ~~1~~ ~~2~~ ~~3~~ ~~4~~ ~~5~~ ~~6~~ ~~7~~ ~~8~~ ~~9~~
· 1 2 3 4 5 6 7 8 9 ←





The image shows a code editor interface with two panels. The left panel is titled 'main.py' and contains the following code:

```
1 print(2+9)
2
```

The right panel is titled '>_ Console' and shows the output of the code execution:

```
11
> □
```

The image shows a code editor interface with two panels. The left panel is titled 'main.py' and contains the following code:

```
1 print(2+9)
2
```

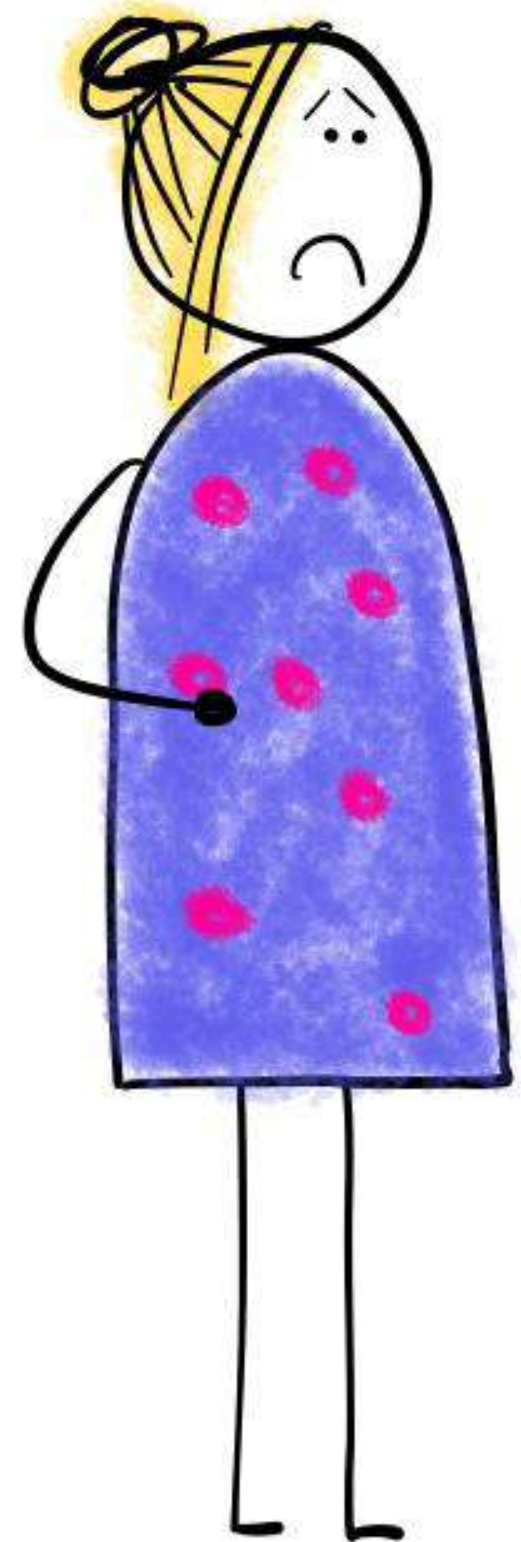
The right panel is titled '>_ Console' and shows the output of the code execution:

```
11
> □
```

```
main.py × + ⋮
main.py
1 print(2+9)
2

>_ Console × Shell + ⋮
File "main.py", line 1
  print(2+9)
         ^
SyntaxError: invalid character
in identifier
> □
```

What is this?



```
main.py × + ⋮
main.py
1 print(γ+9)
2

>_ Console × Shell + ⋮
File "main.py", line 1
  print(γ+9)
         ^
SyntaxError: invalid character
in identifier
> □
```

قول ۹+۲

1

2

”

قول ٩+٢

1

2

لكل دورة في نطاق ١ الى ٥
قول دورة

1
2
3

لكل دورة في نطاق ١ الى ٥
قول دورة

1

2

3

١
٢
٣
٤
٥

تسجيل الدخول

العربية

صفحة البدء هيدي استكشف



⌵

⌵



البيغاء 1

مستوى 1

- المقدمة
- قول
- اسأل
- البيغاء
- حجر، ورقة، مقص
- بيت الأشباح
- قصة
- موسيقى
- الرسام
- !Draw it
- المطعم
- العراف
- تصحيح الأخطاء
- الأحجية
- انهاء الفحص السريع

← قول أنا البيغاء هيدي
اسأل ما اسمك؟
ردد
ردد

اصنع بيغاء الكتروني خاص بك، سيقوم بنسخ كل ما تقول!

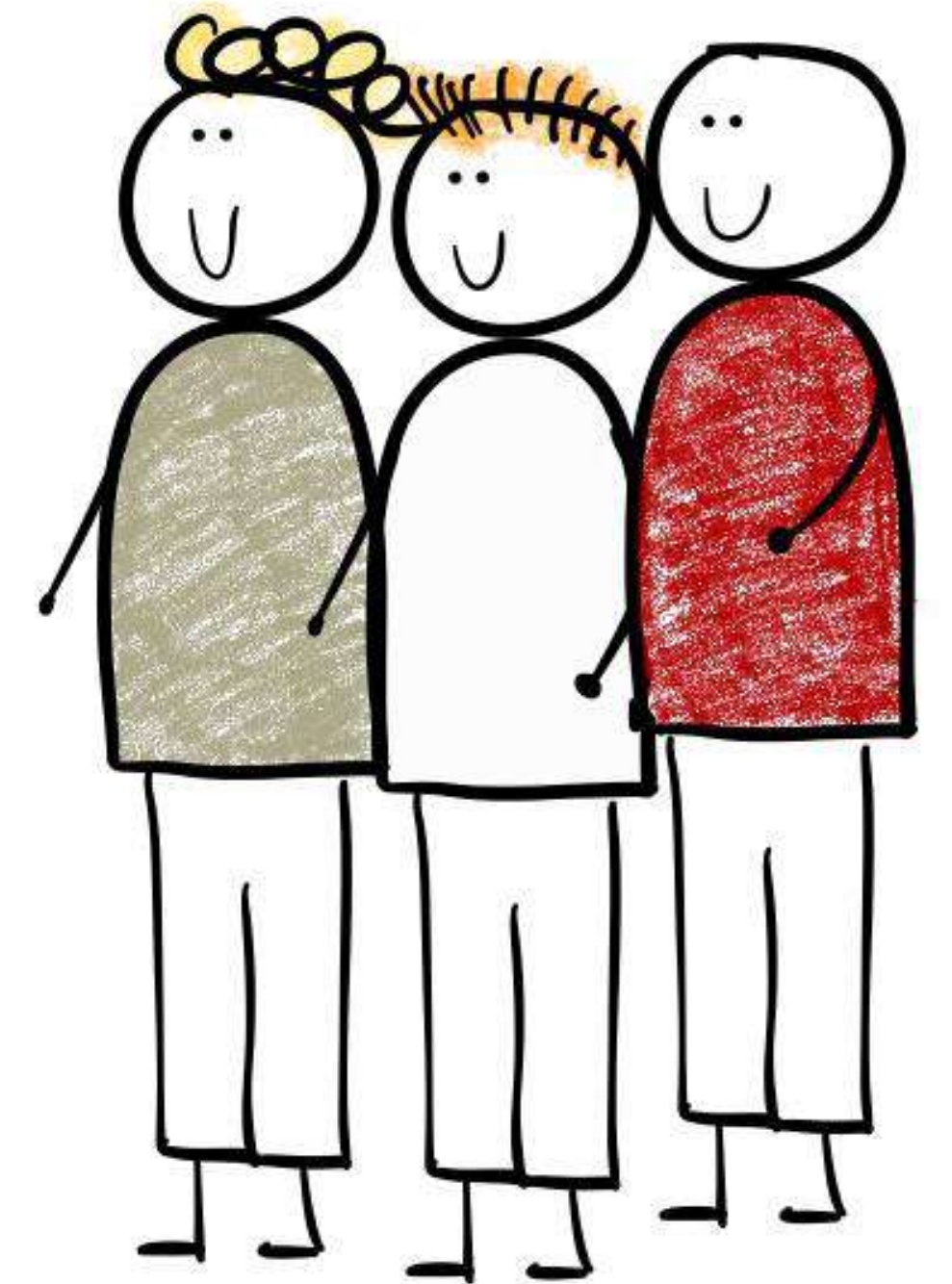
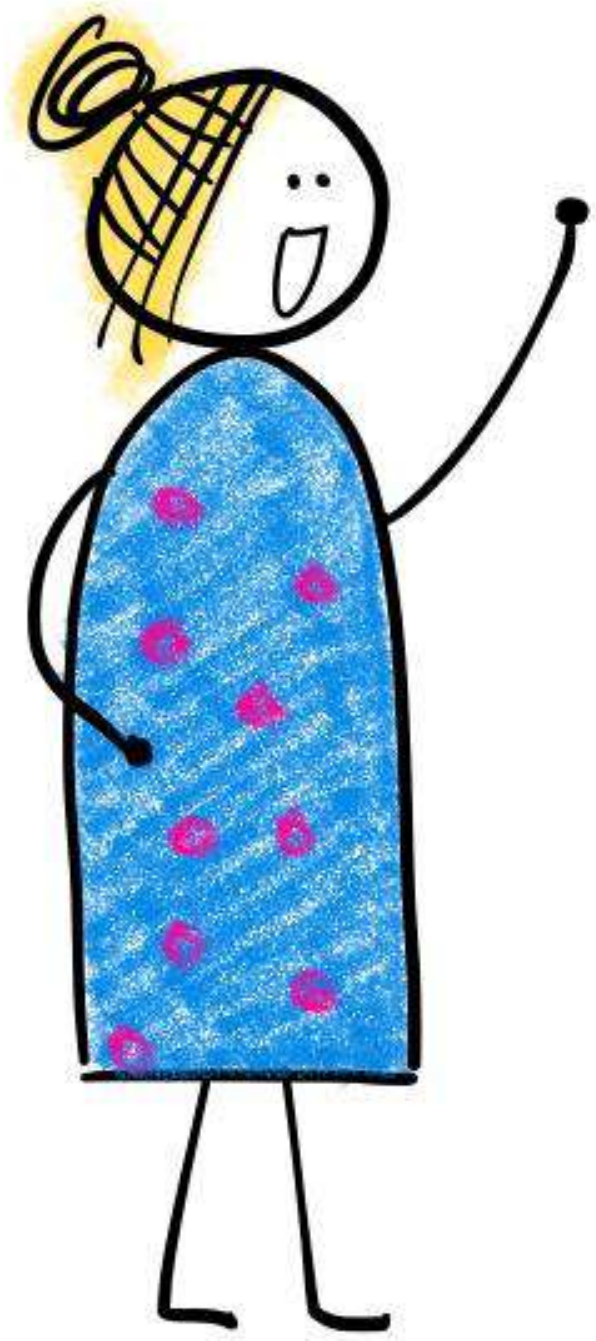
← قول أنا البيغاء هيدي
اسأل
ردد
ردد

هل يمكنك جعل البيغاء يسأل أسئلة مختلفة؟ استعمل المثال على اليسار وقم باستبدال الفراغ بسؤال جديد!

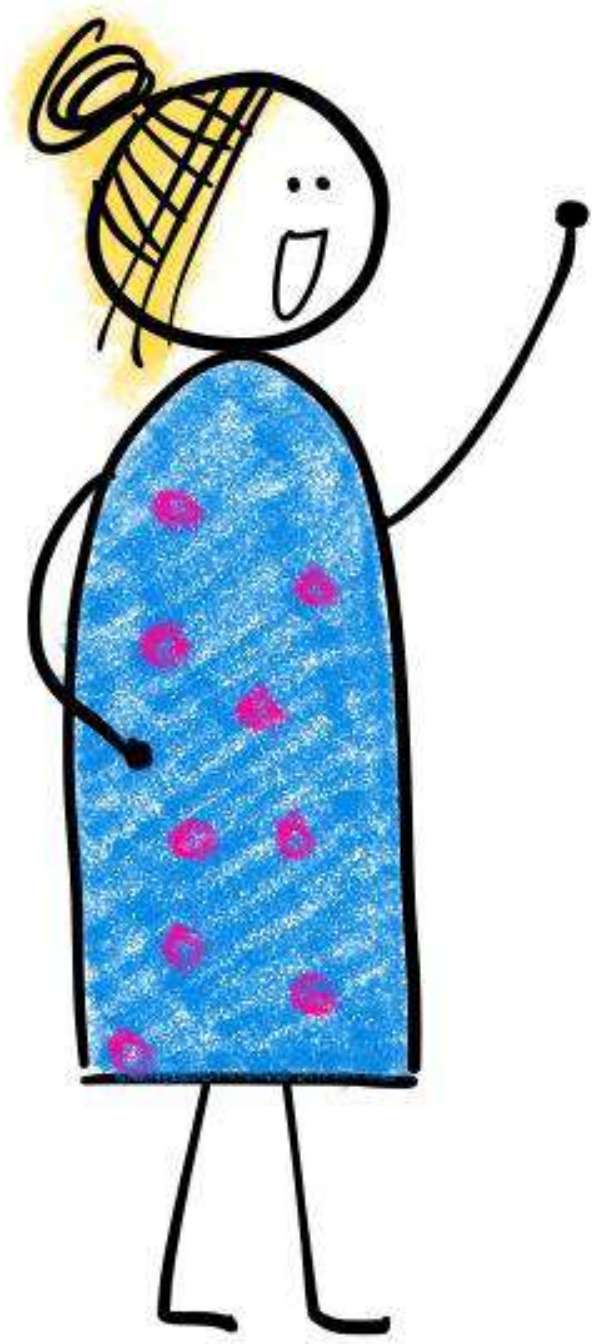
←

1 قول أنا البيغاء هيدي
2 اسأل ما اسمك؟
3 ردد
4 ردد
5

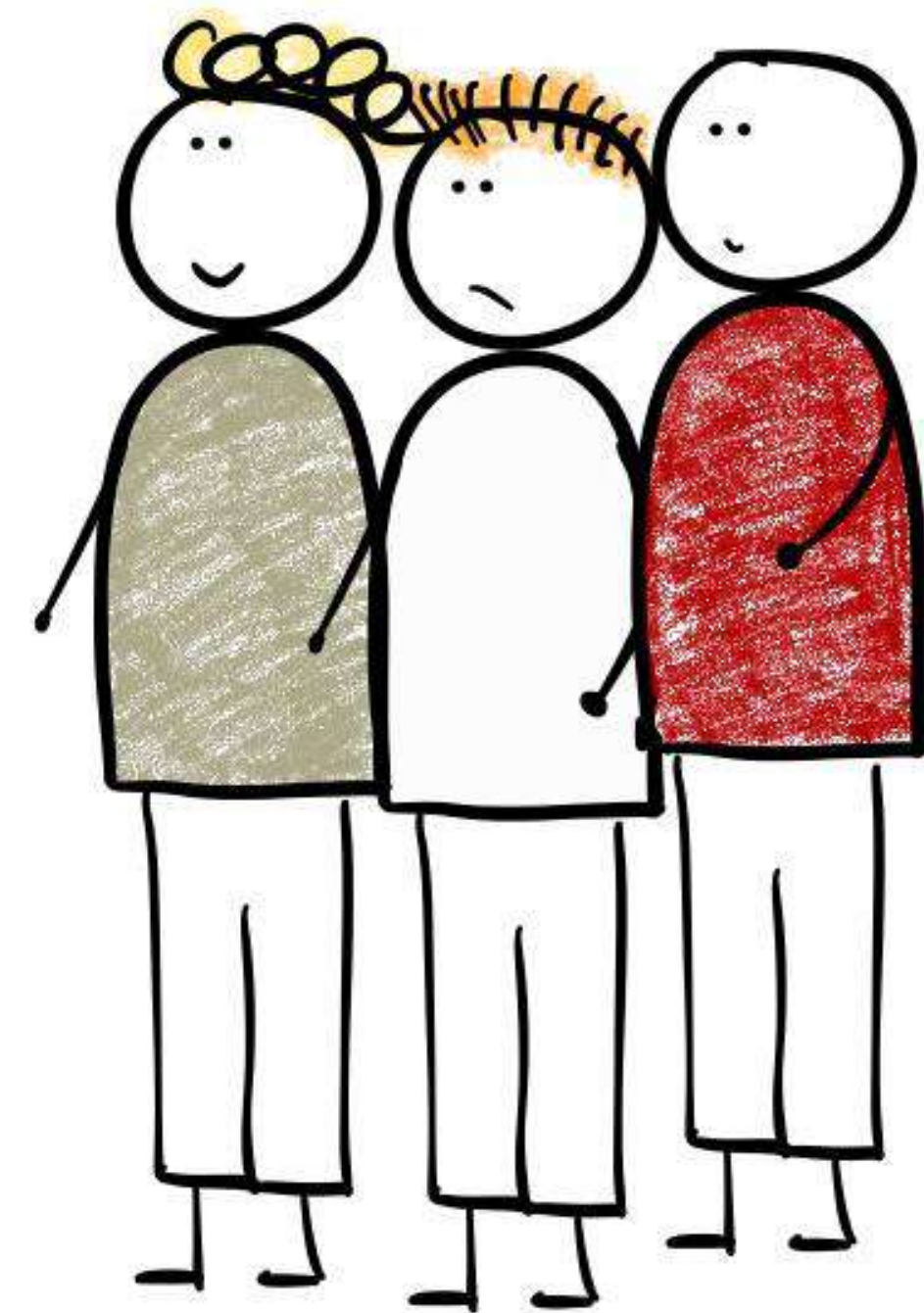
I made a
programming
language



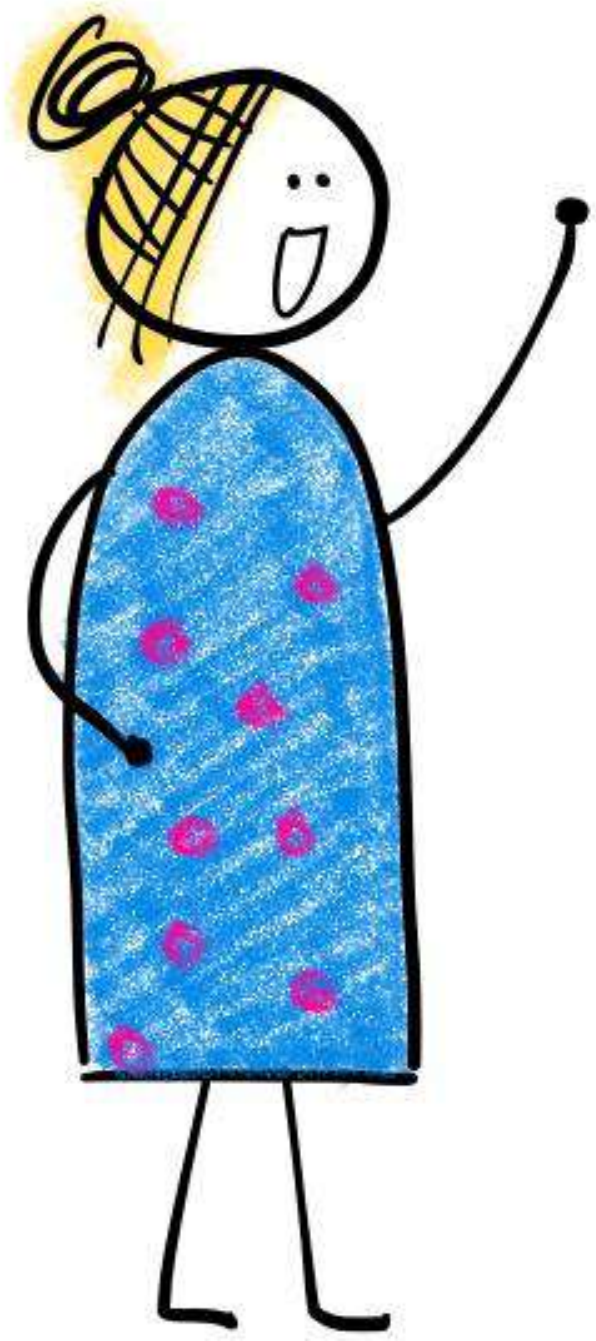
I made a
programming
language



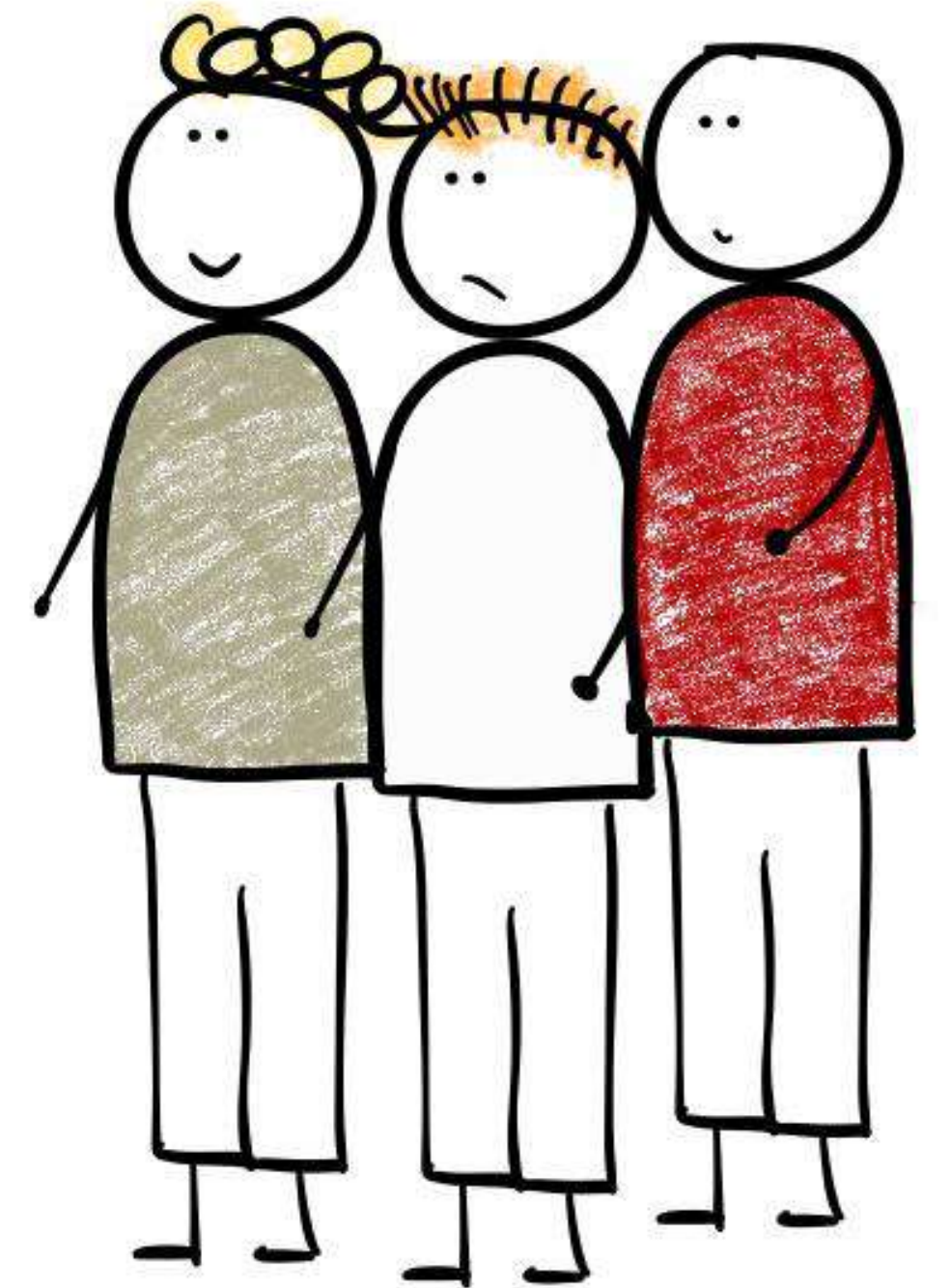
Why?

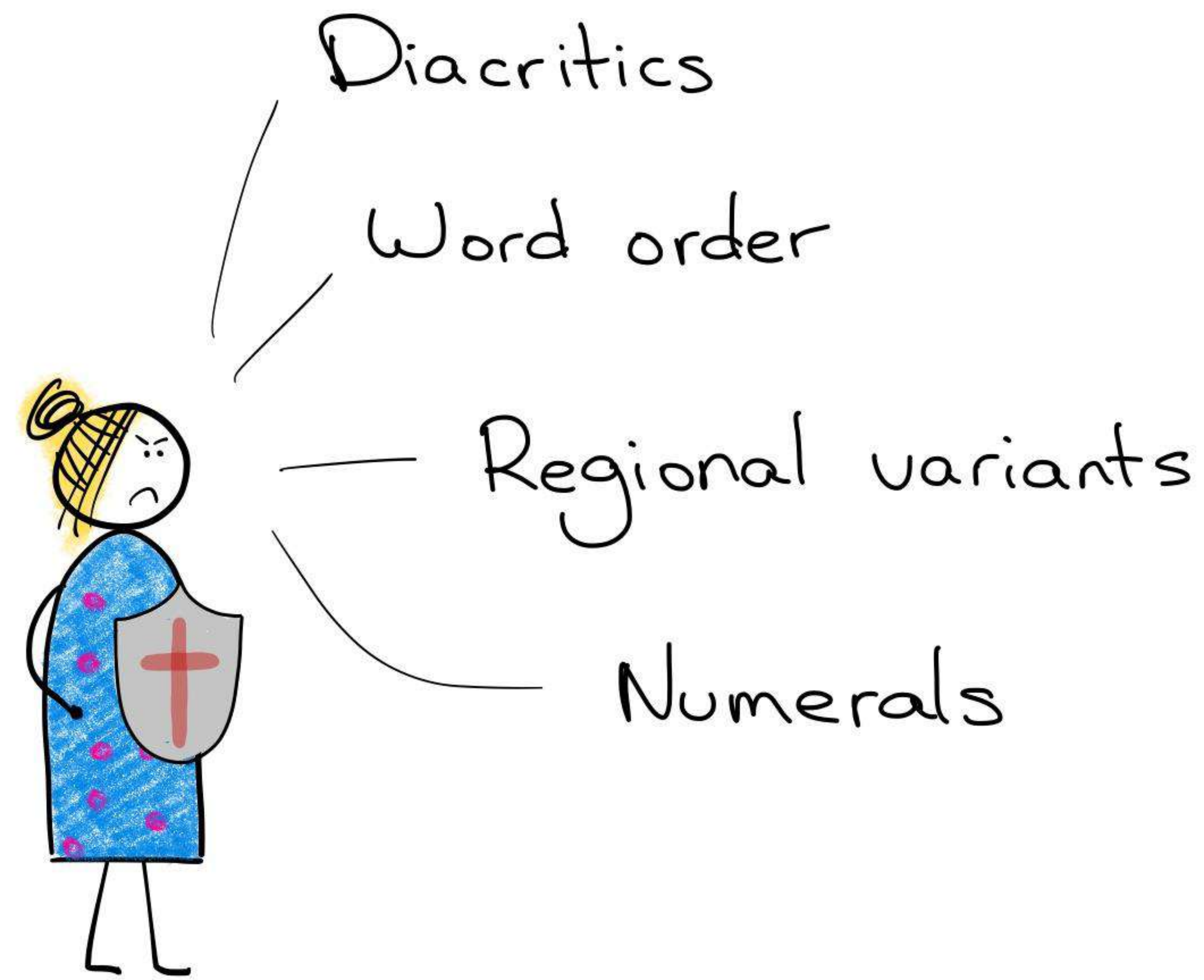


I made a
programming
language

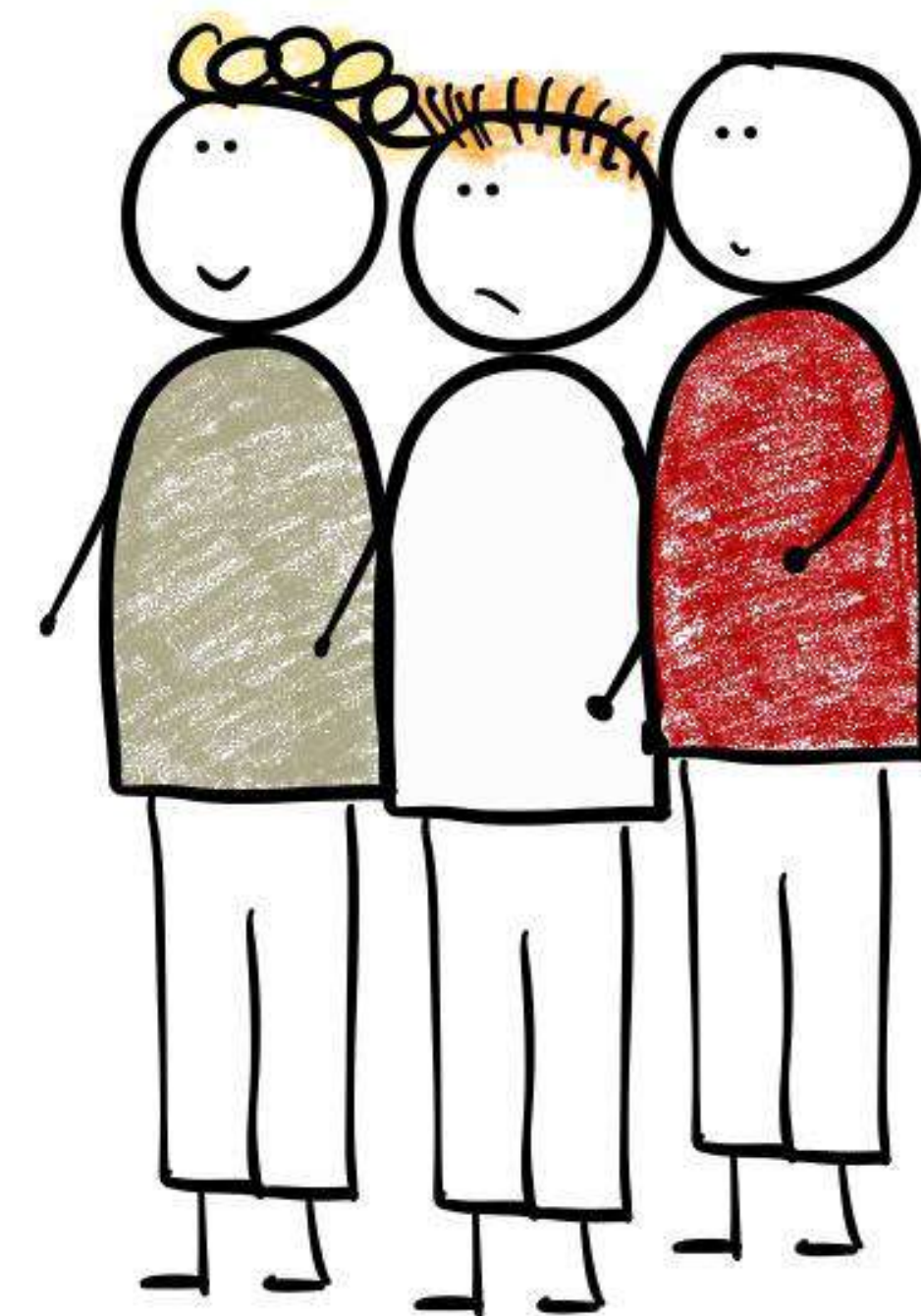


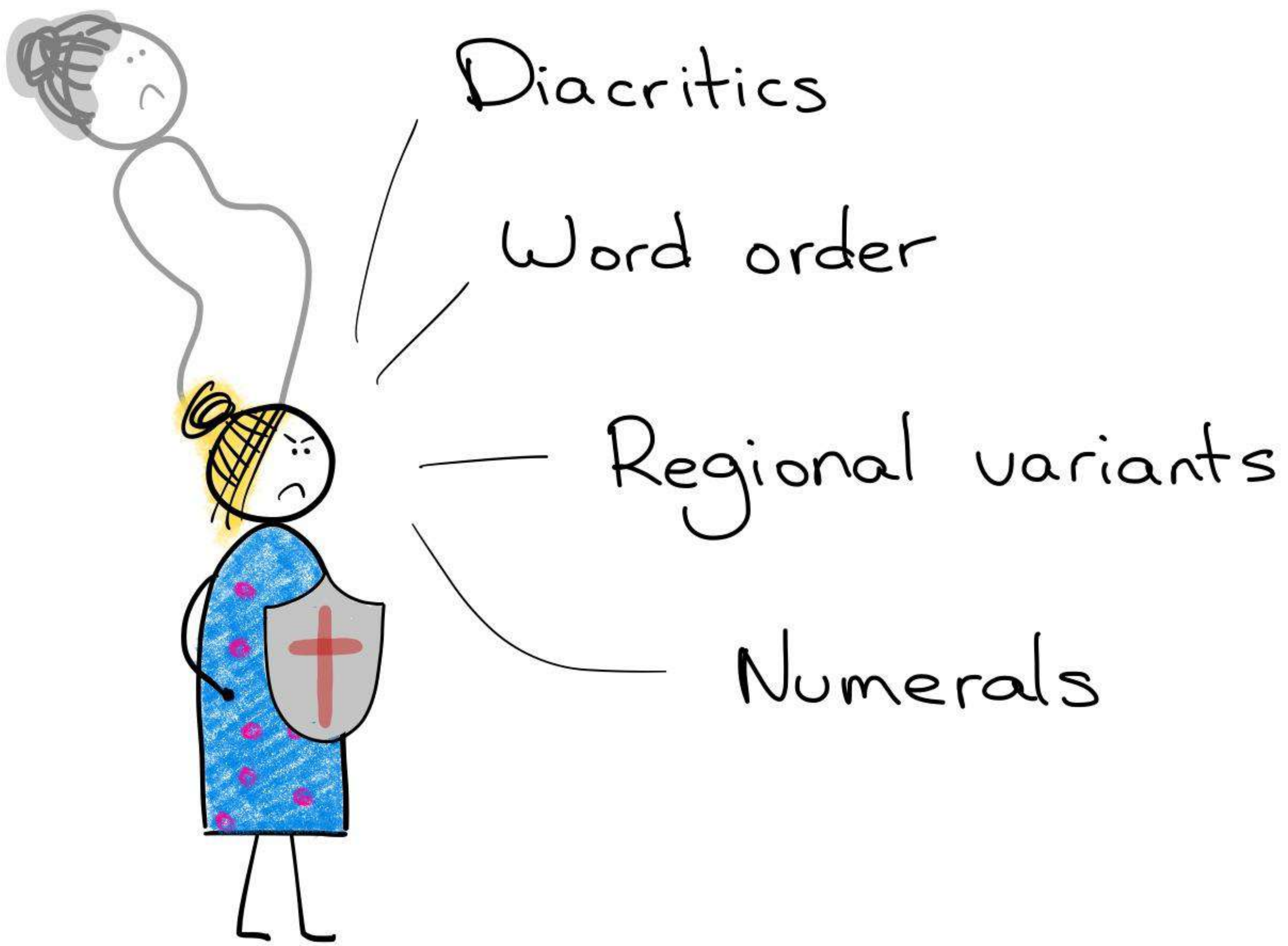
Why is
that hard?



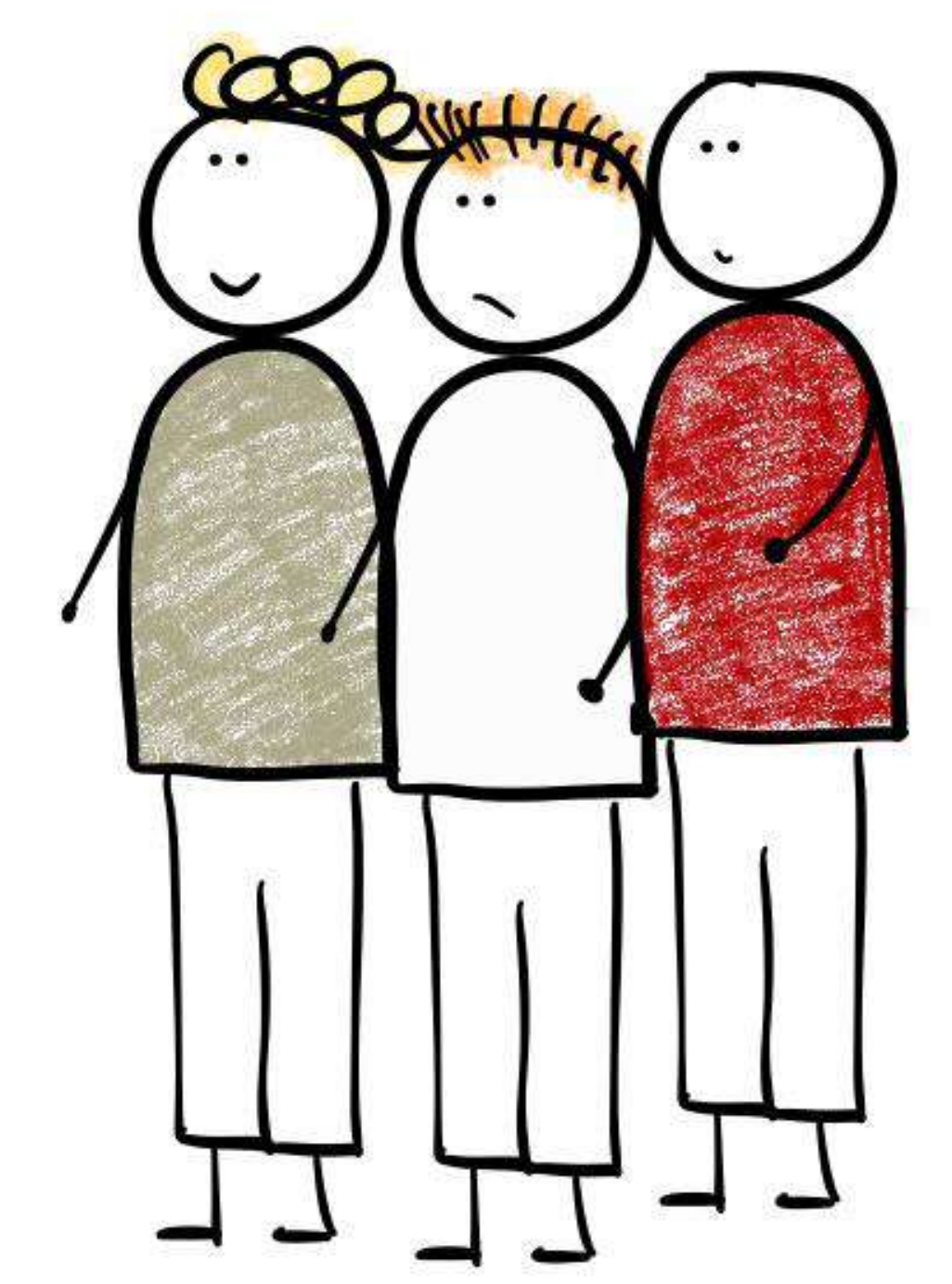


Why is
that hard?

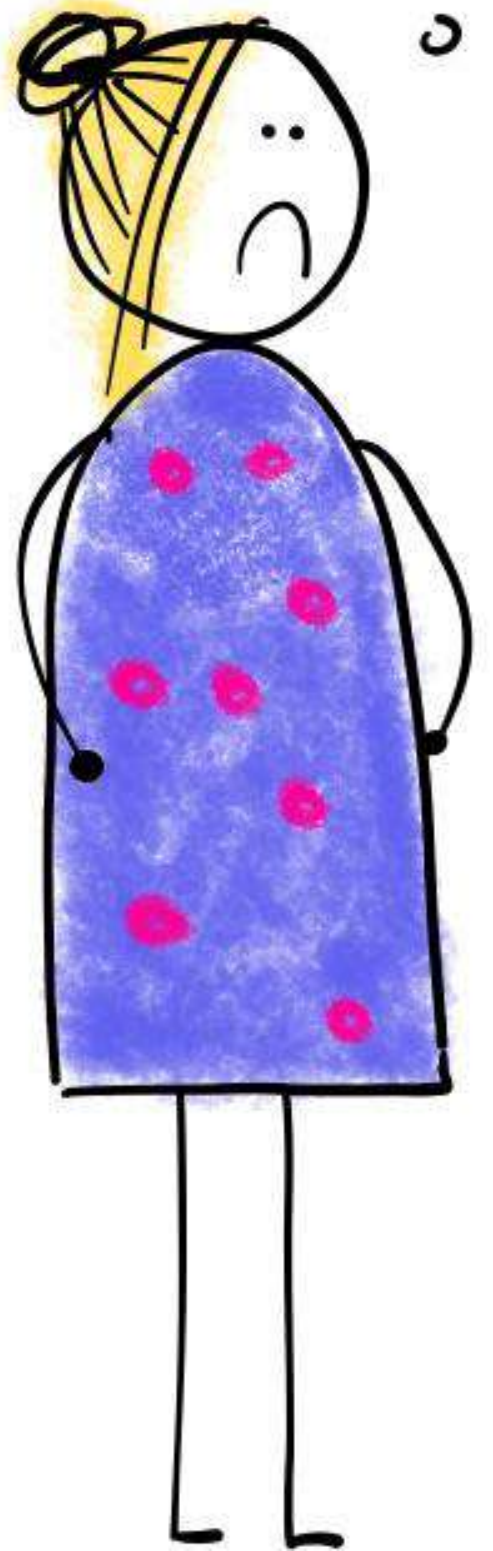
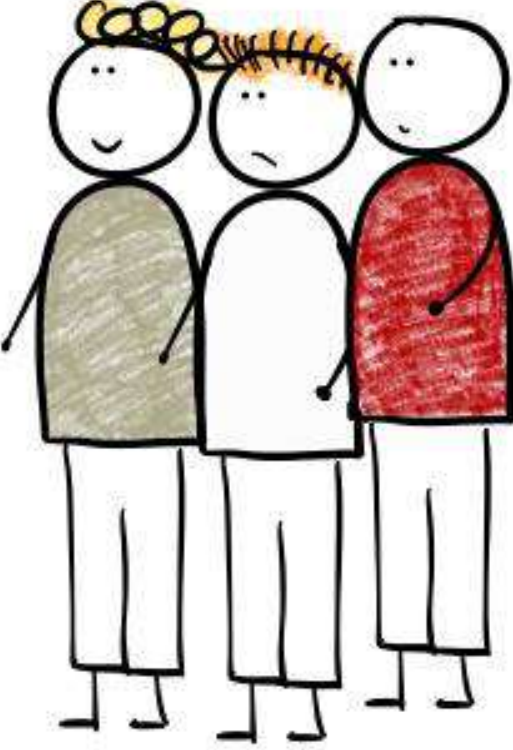
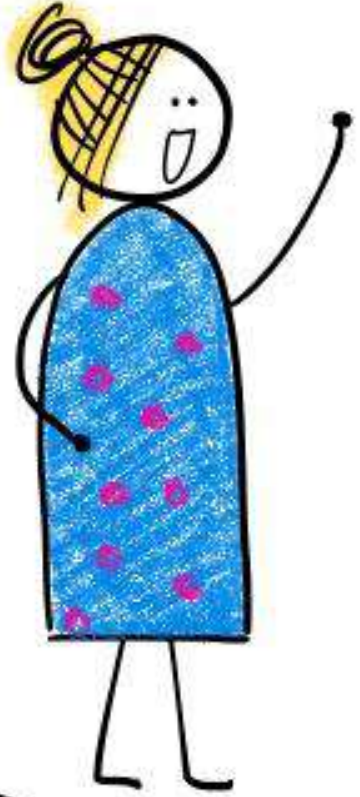




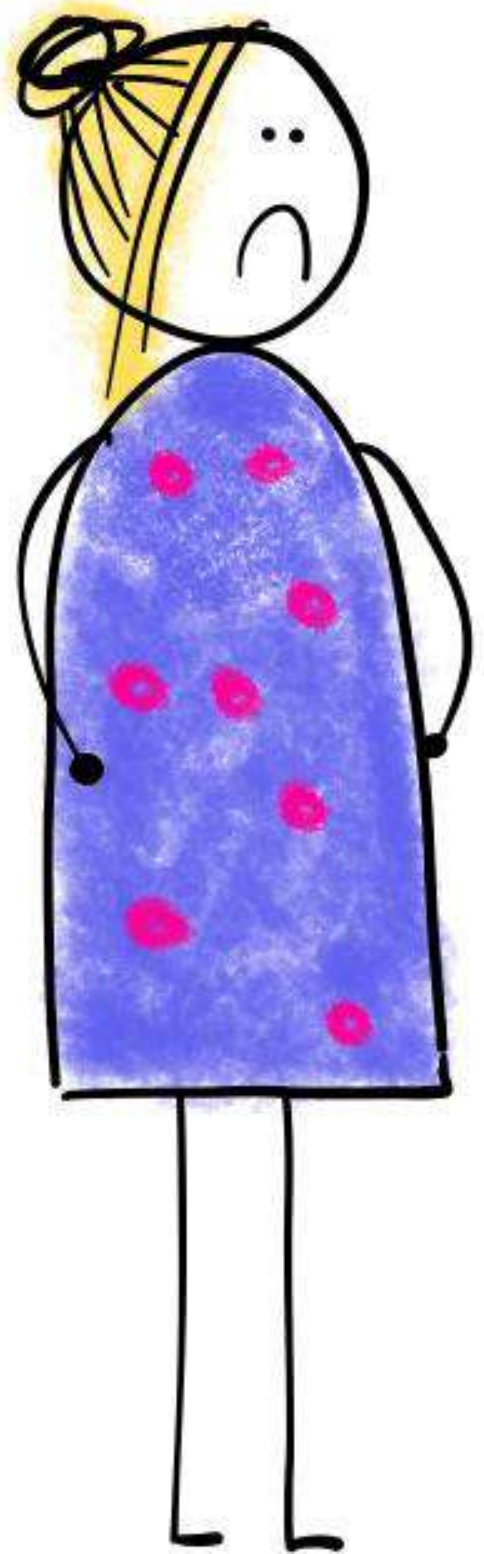
Why is that hard?



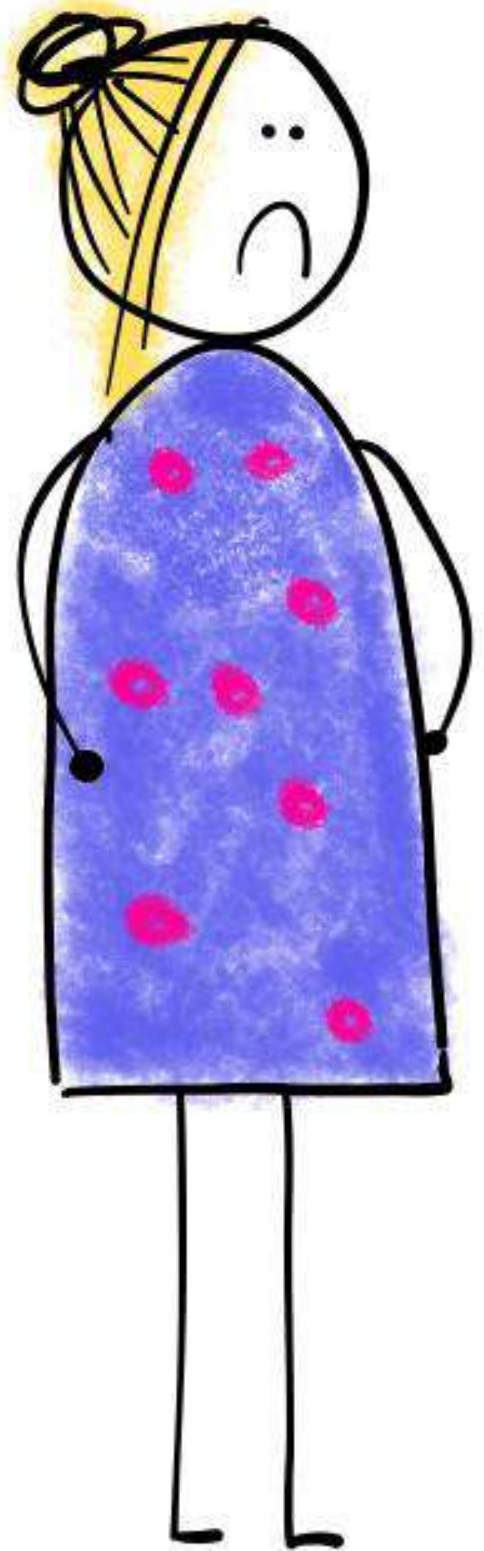
Why is
that hard?



I don't feel at home in CS

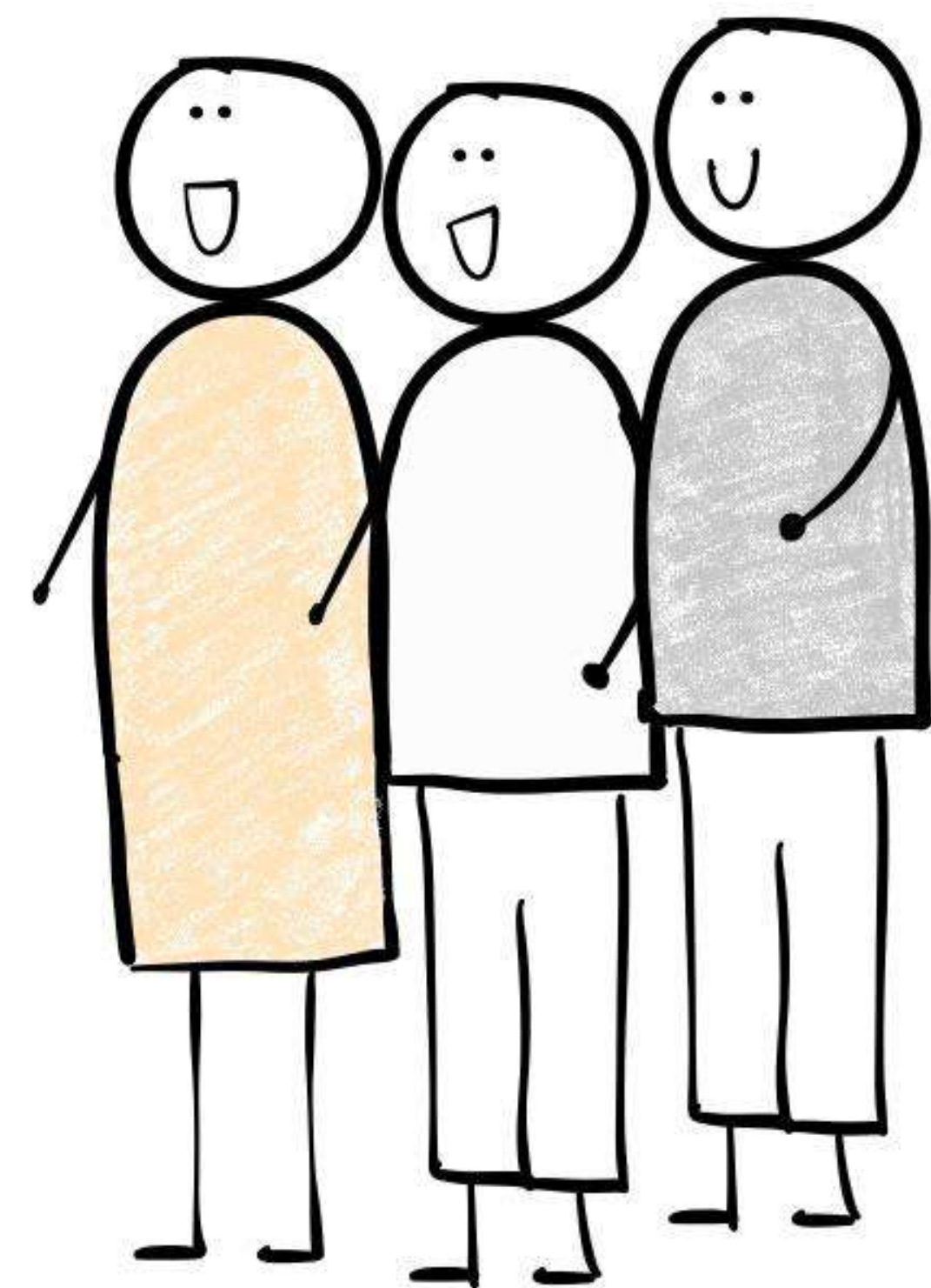
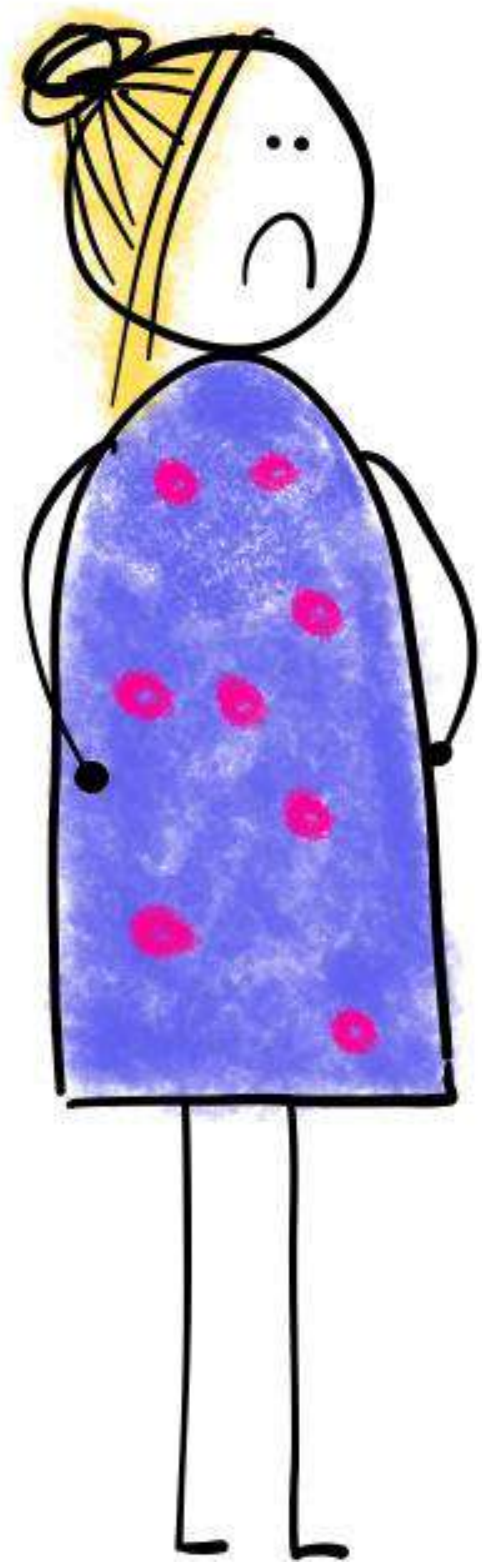


feeling...

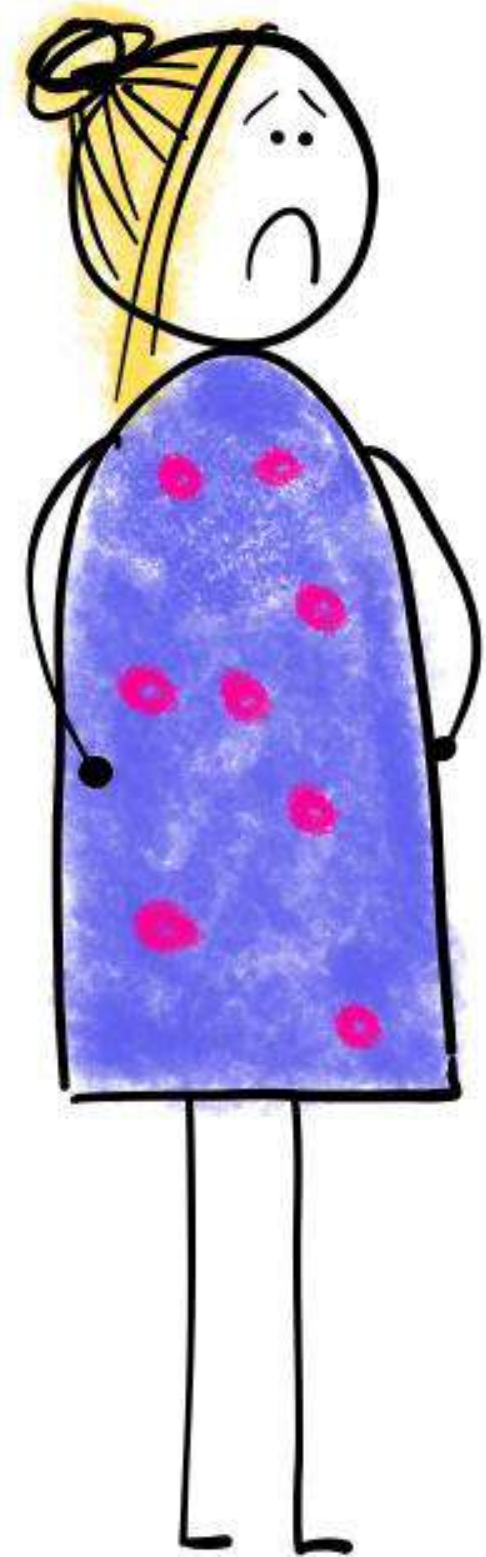


feeling...

Feminism!

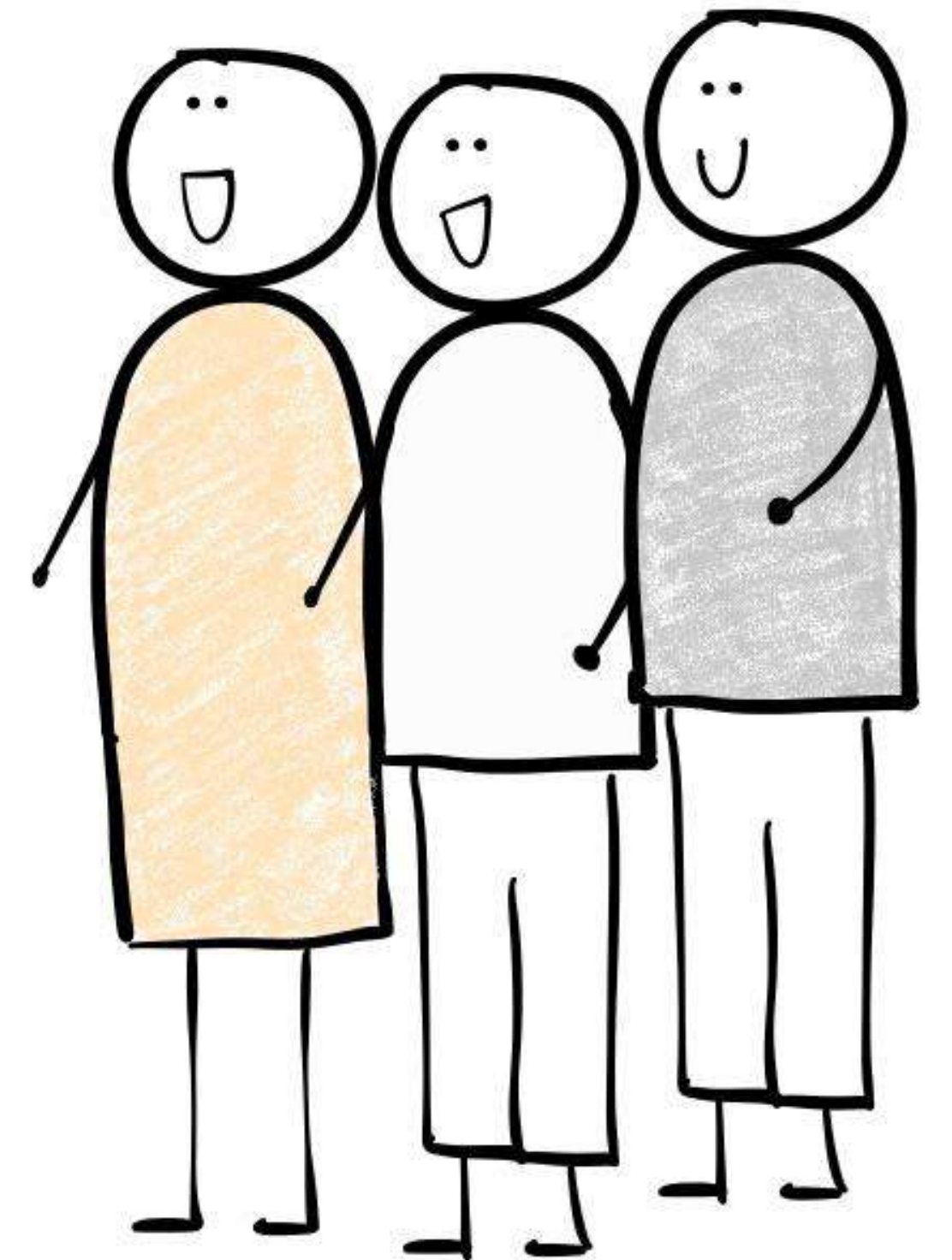


?



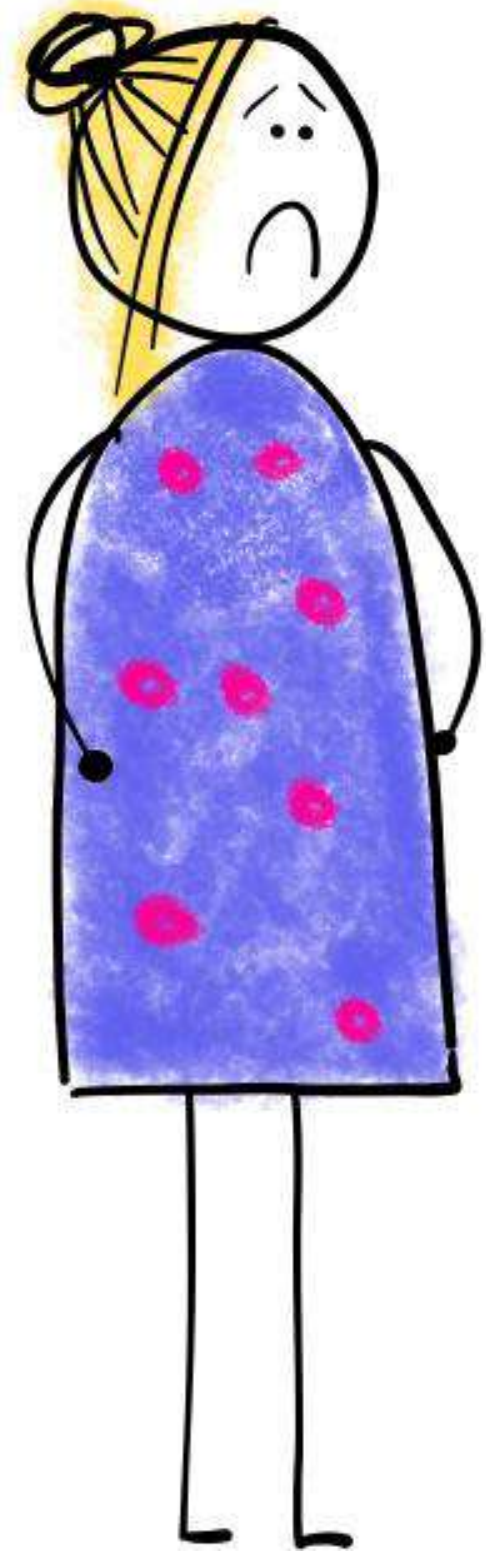
feeling...

Feminism!



feminism

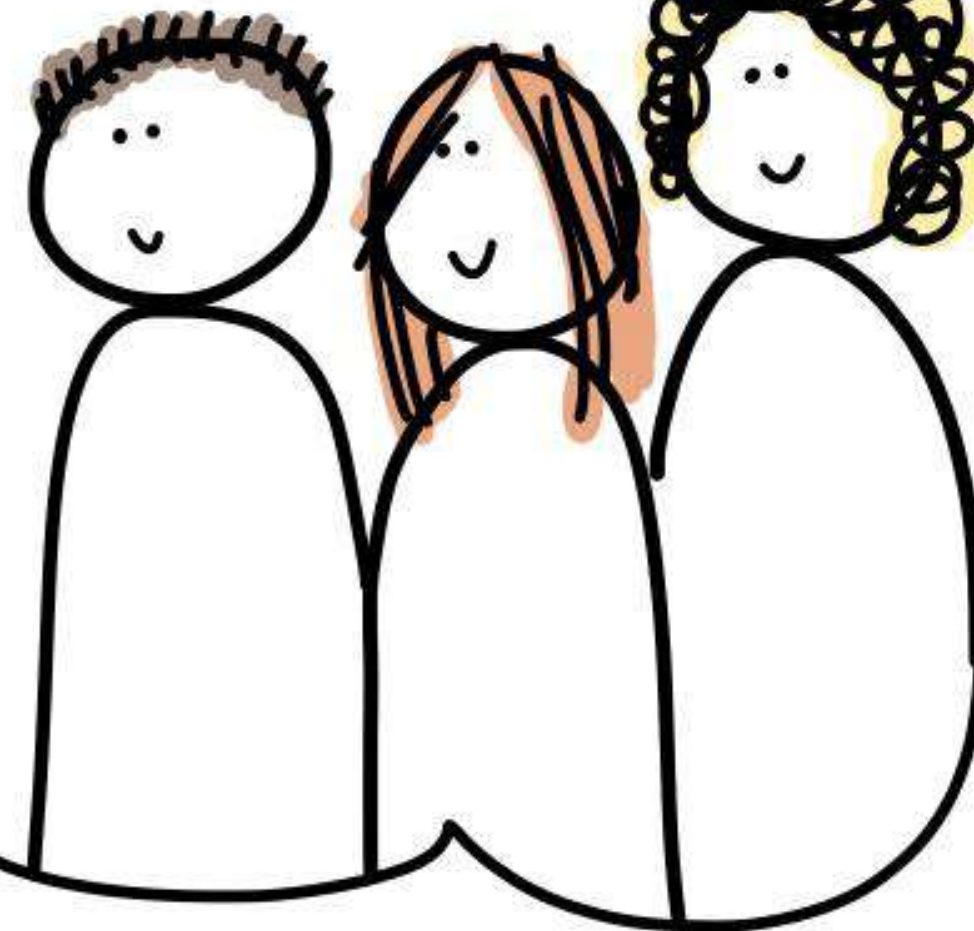
?



Boss in our bellies

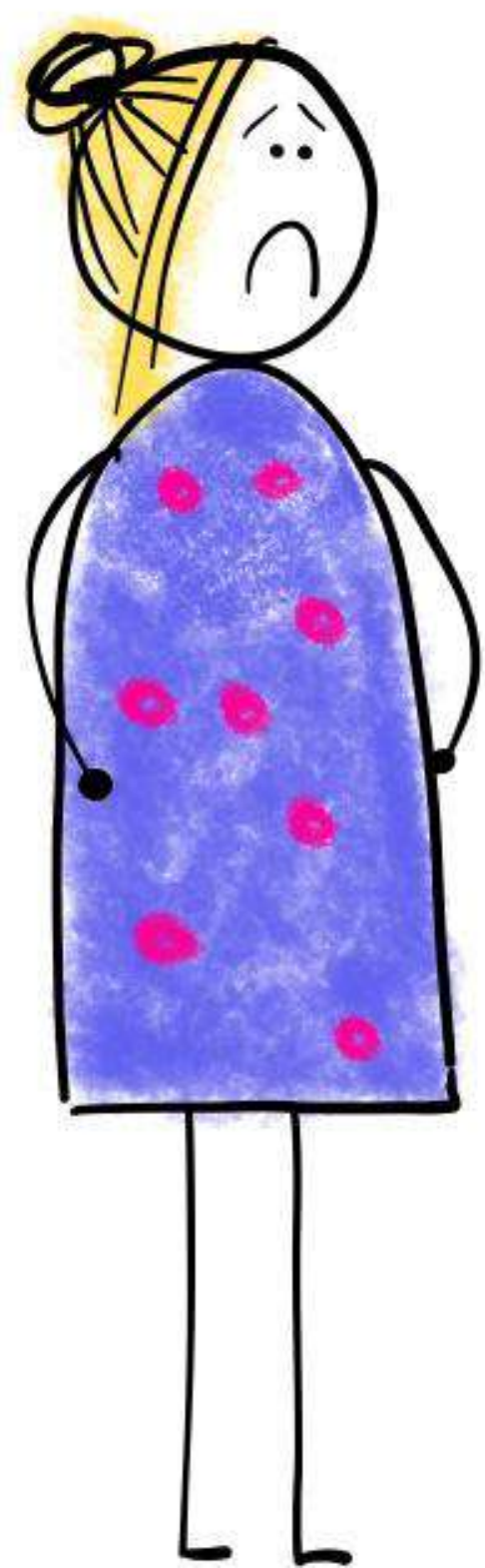
Maternity
leave

Women's
quota



liberal feminism

?



**Een slimme
meid is op
haar toekomst
vorbereid.**

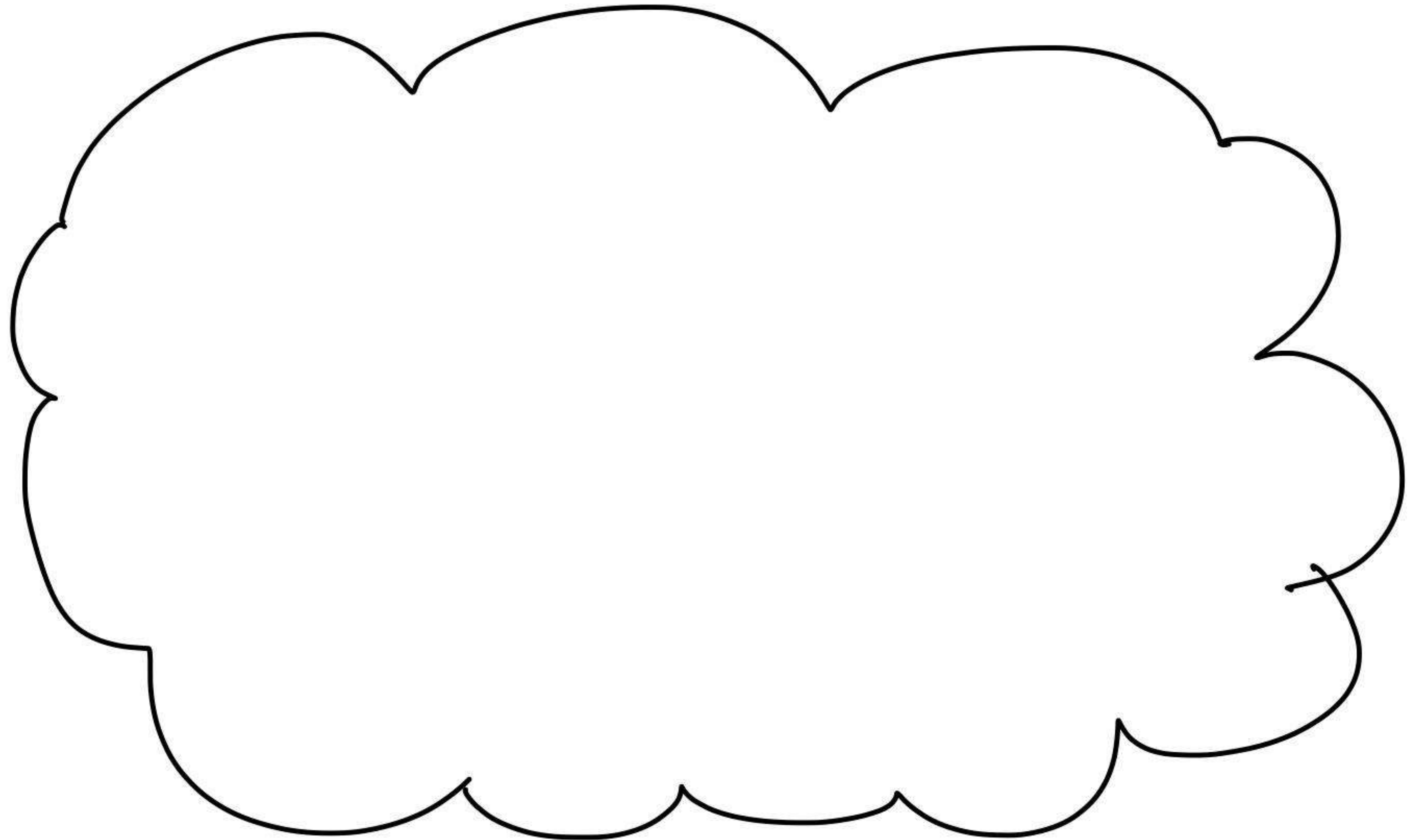
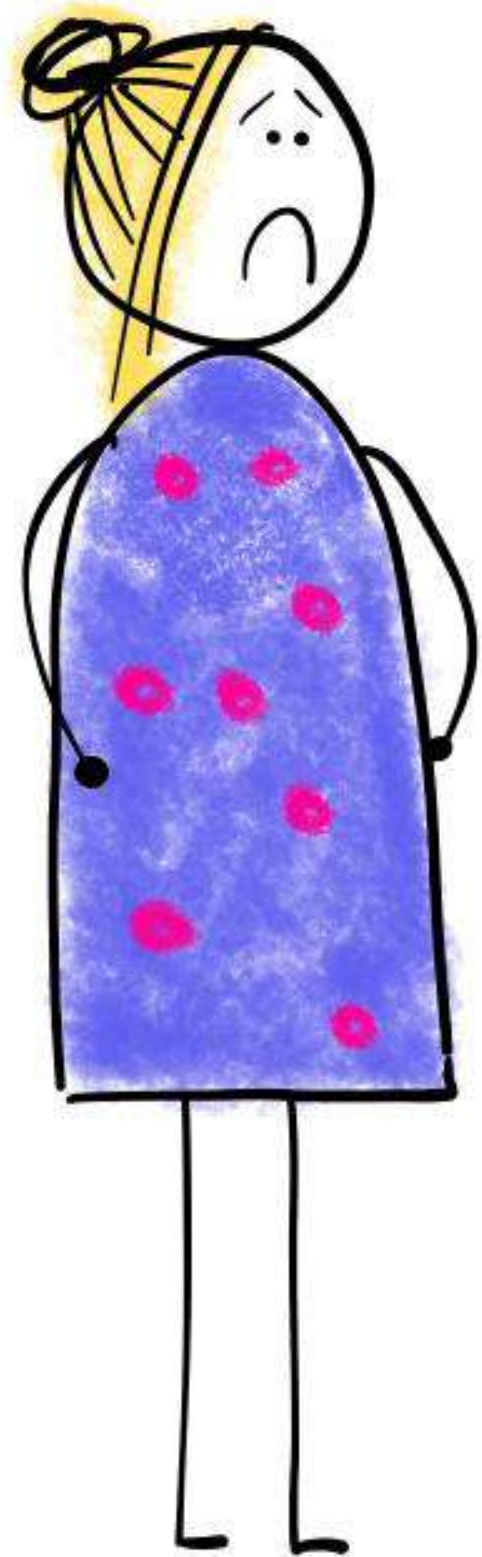


Haal de folder bij postkantoor of bibliotheek.



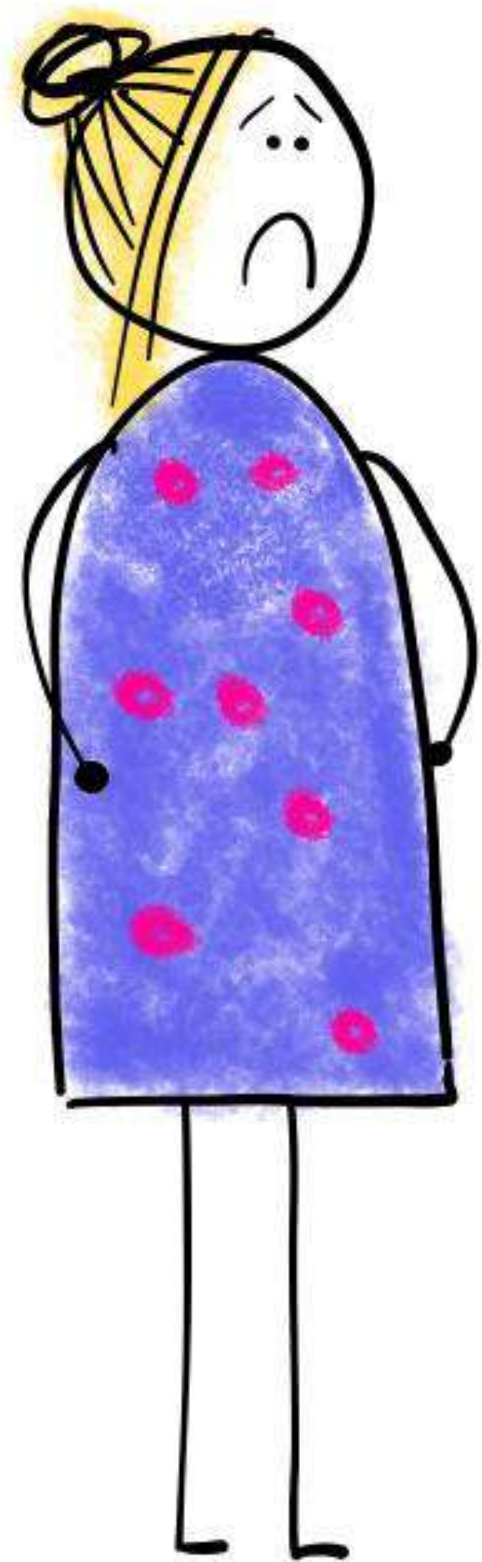
liberal feminism

?



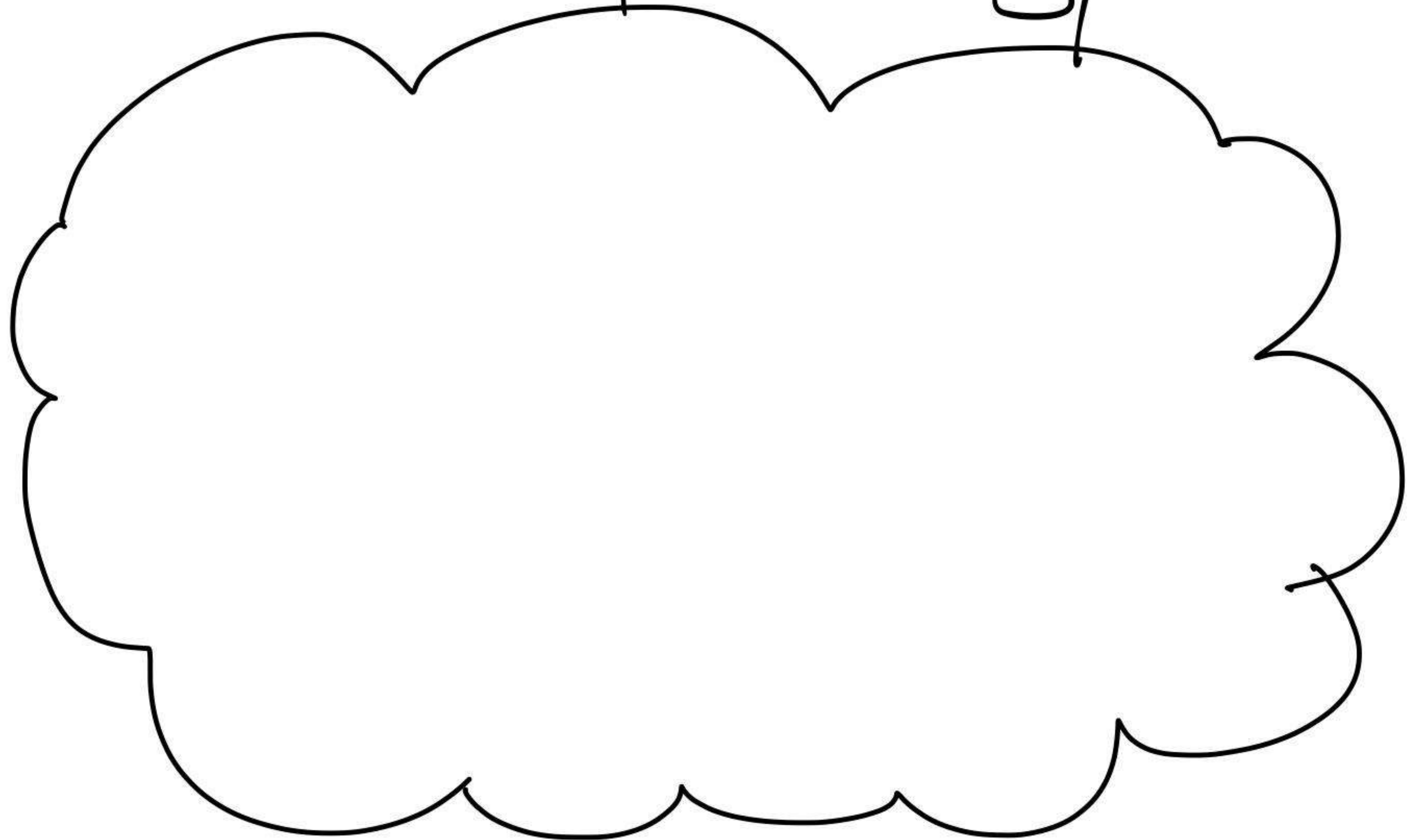
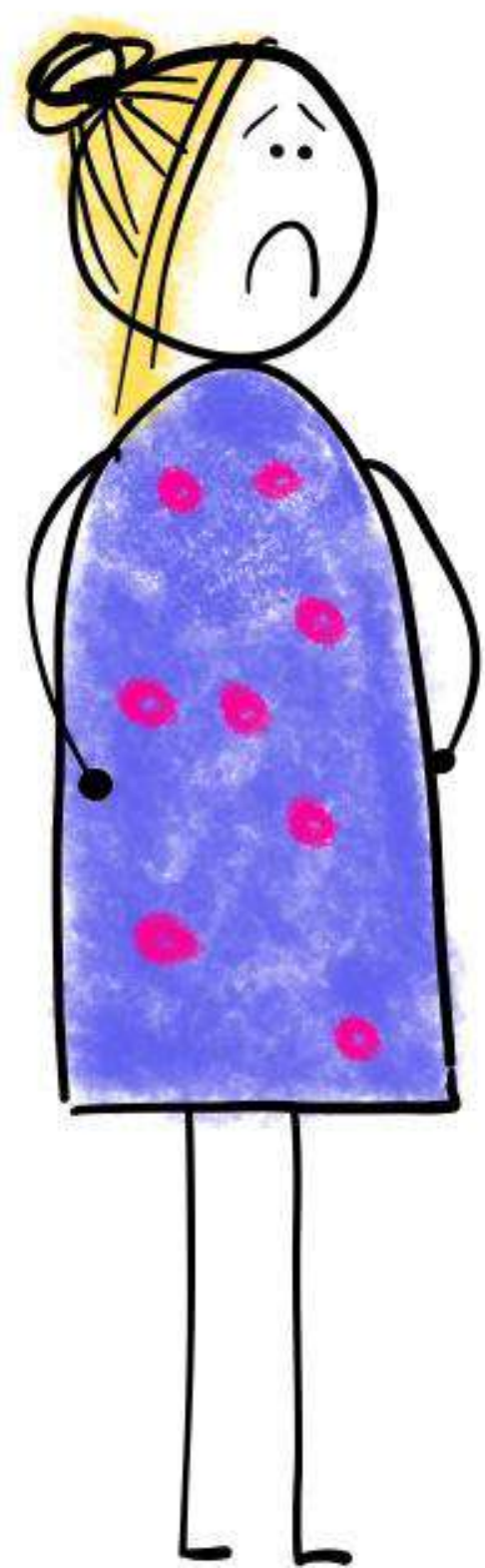
feminism

?



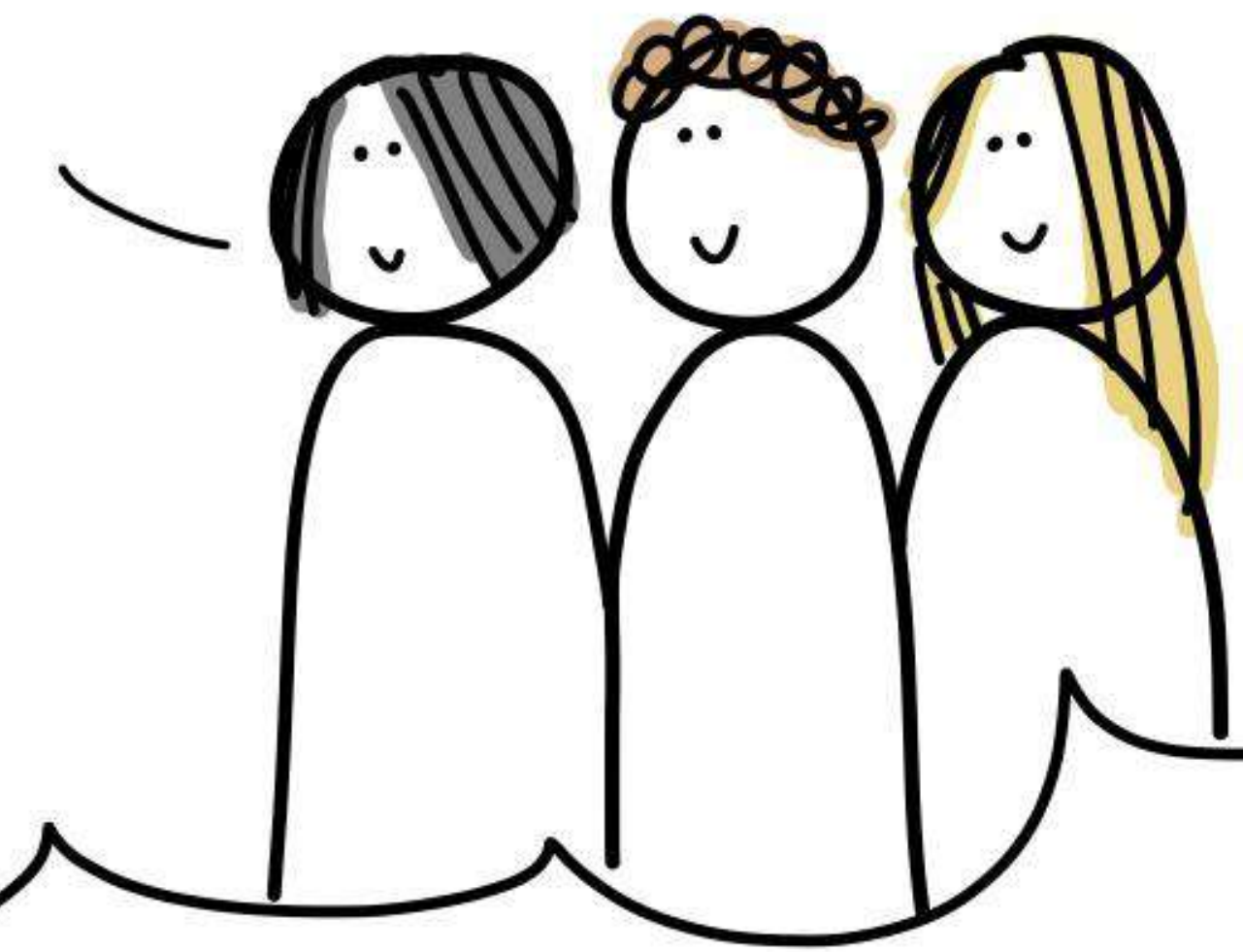
feminist epistemology

?

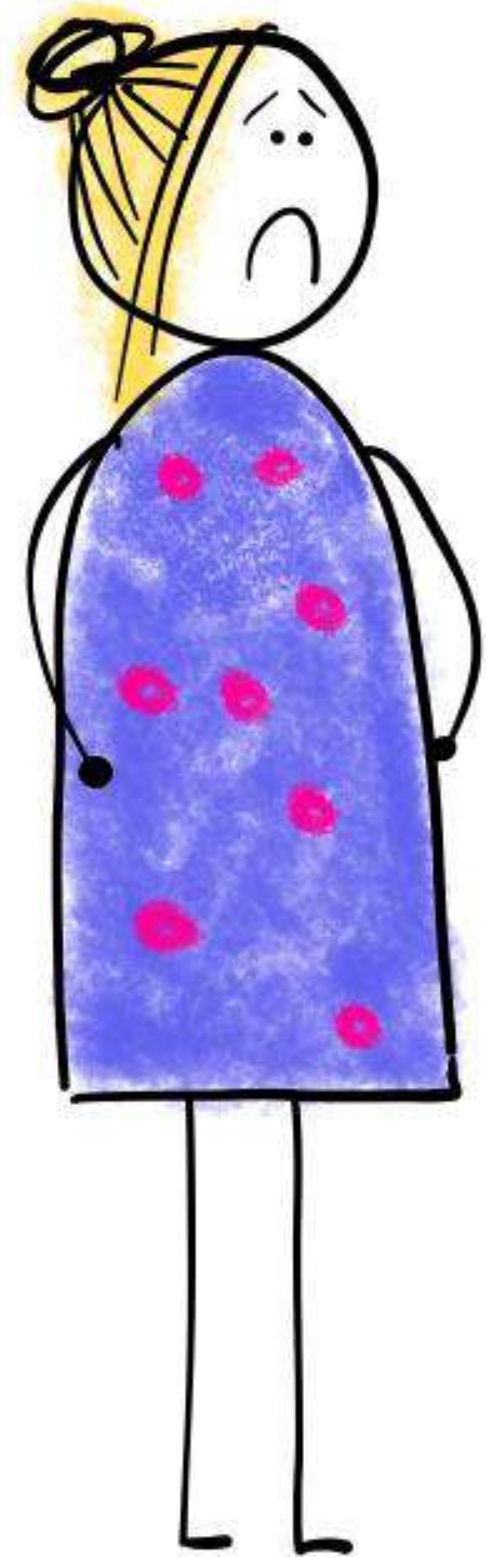


feminist epistemology

Who creates
knowledge
and how?



?



feminist epistemology

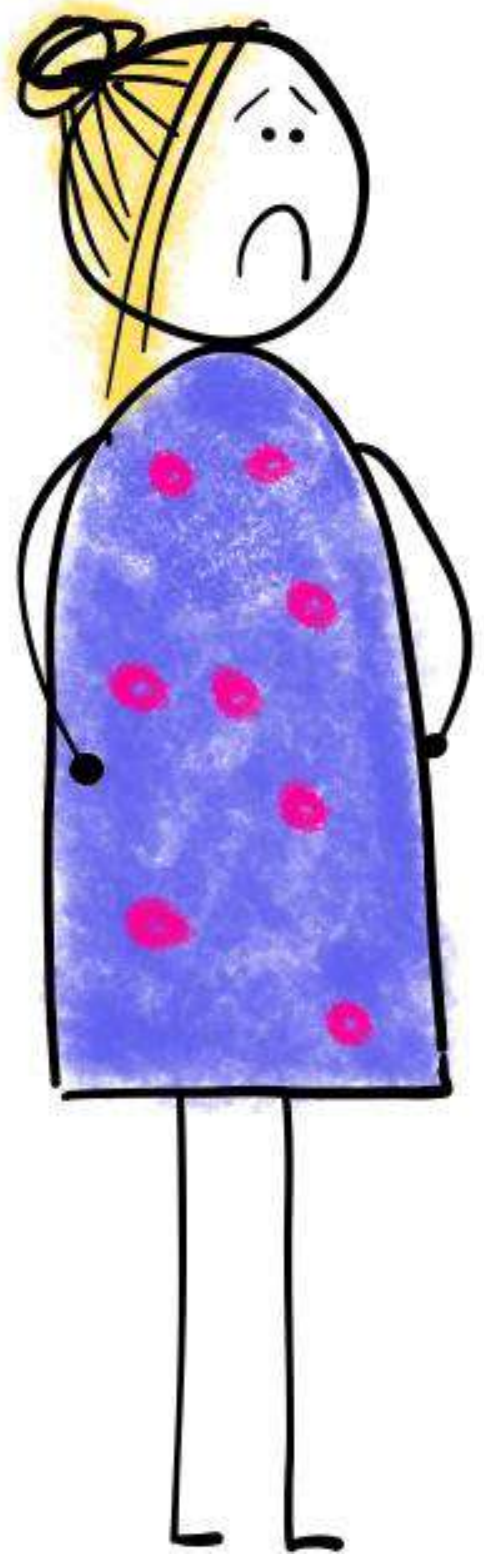
Glaciers

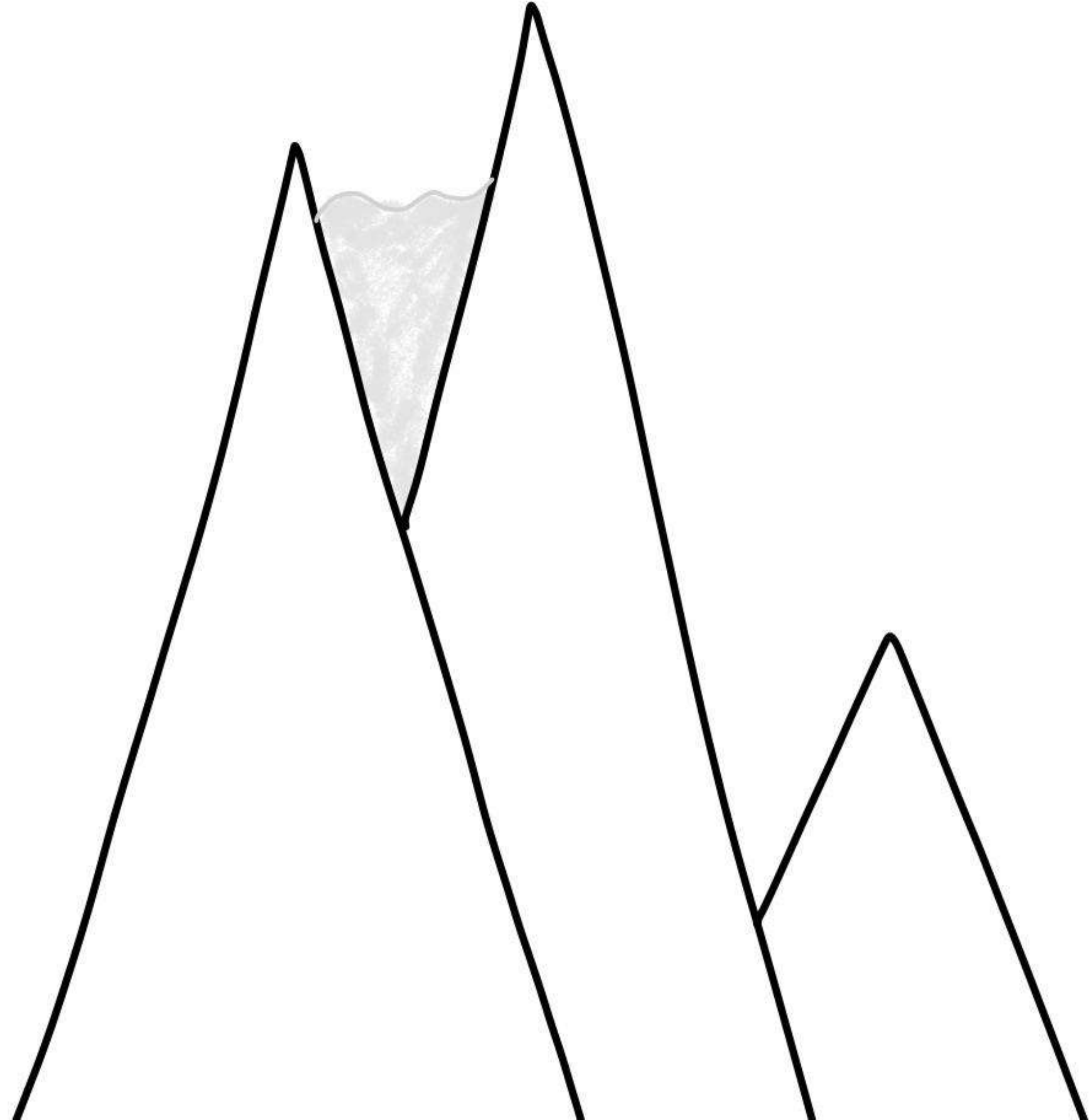
Gender

&

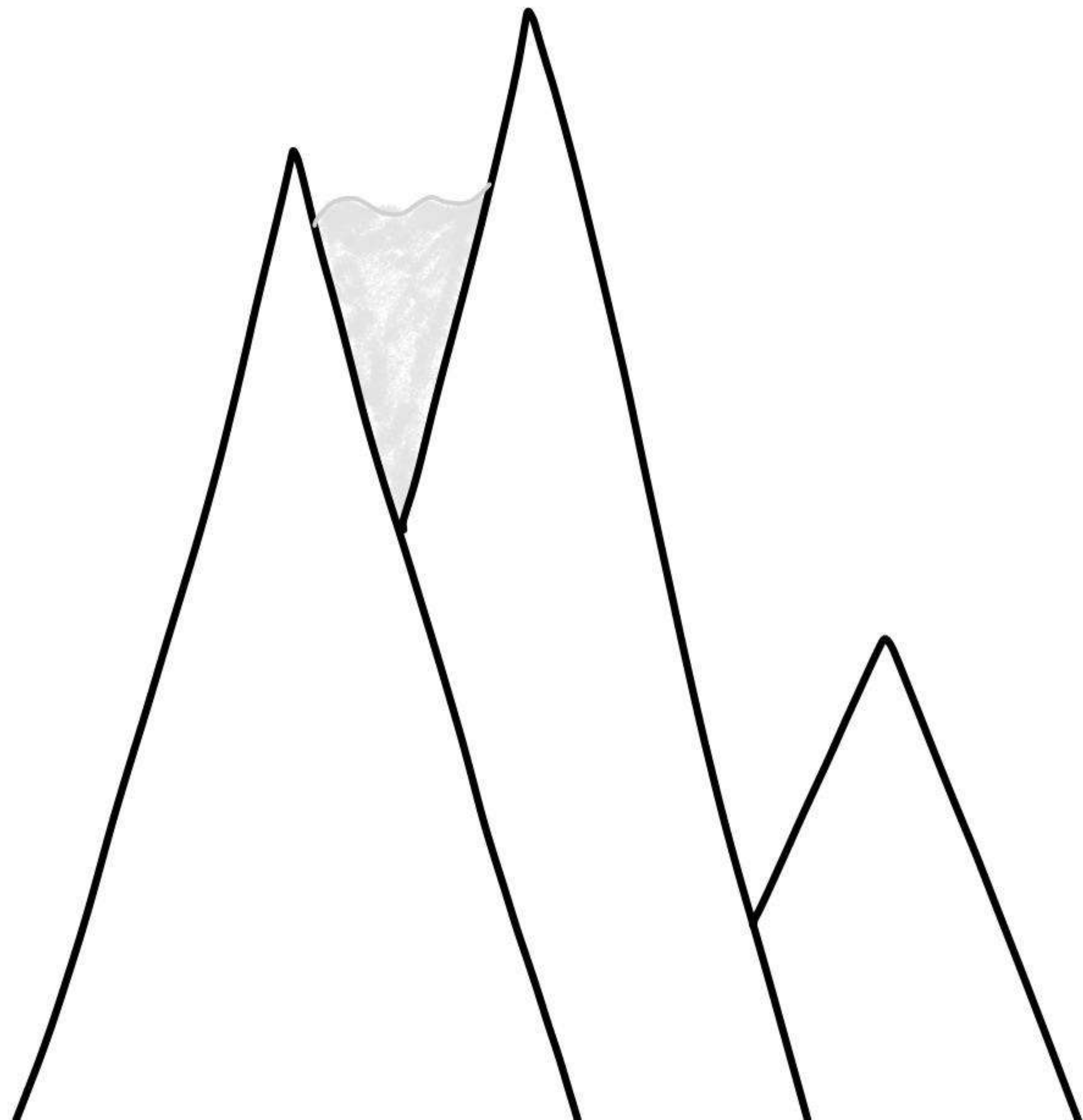
Science

Carey et al 2016

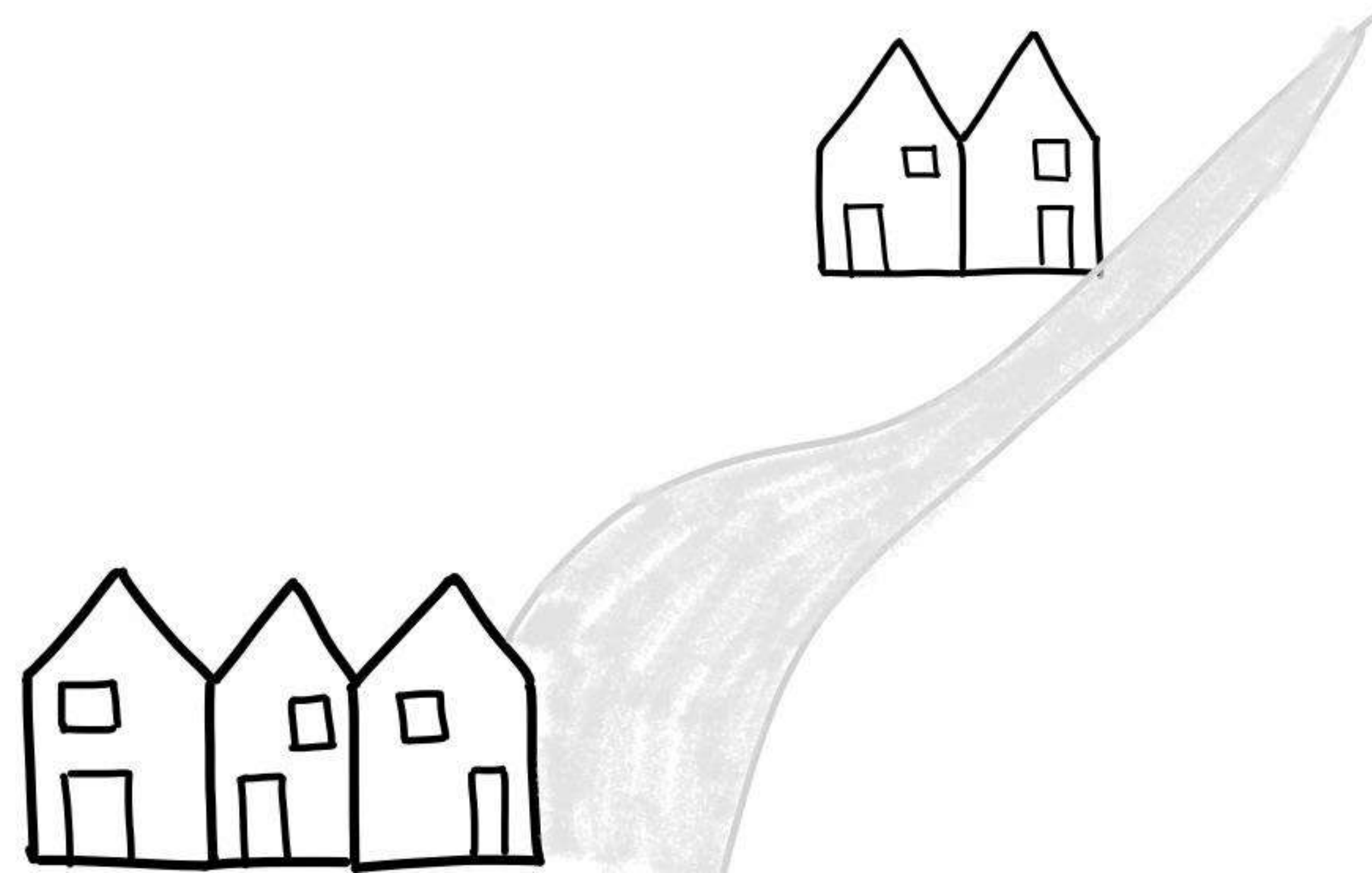


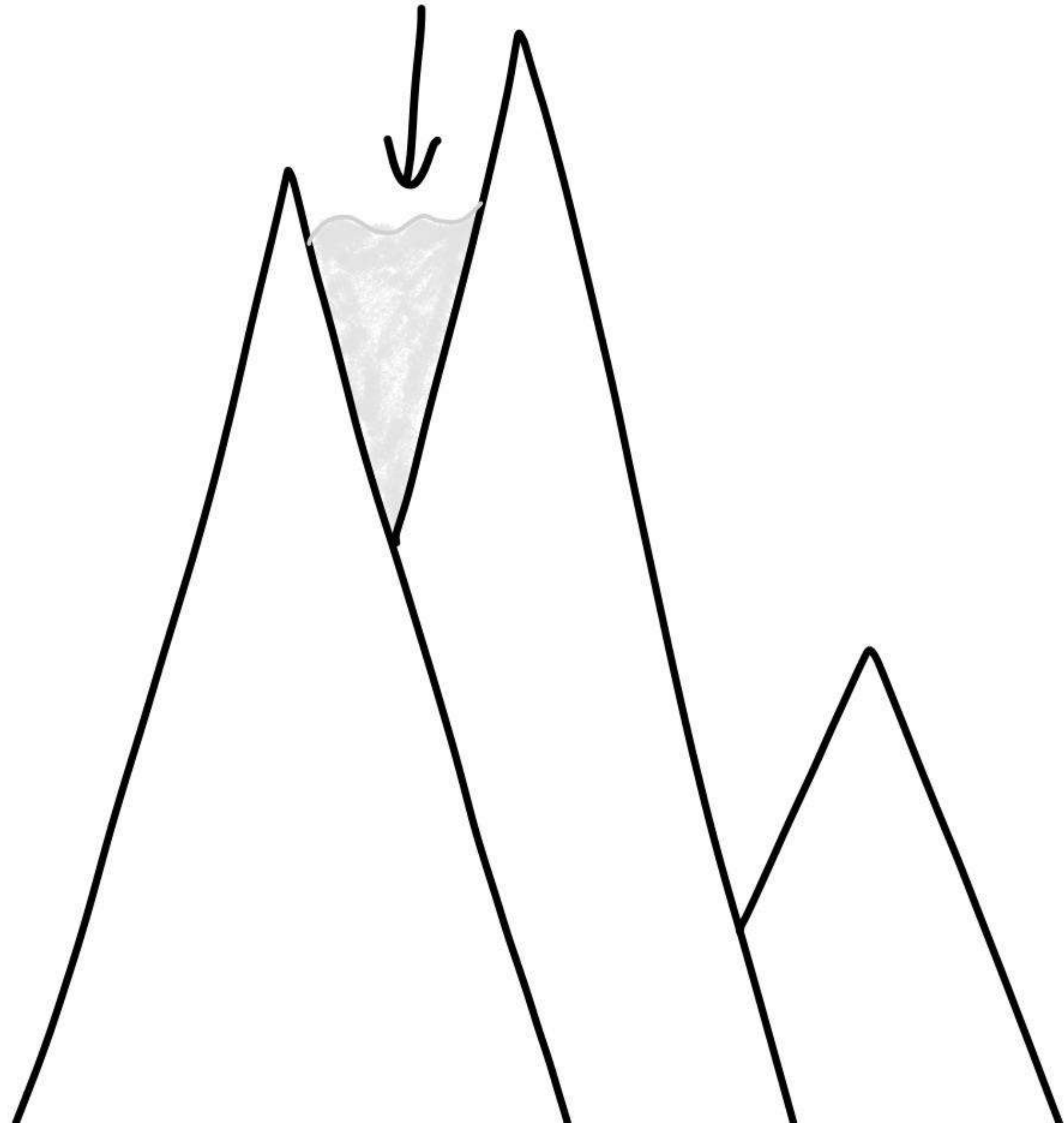


Glaciers
Gender
&
Science

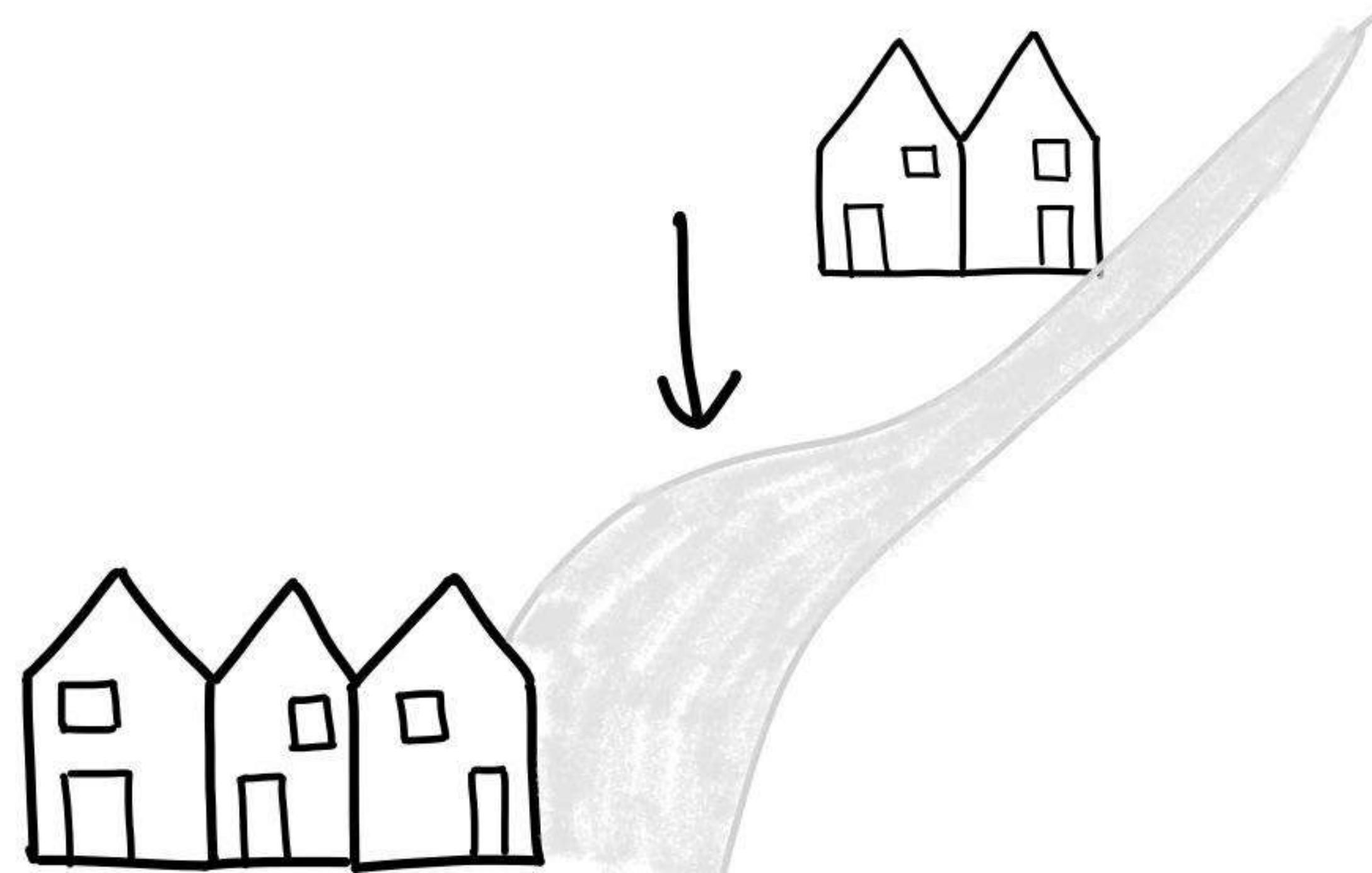


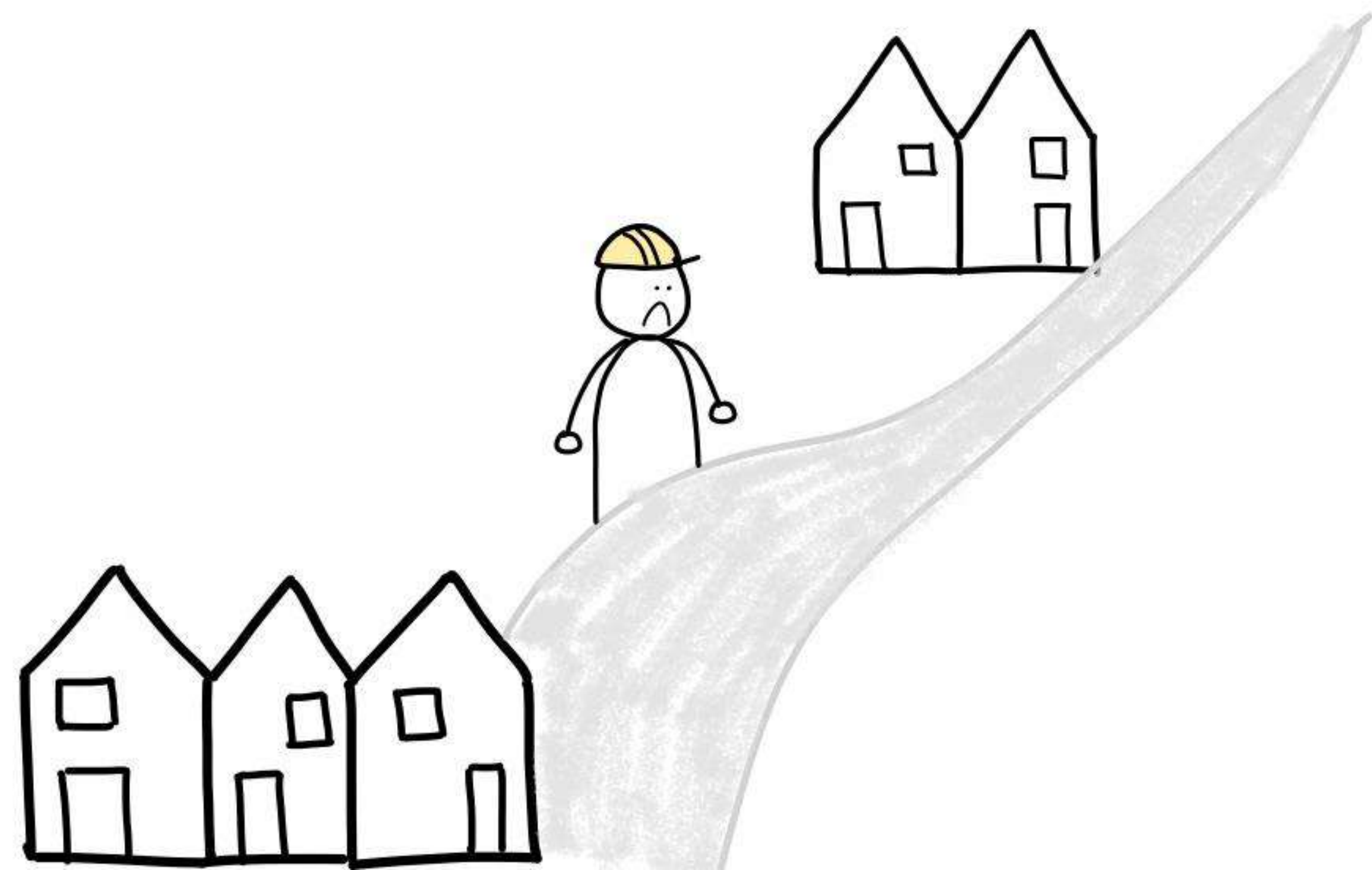
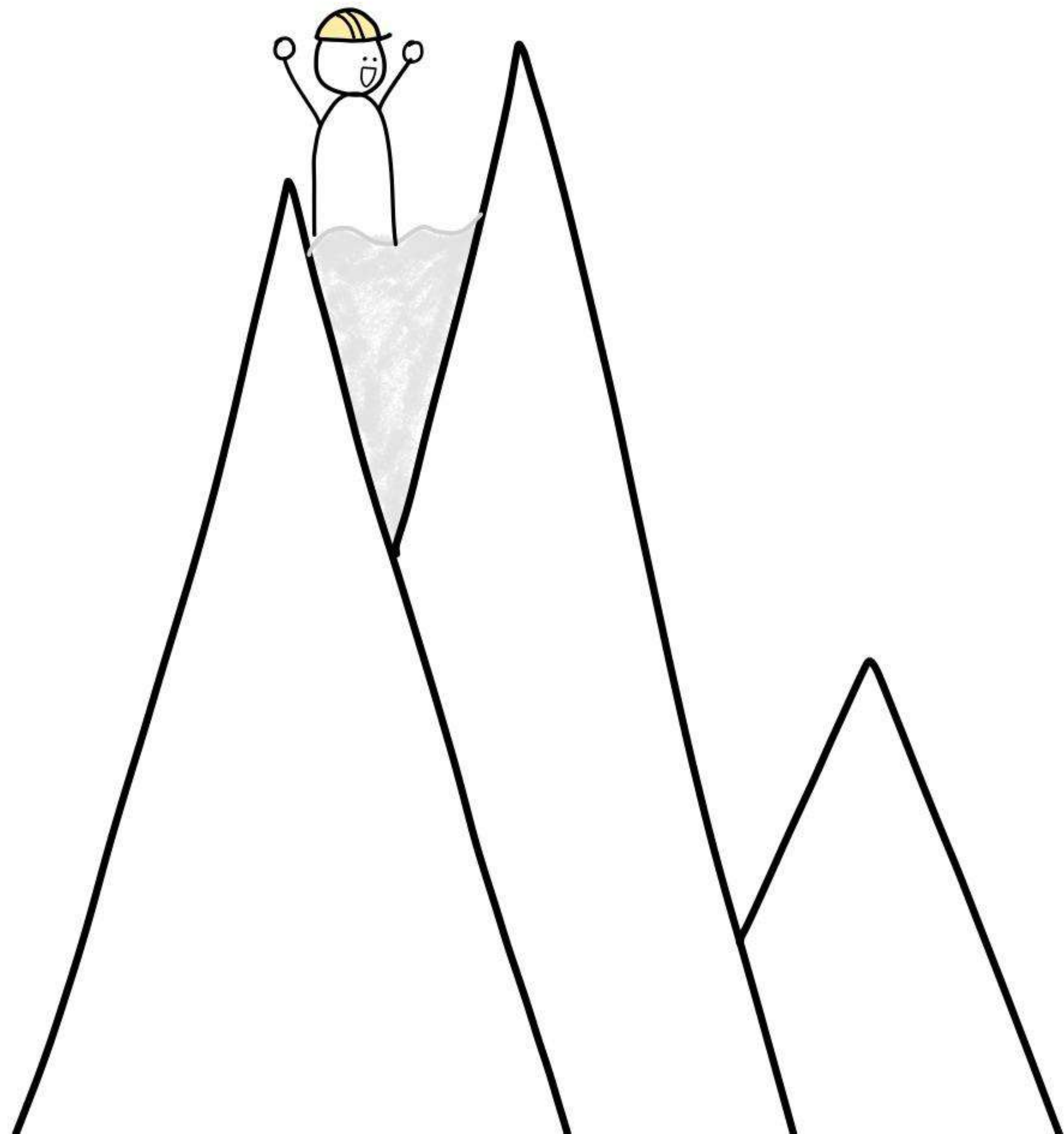
Glaciers
Gender
&
Science



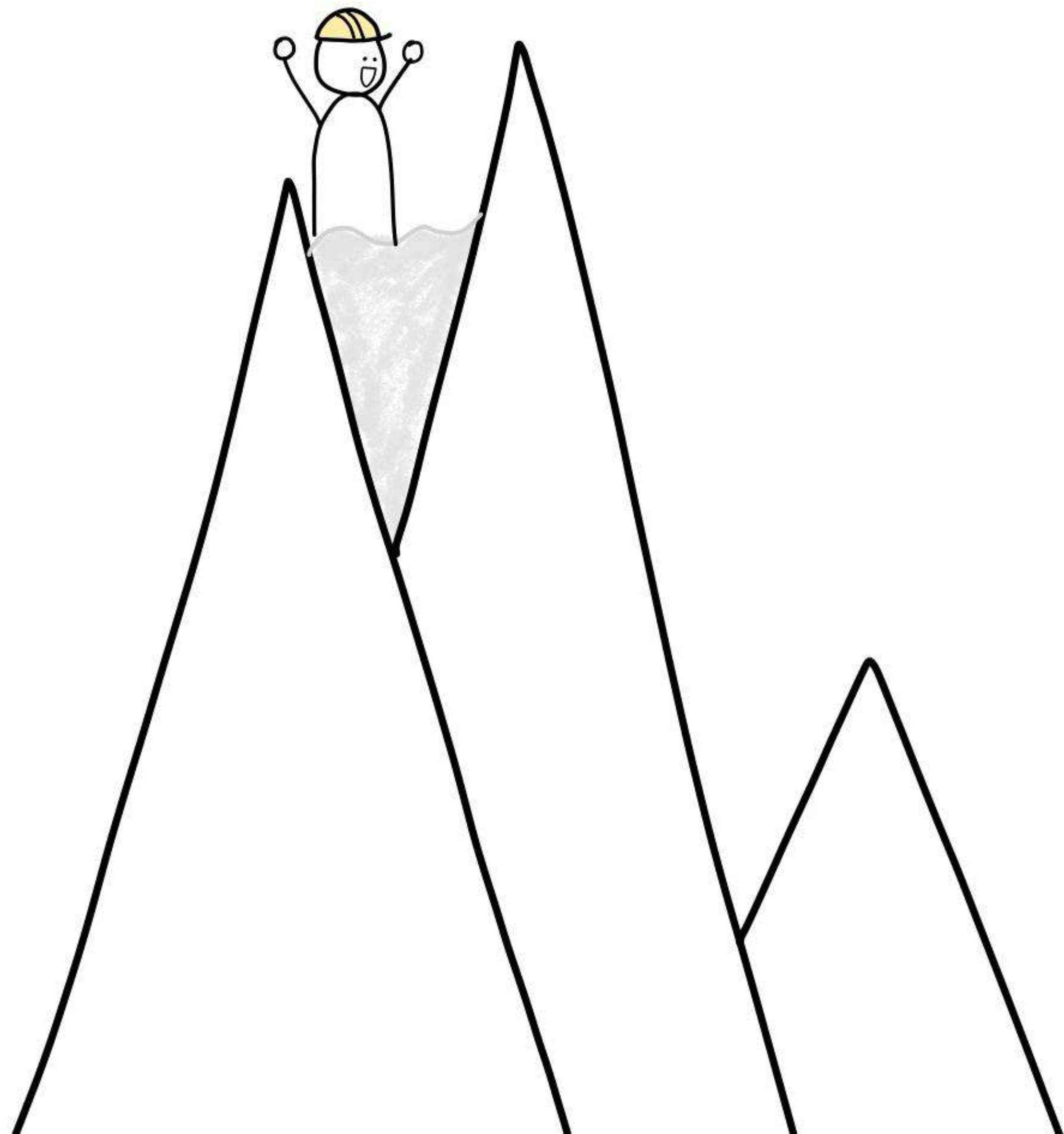


Glaciers
Gender
&
Science

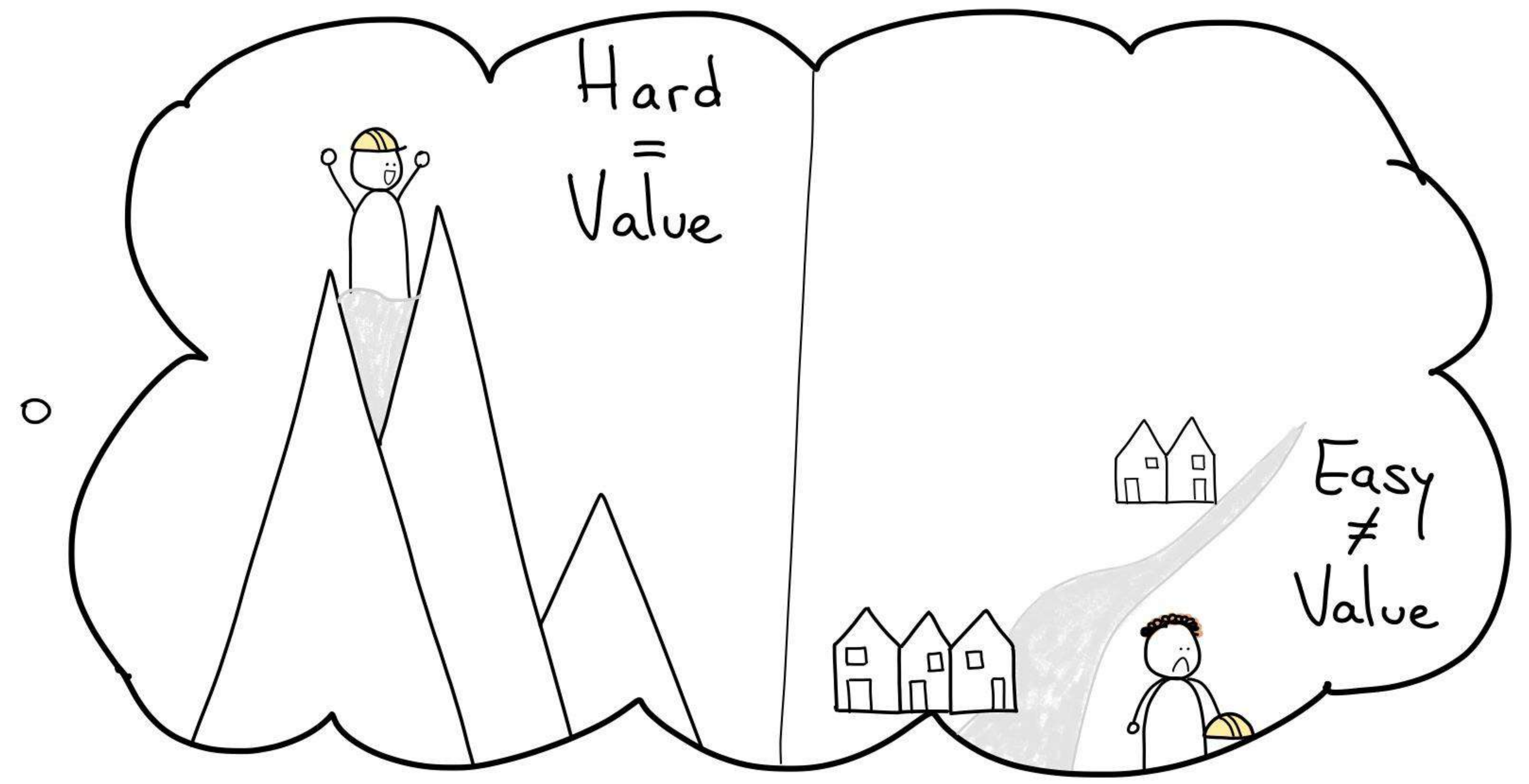
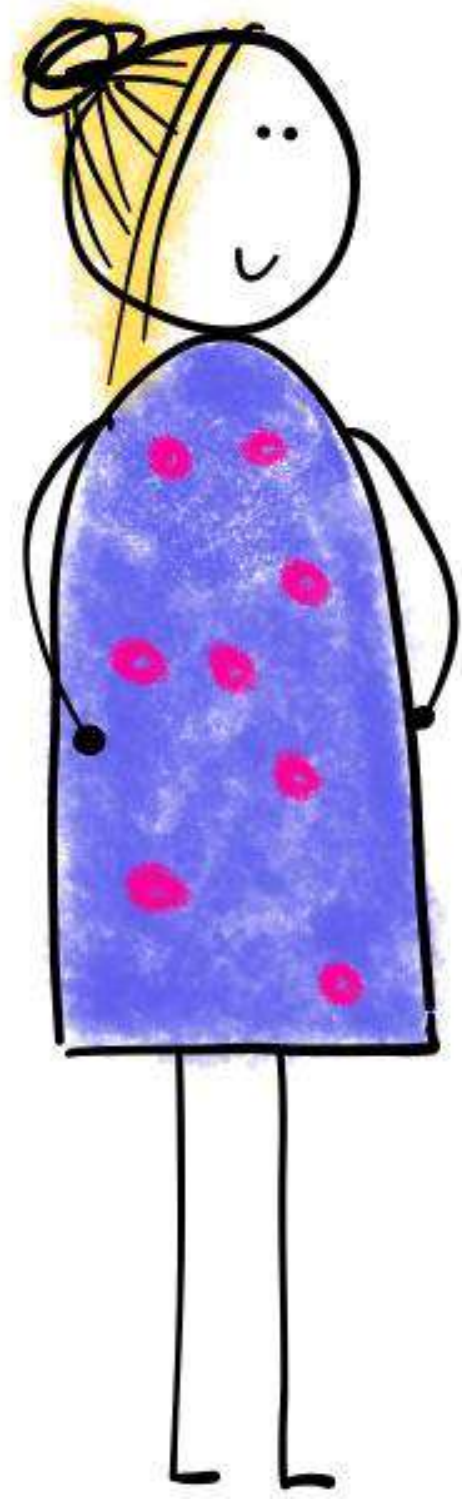


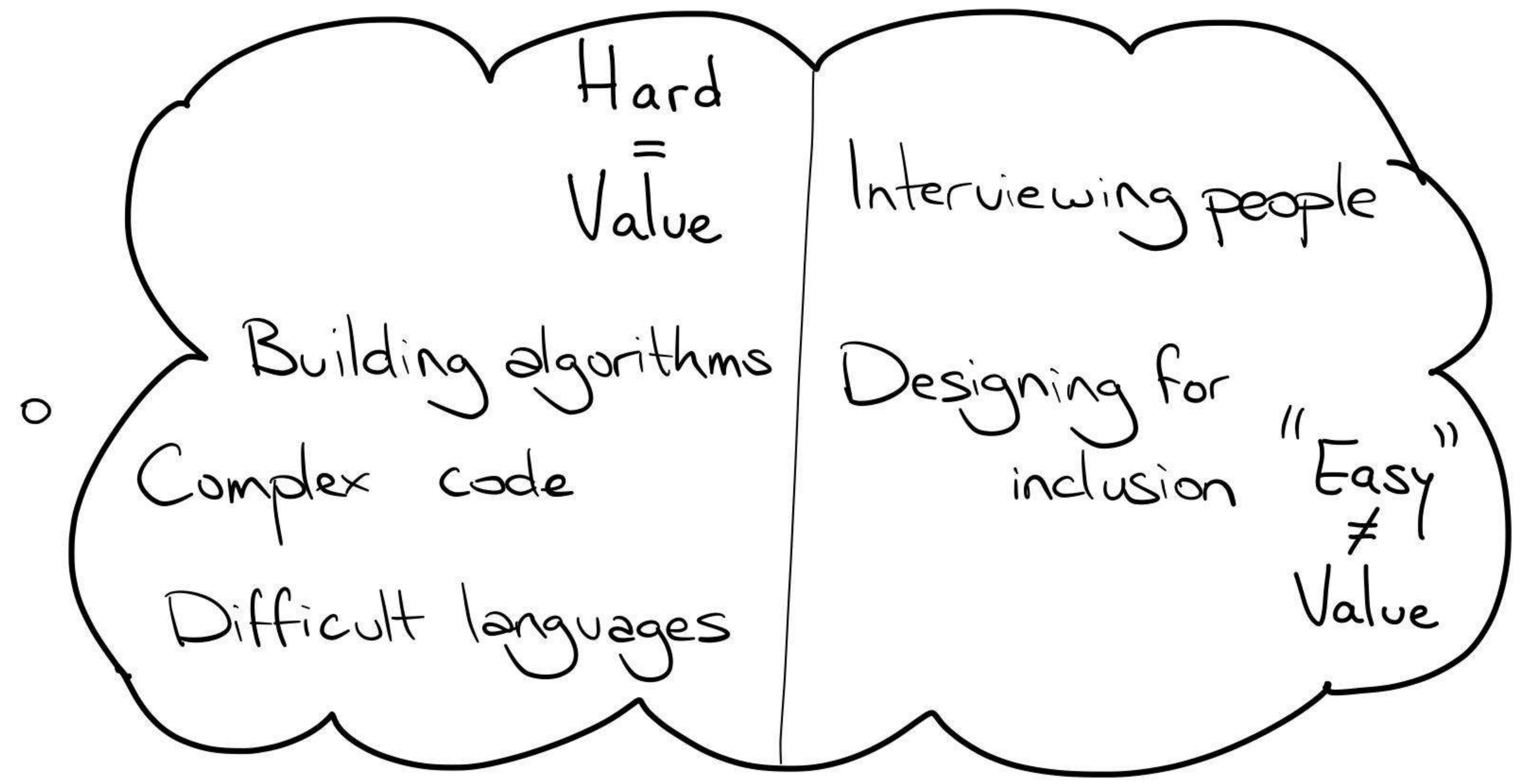
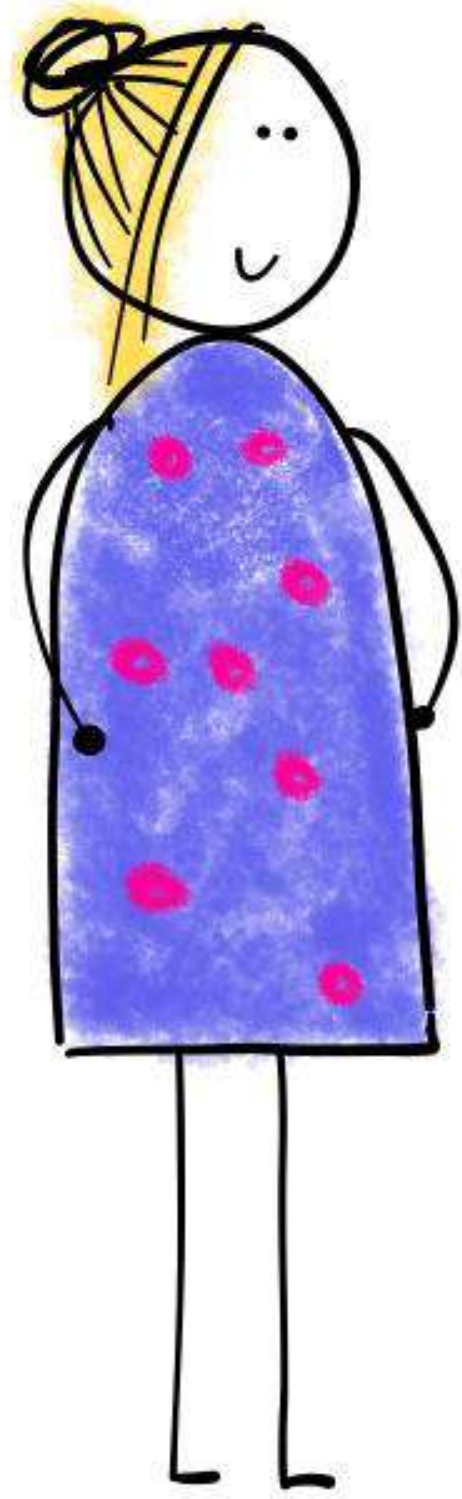


Glaciers
Gender
&
Science

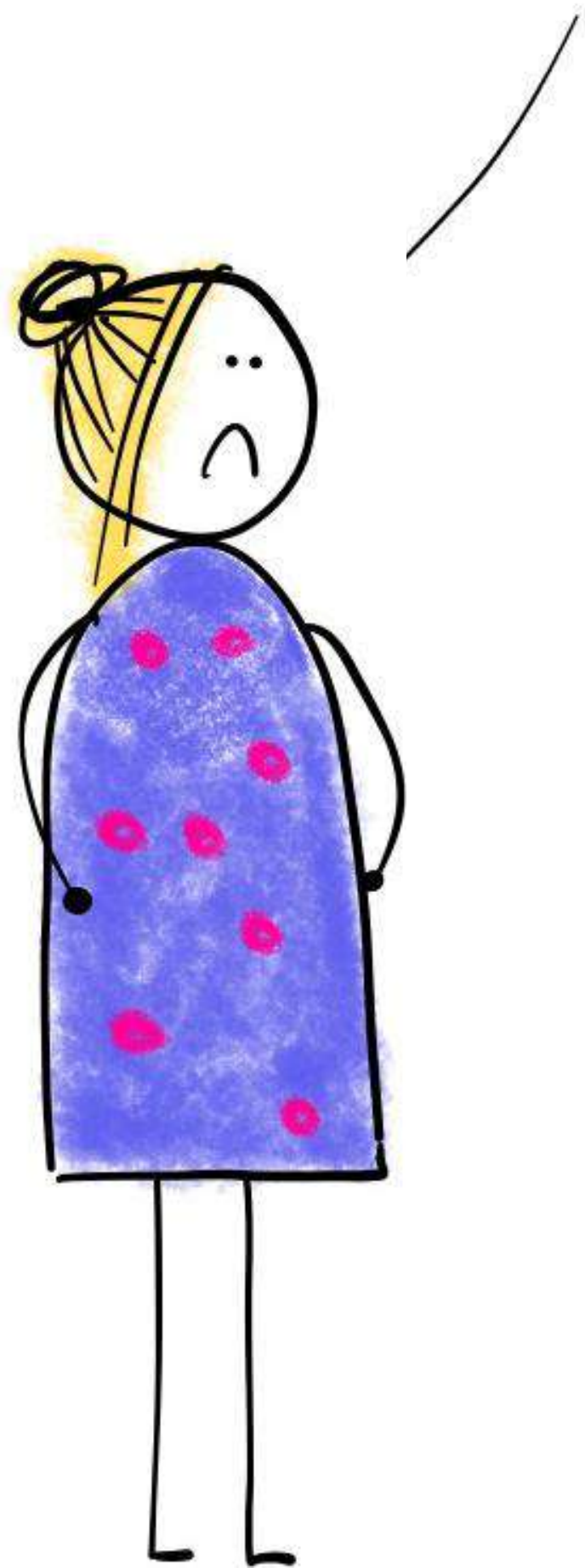


Glaciers
Gender
&
Science





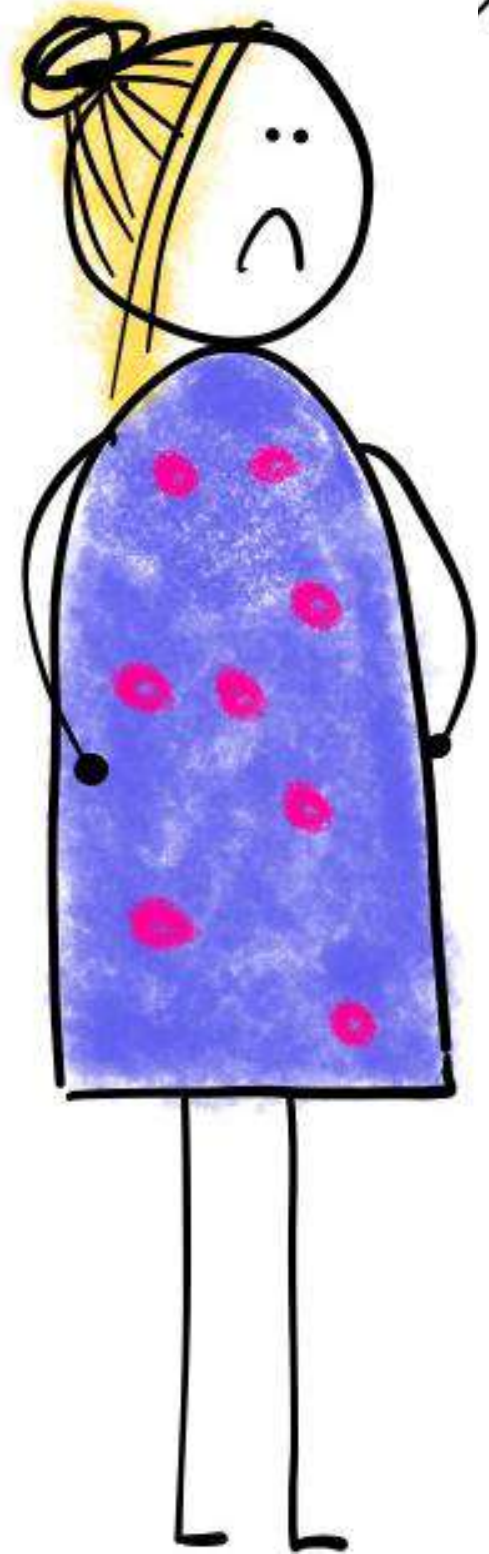
Well well well ...



Well well well ...

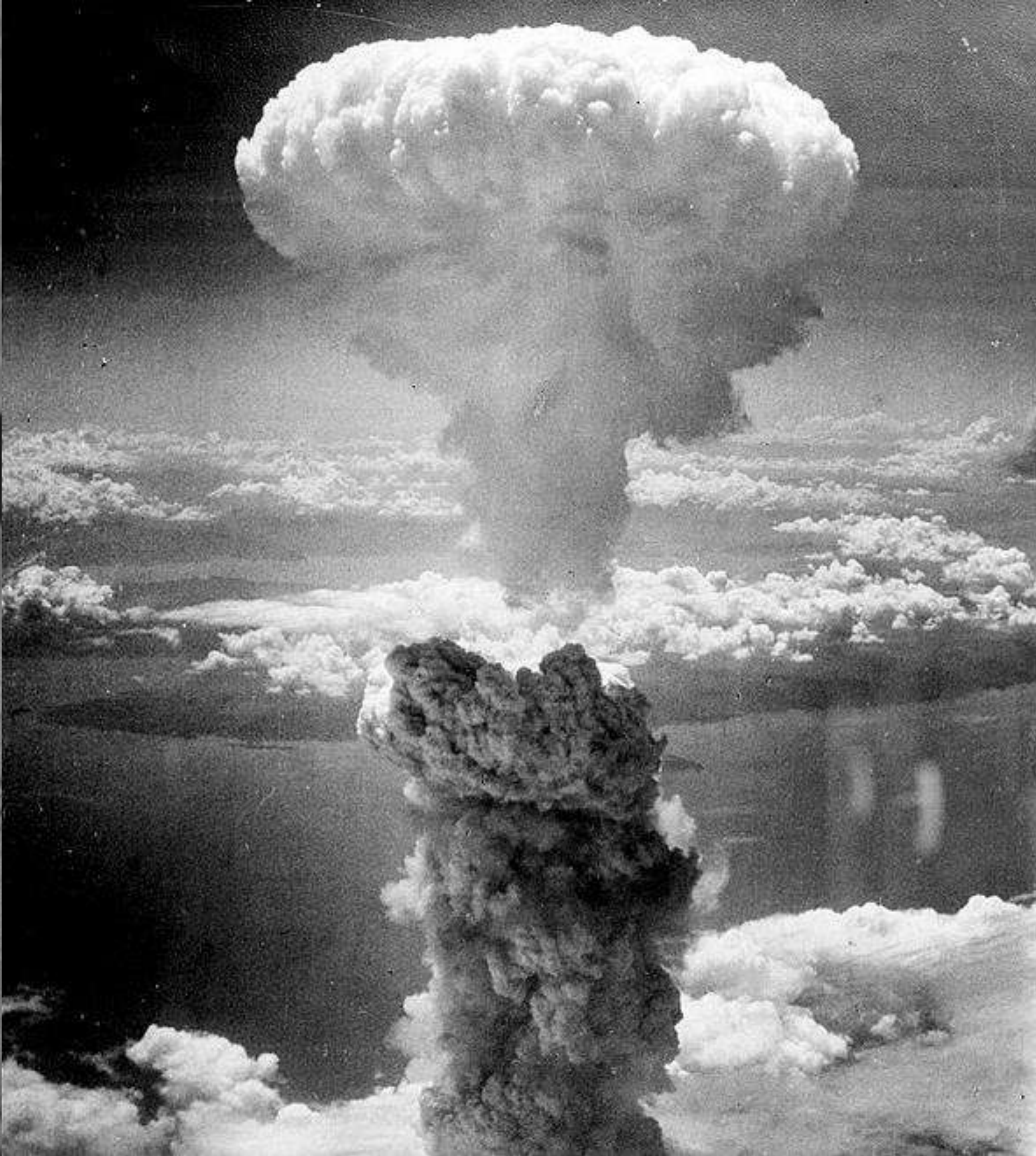
Science is not neutral

Science is not rational











IEEE



IEEE at a Glance

ON THIS PAGE:

[IEEE Quick Facts](#)

[Membership](#)

[Communities](#)

[Conferences and events](#)

[Publications](#)

[Standards](#)

[Education](#)

[Humanitarian](#)

[Awards](#)

IEEE is the world's largest technical professional organization dedicated to advancing technology for the benefit of humanity. IEEE and its members inspire a global community through its highly cited publications, conferences, technology standards, and professional and educational activities.

The following information provides an overview of IEEE offerings and services.



IEEE John von Neumann Medal

[Home](#) · [Awards](#) · [IEEE John von Neumann Medal](#)

Presented to

An individual or team up to three.

Scope

For outstanding achievements in computer-related science and technology.

Prize

The award consists of a bronze medal, certificate, and cash honorarium.

Basis for Judging


In the evaluation process, the following criteria are considered: truly outstanding contributions in computer hardware, software, or systems art; cited work in the form of







Thomas J. Watson Is Decorated by Hitler For Work in Bettering Economic Relations

 Give this article



Wireless to THE NEW YORK TIMES.

July 2, 1937

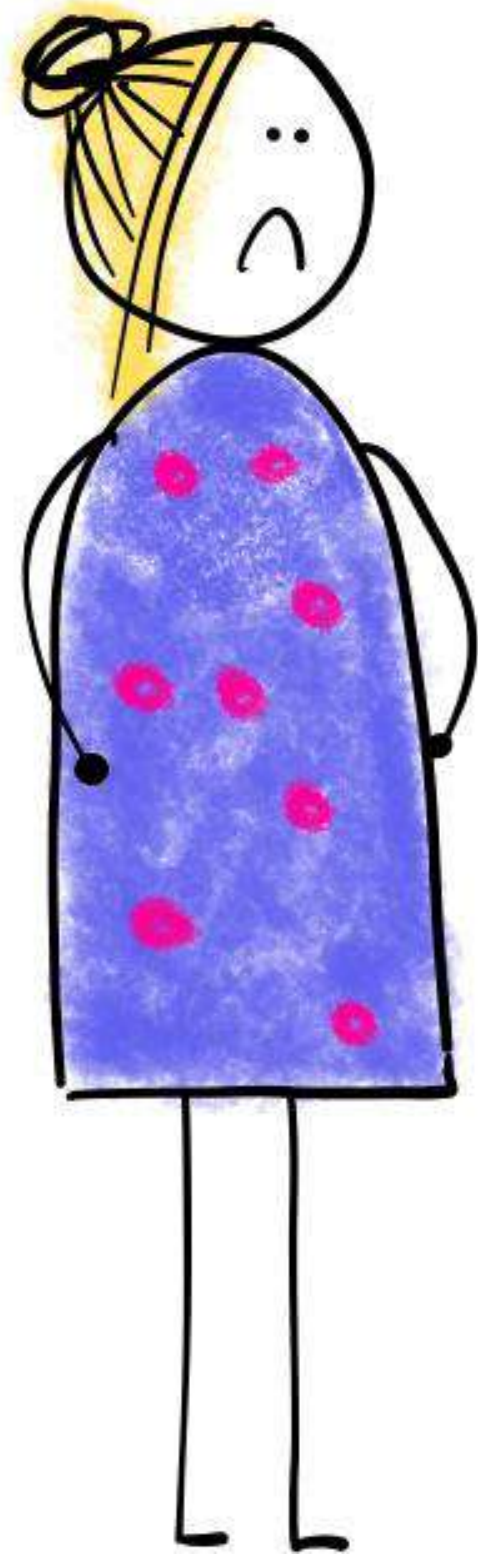


See the article in its original context from July 2, 1937, Page 8 | [Buy Reprints](#)

New York Times subscribers* enjoy full access to TimesMachine—view over 150 years of New York Times journalism, as it originally appeared.

[SUBSCRIBE](#)

*Does not include Crossword-only or Cooking-only subscribers.



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)

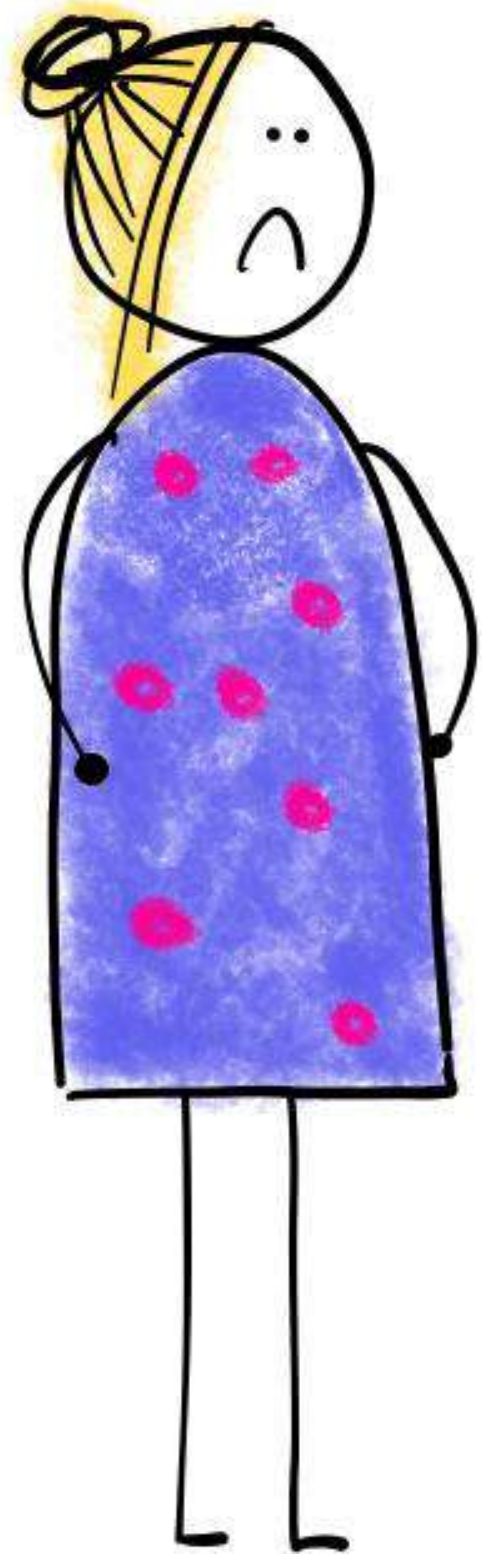


Knowledge Areas of CS2023:

- 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)

No research methods?

No philosophy of science?



Computer Science Curricula 2023

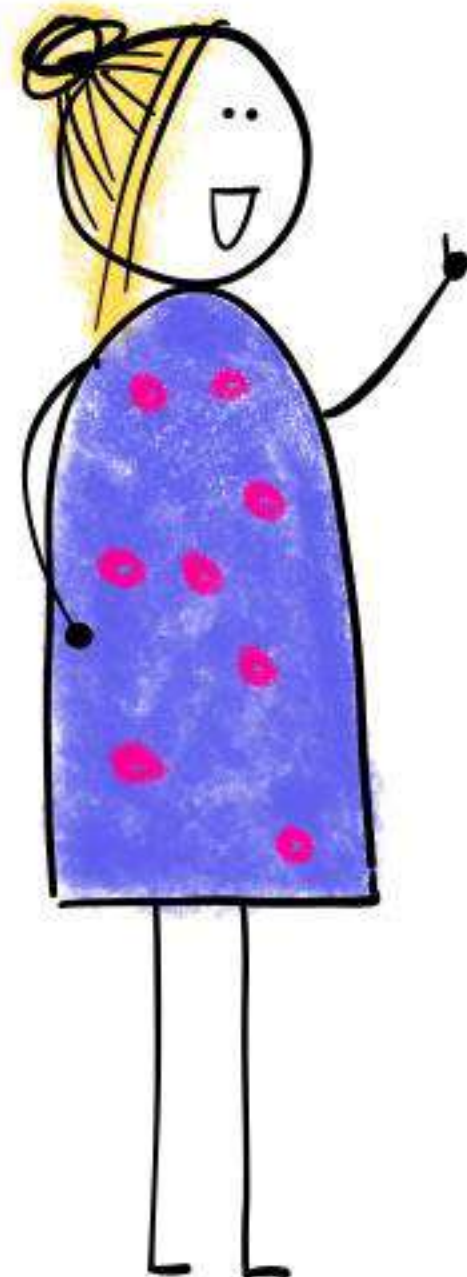
Version Beta
March 2023

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)



<p>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</p>	<p>1. Theories and models</p>	<p>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.</p>
<p>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</p>	<p>2. Mathematical methods</p>	<p>Name and describe standard mathematical (analytical and numerical) tools and methods and their application in the context of physics theories.</p>
	<p>3. Experimental design and scientific investigation</p>	<p>Describe standard methods, instrumentation, techniques, theories and regulations used in experimental physics.</p>
	<p>4. Problem solving</p>	<p>Link physics concepts and laws with basic strategies, procedures, tools and criteria for framing, representing, solving and validating the results of a problem.</p>
<p>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</p>	<p>5. Scientific culture</p>	<p>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.</p>
	<p>6. Work ethic and integrity</p>	<p>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.</p>
<p>IV. Can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences</p>	<p>7. Communication</p>	<p>Describe different methods and tools of communication.</p>
	<p>8. Project Management and Teamwork</p>	<p>Describe strategies for project work and demonstrate attitude to work collaboratively.</p>
<p>V. Have developed those learning skills that are necessary for them to continue to undertake further study with a high degree of autonomy</p>	<p>9. Professional development</p>	<p>Identify relevant competences needed for pursuing further studies (career goals), as well as personal strengths, weaknesses and attitudes.</p>

<p>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</p>	<p>1. Theories and models</p>	<p>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.</p>
<p>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</p>	<p>2. Mathematical methods</p>	<p>Name and describe standard mathematical (analytical and numerical) tools and methods and their application in the context of physics theories.</p>
	<p>3. Experimental design and scientific investigation</p>	<p>Describe standard methods, instrumentation, techniques, theories and regulations used in experimental physics.</p>
	<p>4. Problem solving</p>	<p>Link physics concepts and laws with basic strategies, procedures, tools and criteria for framing, representing, solving and validating the results of a problem.</p>
<p>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</p>	<p>5. Scientific culture</p>	<p>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.</p>
	<p>6. Work ethic and integrity</p>	<p>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.</p>
<p>IV. Can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences</p>	<p>7. Communication</p>	<p>Describe different methods and tools of communication.</p>
	<p>8. Project Management and Teamwork</p>	<p>Describe strategies for project work and demonstrate attitude to work collaboratively.</p>
<p>V. Have developed those learning skills that are necessary for them to continue to undertake further study with a high degree of autonomy.</p>	<p>9. Professional development</p>	<p>Identify relevant competences needed for pursuing further studies (career goals), as well as personal strengths, weaknesses and attitudes.</p>

<p><i>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</i></p>	<p>1. Theories and models</p>	<p>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.</p>
<p>3. Experimental design and scientific investigation</p> <p>Describe standard methods, instrumentation, techniques, theories and regulations used in experimental physics.</p>		
	<p>4. Problem solving</p>	<p>Link physics concepts and laws with basic strategies, procedures, tools and criteria for framing, representing, solving and validating the results of a problem.</p>
<p><i>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</i></p>	<p>5. Scientific culture</p>	<p>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.</p>
	<p>6. Work ethic and integrity</p>	<p>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.</p>
<p><i>IV. Can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences</i></p>	<p>7. Communication</p>	<p>Describe different methods and tools of communication.</p>
	<p>8. Project Management and Teamwork</p>	<p>Describe strategies for project work and demonstrate attitude to work collaboratively.</p>
<p><i>V. Have developed those learning skills that are necessary for them to continue to undertake further study with a high degree of autonomy.</i></p>	<p>9. Professional development</p>	<p>Identify relevant competences needed for pursuing further studies (career goals), as well as personal strengths, weaknesses and attitudes.</p>

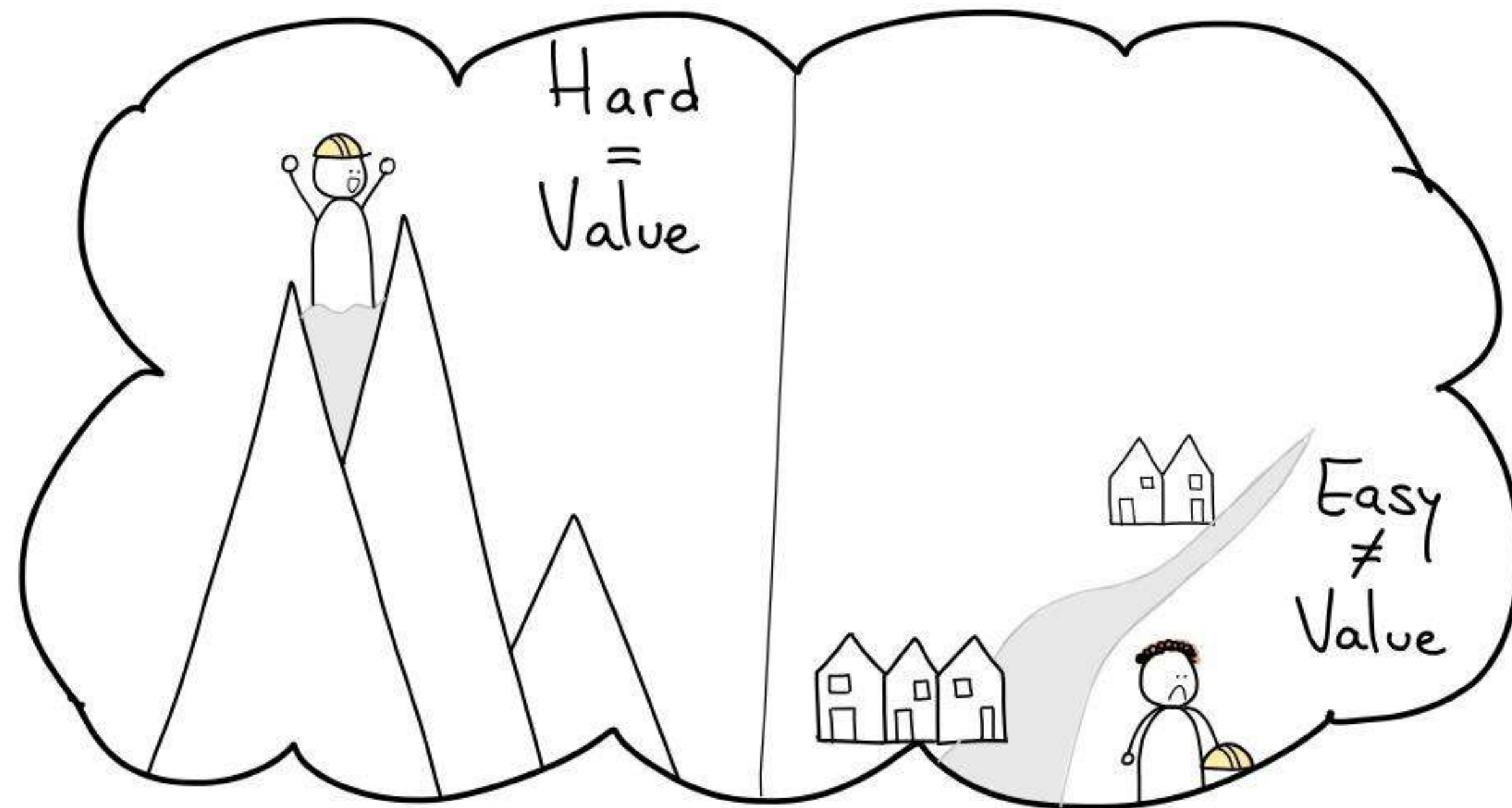
<p>I. Have demonstrated knowledge and understanding in a field of study that builds upon their general secondary education, and is typically at a level that, whilst supported by advanced textbooks, includes some aspects that will be informed by knowledge of the forefront of their field of study</p>	<p>1. Theories and models</p>	<p>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.</p>
<p>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</p>	<p>2. Mathematical methods</p>	<p>Name and describe standard mathematical (analytical and numerical) tools and methods and their application in the context of physics theories.</p>
	<p>3. Experimental design and scientific investigation</p>	<p>Describe standard methods, instrumentation, techniques, theories and regulations used in experimental physics.</p>
	<p>4. Problem solving</p>	<p>Link physics concepts and laws with basic strategies, procedures, tools and criteria for framing, representing, solving and validating the results of a problem.</p>
<p>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</p>	<p>5. Scientific culture</p>	<p>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.</p>
	<p>6. Work ethic and integrity</p>	<p>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.</p>
<p>IV. Can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences</p>	<p>7. Communication</p>	<p>Describe different methods and tools of communication.</p>
	<p>8. Project Management and Teamwork</p>	<p>Describe strategies for project work and demonstrate attitude to work collaboratively.</p>
<p>V. Have developed those learning skills that are necessary for them to continue to undertake further study with a high degree of autonomy.</p>	<p>9. Professional development</p>	<p>Identify relevant competences needed for pursuing further studies (career goals), as well as personal strengths, weaknesses and attitudes.</p>

<p>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</p>	<p>1. Theories and models</p>	<p>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.</p>
<p>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</p>	<p>2. Mathematical methods</p>	<p>Name and describe standard mathematical (analytical and numerical) tools and methods and their application in the context of physics theories.</p>
	<p>3. Experimental design and scientific investigation</p>	<p>Describe standard methods, instrumentation, techniques, theories and regulations used in experimental physics.</p>
	<p>4. Problem solving</p>	<p>Link physics concepts and laws with basic strategies, procedures, tools and criteria for</p>
<p>5. Scientific culture</p>	<p>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.</p>	
<p>III. Have shown awareness of ethical issues</p>	<p>6. Work ethic and integrity</p>	<p>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.</p>
<p>IV. Can communicate information, ideas, problems and solutions to both specialist and non-specialist audiences</p>	<p>7. Communication</p>	<p>Describe different methods and tools of communication.</p>
	<p>8. Project Management and Teamwork</p>	<p>Describe strategies for project work and demonstrate attitude to work collaboratively.</p>
<p>V. Have developed those learning skills that are necessary for them to continue to undertake further study with a high degree of autonomy.</p>	<p>9. Professional development</p>	<p>Identify relevant competences needed for pursuing further studies (career goals), as well as personal strengths, weaknesses and attitudes.</p>

Glaciers
Gender
&
Science

"Natural sciences have historically been defined by, and their credibility built upon, manly attributes"

"Natural sciences have historically been defined by, and their credibility built upon, mainly attributes"



"Natural sciences have historically been defined by, and their credibility built upon, mainly attributes"



The Computer Girls

BY LOIS MANDEL

A trainee gets \$8,000 a year
... a girl "senior systems analyst"
gets \$20,000—and up!
Maybe it's time to investigate....

Ann Richardson, IBM systems engineer, designs a bridge via computer. Above (left) she checks her facts with fellow systems engineer, Marvin V. Fuchs. Right, she feeds facts into the computer. Below, Ann demonstrates on a viewing screen how her facts designed the bridge, and makes changes with a "light pen."

Twenty years ago, a girl could be a secretary, a school teacher . . . maybe a librarian, a social worker or a nurse. If she was really ambitious, she could go into the professions and compete with men . . . usually working harder and longer to earn less pay for the same job.

Now have come the big, dazzling computers—and a whole new kind of work for women: programming. Telling the miracle machines what to do and how to do it. Anything from predicting the weather to sending out billing notices from the local department store.

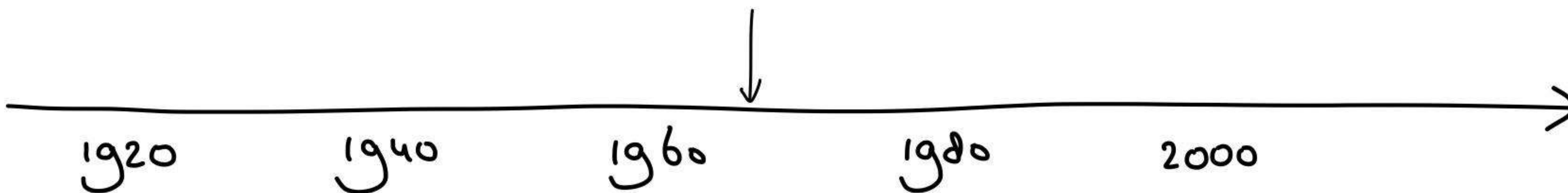
And if it doesn't sound like woman's work—well, it just is.

"I had this idea I'd be standing at a big machine and pressing buttons all day long," says a girl who programs for a Los Angeles bank. I couldn't have been further off the track. I figure out how the

computer can solve a problem, and then instruct the machine to do it."

"It's just like planning a dinner," explains Dr. Grace Hopper, now a staff scientist in systems programming for Univac. (She helped develop the first electronic digital computer, the Eniac, in 1946.) "You have to plan ahead and schedule everything so it's ready when you need it. Programming requires patience and the ability to handle detail. Women are 'naturals' at computer programming."

What she's talking about is *aptitude*—the one most important quality a girl needs to become a programmer. She also needs a keen, logical mind. And if that zeroes out the old Billie Burke-Gracie Allen image of femininity, it's about time, because this is the age of the Computer Girls. There are twenty thousand of them in the United (cont. on page 54)





The Computer Girls

BY LOIS MANDEL

A trainee gets \$8,000 a year
... a girl "senior systems analyst"
gets \$20,000—and up!
Maybe it's time to investigate....

Ann Richardson, IBM systems engineer, designs a bridge via computer. Above (left) she checks her facts with fellow systems engineer, Marvin V. Fuchs. Right, she feeds facts into the computer. Below, Ann demonstrates on a viewing screen how her facts designed the bridge, and makes changes with a "light pen."

Twenty years ago, a girl could be a secretary, a school teacher . . . maybe a librarian, a social worker or a nurse. If she was really ambitious, she could go into the professions and compete with men . . . usually working harder and longer to earn less pay for the same job.

Now have come the big, dazzling computers—and a whole new kind of work for women: programming. Telling the miracle machines what to do and how to do it. Anything from predicting the weather to sending out billing notices from the local department store.

And if it doesn't sound like woman's work—well, it just is.

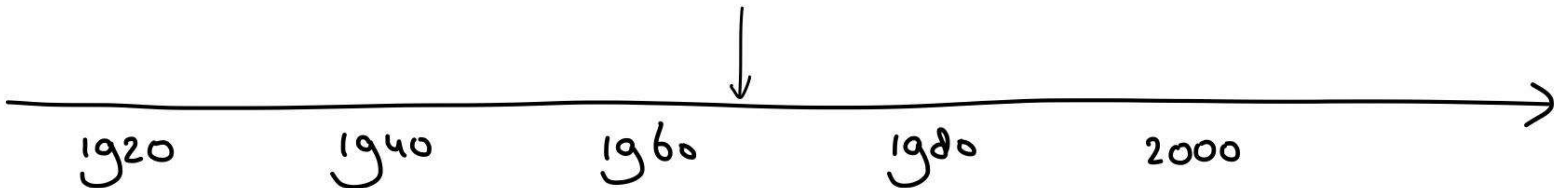
"I had this idea I'd be standing at a big machine and pressing buttons all day long," says a girl who programs for a Los Angeles bank. I couldn't have been further off the track. I figure out how the

computer can solve a problem, and then instruct the machine to do it."

"It's just like planning a dinner," explains Dr. Grace Hopper, now a staff scientist in systems programming for Univac. (She helped develop the first electronic digital computer, the Eniac, in 1946.) "You have to plan ahead and schedule everything so it's ready when you need it. Programming requires patience and the ability to handle detail. Women are 'naturals' at computer programming."

What she's talking about is *aptitude*—the one most important quality a girl needs to become a programmer. She also needs a keen, logical mind. And if that zeroes out the old Billie Burke-Gracie Allen image of femininity, it's about time, because this is the age of the Computer Girls. There are twenty thousand of them in the United (cont. on page 54)

"It's just like planning a dinner"





The Computer Girls

BY LOIS MANDEL

A trainee gets \$8,000 a year
... a girl "senior systems analyst"
gets \$20,000—and up!
Maybe it's time to investigate....

Ann Richardson, IBM systems engineer, designs a bridge via computer. Above (left) she checks her facts with fellow systems engineer, Marvin V. Fuchs. Right, she feeds facts into the computer. Below, Ann demonstrates on a viewing screen how her facts designed the bridge, and makes changes with a "light pen."

Twenty years ago, a girl could be a secretary, a school teacher . . . maybe a librarian, a social worker or a nurse. If she was really ambitious, she could go into the professions and compete with men . . . usually working harder and longer to earn less pay for the same job.

Now have come the big, dazzling computers—and a whole new kind of work for women: programming. Telling the miracle machines what to do and how to do it. Anything from predicting the weather to sending out billing notices from the local department store.

And if it doesn't sound like woman's work—well, it just is.

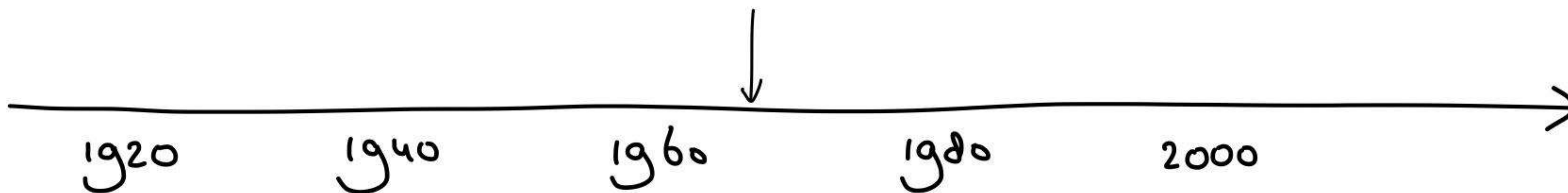
"I had this idea I'd be standing at a big machine and pressing buttons all day long," says a girl who programs for a Los Angeles bank. I couldn't have been further off the track. I figure out how the

computer can solve a problem, and then instruct the machine to do it."

"It's just like planning a dinner," explains Dr. Grace Hopper, now a staff scientist in systems programming for Univac. (She helped develop the first electronic digital computer, the Eniac, in 1946.) "You have to plan ahead and schedule everything so it's ready when you need it. Programming requires patience and the ability to handle detail. Women are 'naturals' at computer programming."

What she's talking about is *aptitude*—the one most important quality a girl needs to become a programmer. She also needs a keen, logical mind. And if that zeroes out the old Billie Burke-Gracie Allen image of femininity, it's about time, because this is the age of the Computer Girls. There are twenty thousand of them in the United (cont. on page 54)

"Programming requires patience and eye for detail ..."





The Computer Girls

BY LOIS MANDEL

A trainee gets \$8,000 a year
... a girl "senior systems analyst"
gets \$20,000—and up!
Maybe it's time to investigate....

Ann Richardson, IBM systems engineer, designs a bridge via computer. Above (left) she checks her facts with fellow systems engineer, Marvin V. Fuchs. Right, she feeds facts into the computer. Below, Ann demonstrates on a viewing screen how her facts designed the bridge, and makes changes with a "light pen."

Twenty years ago, a girl could be a secretary, a school teacher . . . maybe a librarian, a social worker or a nurse. If she was really ambitious, she could go into the professions and compete with men . . . usually working harder and longer to earn less pay for the same job.

Now have come the big, dazzling computers—and a whole new kind of work for women: programming. Telling the miracle machines what to do and how to do it. Anything from predicting the weather to sending out billing notices from the local department store.

And if it doesn't sound like woman's work—well, it just is.

"I had this idea I'd be standing at a big machine and pressing buttons all day long," says a girl who programs for a Los Angeles bank. I couldn't have been further off the track. I figure out how the

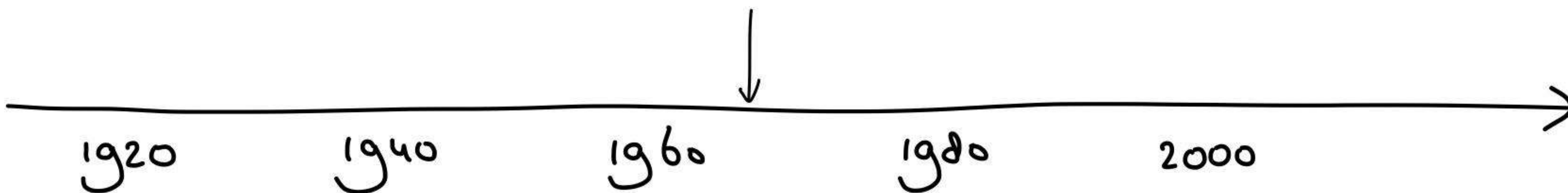
computer can solve a problem, and then instruct the machine to do it."

"It's just like planning a dinner," explains Dr. Grace Hopper, now a staff scientist in systems programming for Univac. (She helped develop the first electronic digital computer, the Eniac, in 1946.) "You have to plan ahead and schedule everything so it's ready when you need it. Programming requires patience and the ability to handle detail. Women are 'naturals' at computer programming."

What she's talking about is *aptitude*—the one most important quality a girl needs to become a programmer. She also needs a keen, logical mind. And if that zeroes out the old Billie Burke-Gracie Allen image of femininity, it's about time, because this is the age of the Computer Girls. There are twenty thousand of them in the United (cont. on page 54)

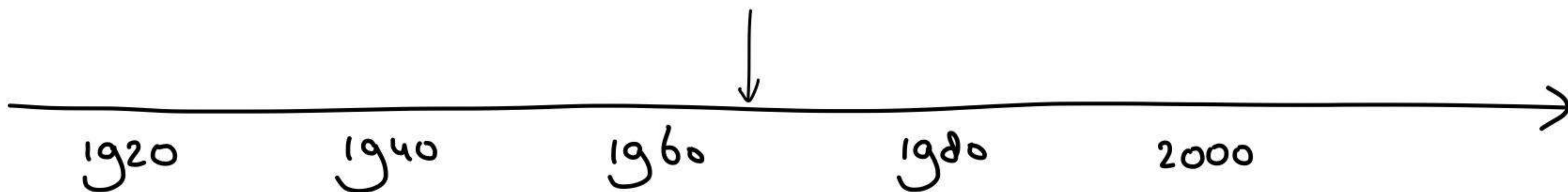
"Programming requires patience and eye for detail ..."

"Women are naturals at computer programming"



"Programming requires
patience and
eye for detail ..."

"Women are naturals
at computer programming"



"Early computing was unusually open to women"

→
Masculine

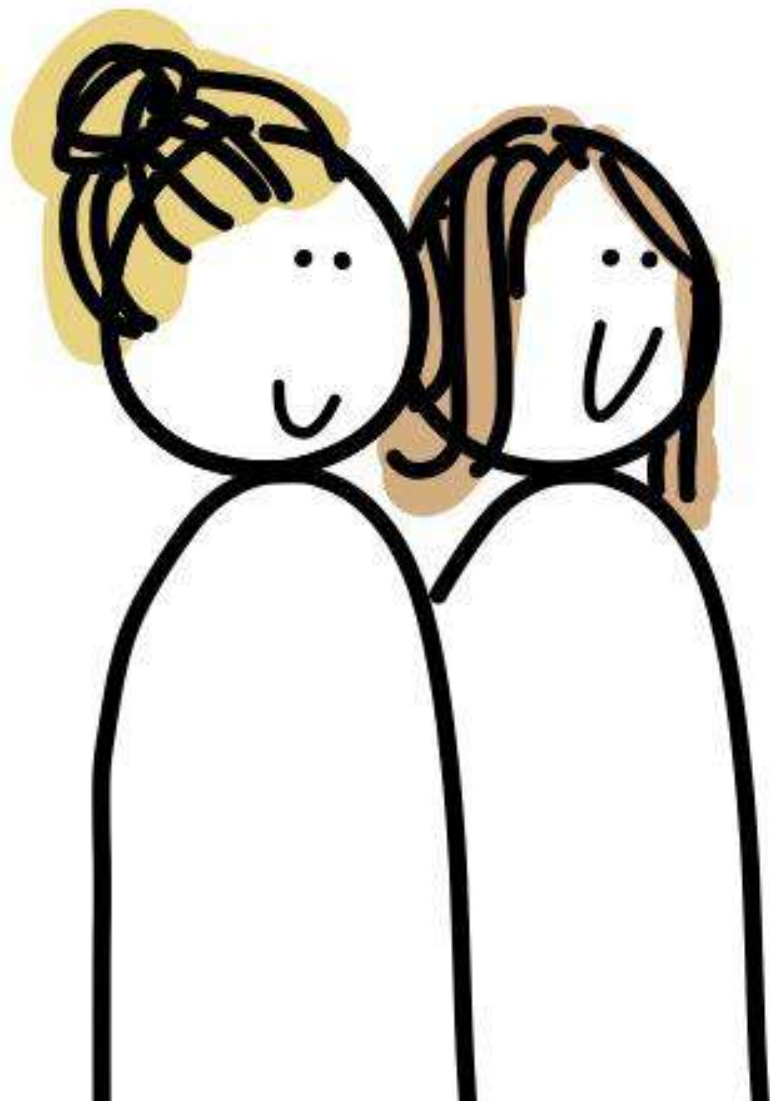
↓
1920 1940 1960 1980 2000 →

Mathematical

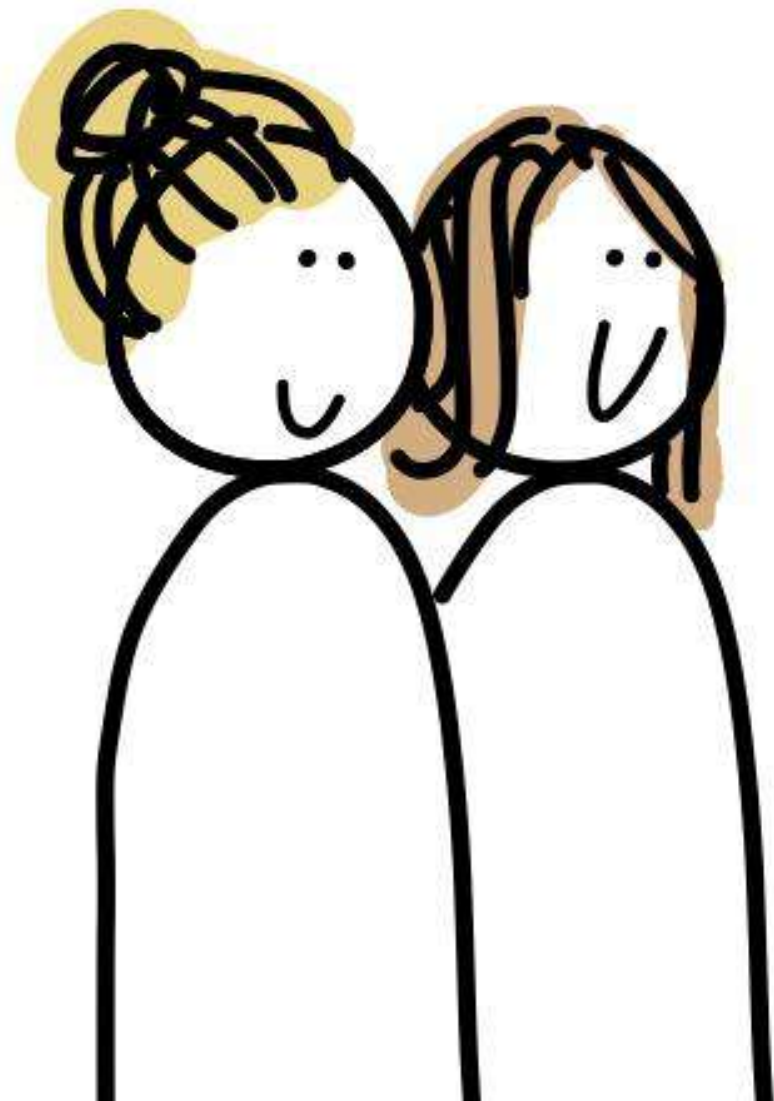


1920 1940 1960 1980 2000

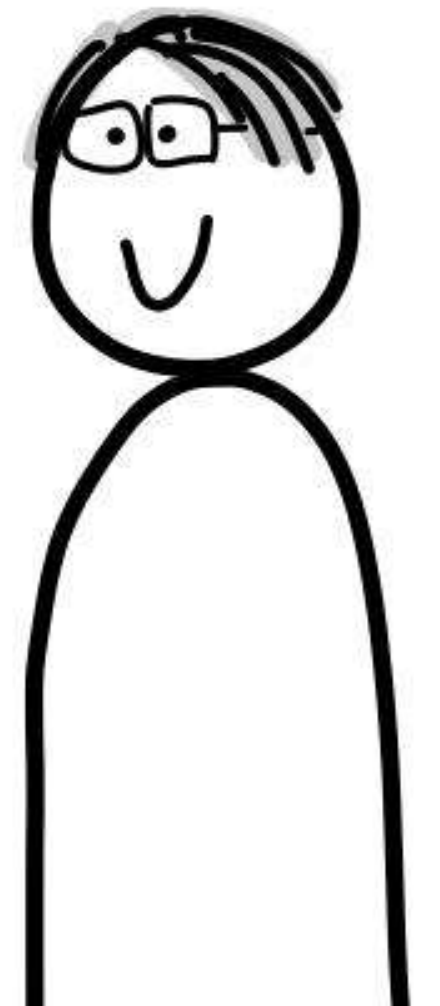
"Natural sciences have historically been defined by, and their credibility built upon, mainly attributes"



"Natural sciences have historically been defined by, and their credibility built upon, manly attributes"

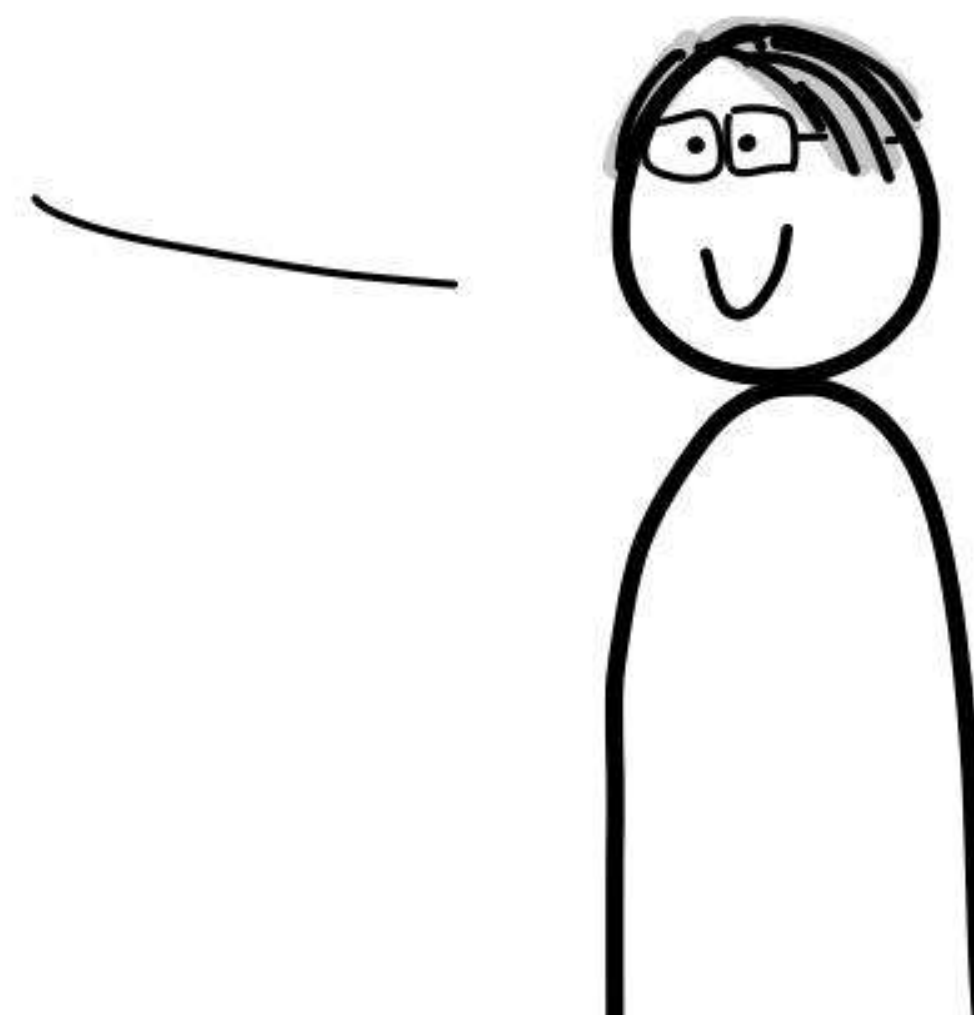
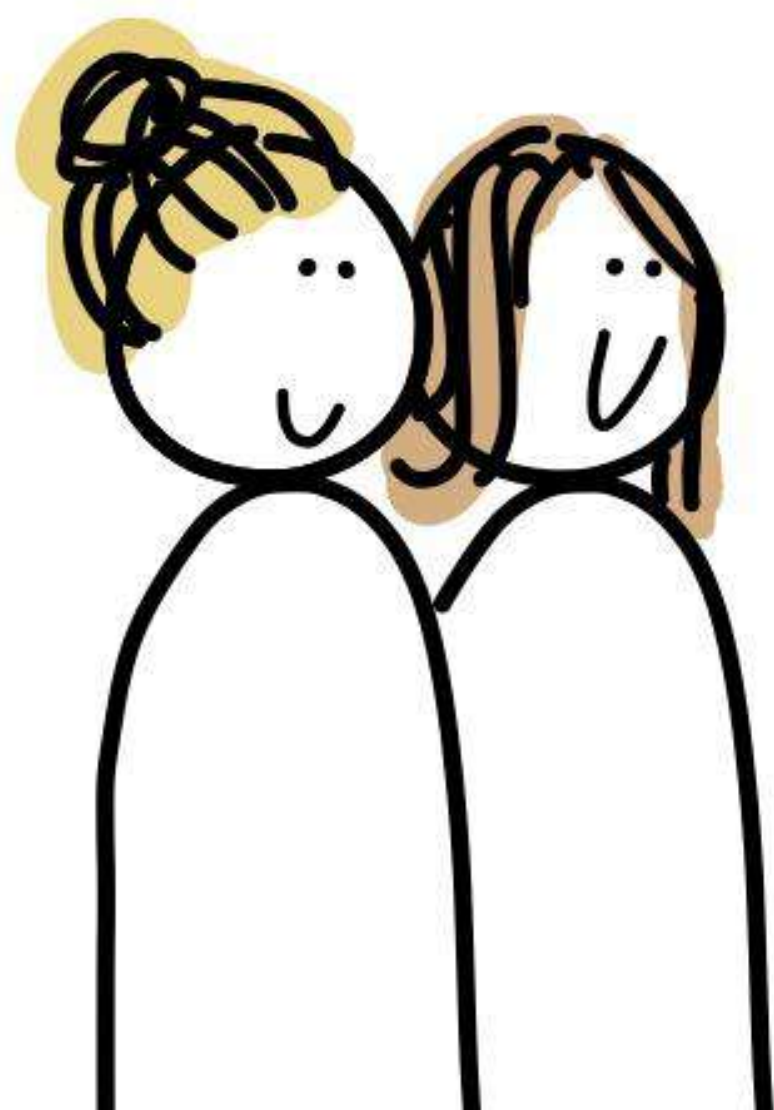


Dijkstra

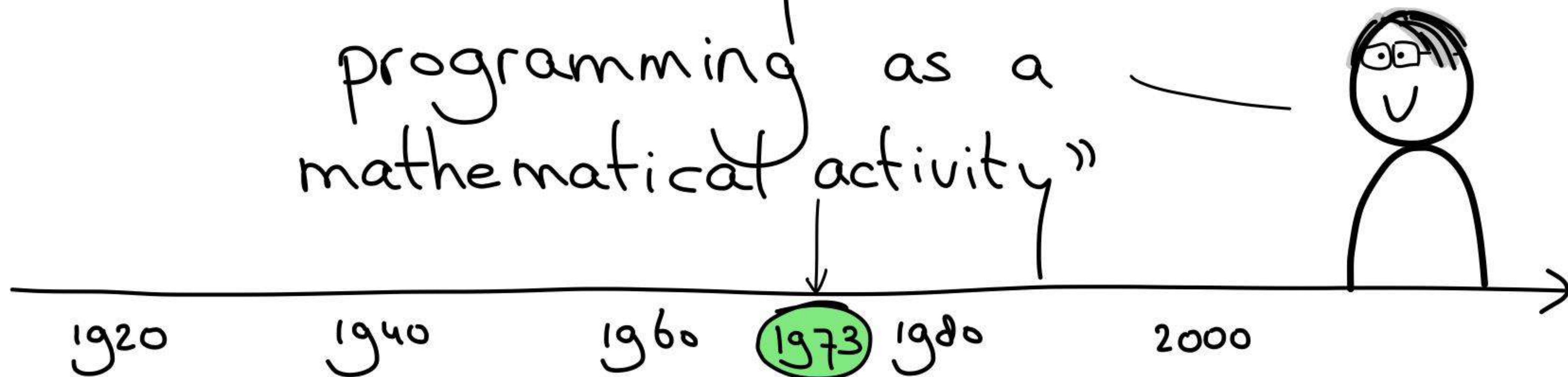


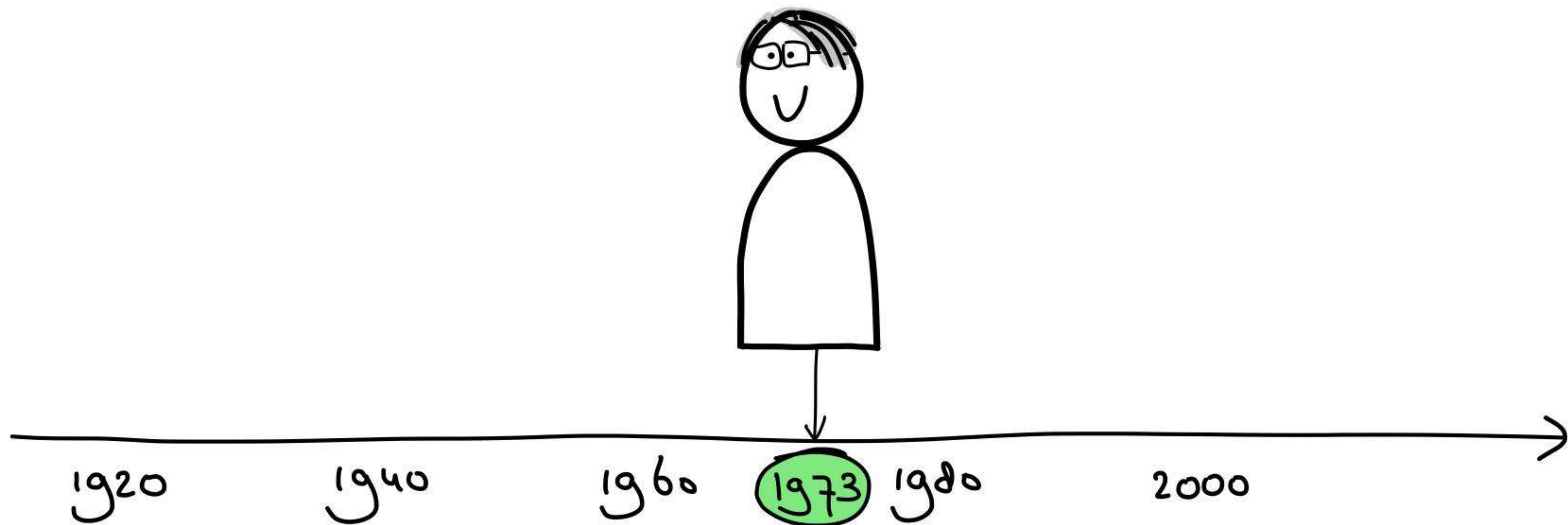
"Natural sciences have historically been defined by, and their credibility built upon, mainly attributes"

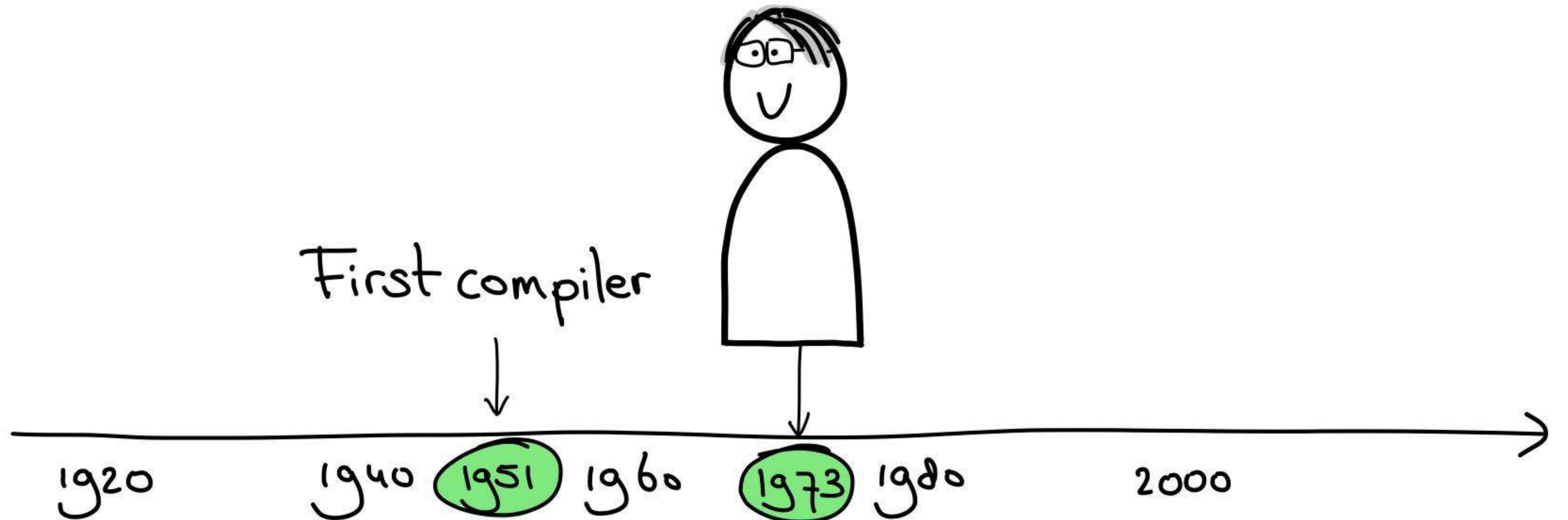
"I intend to present programming as a mathematical activity"

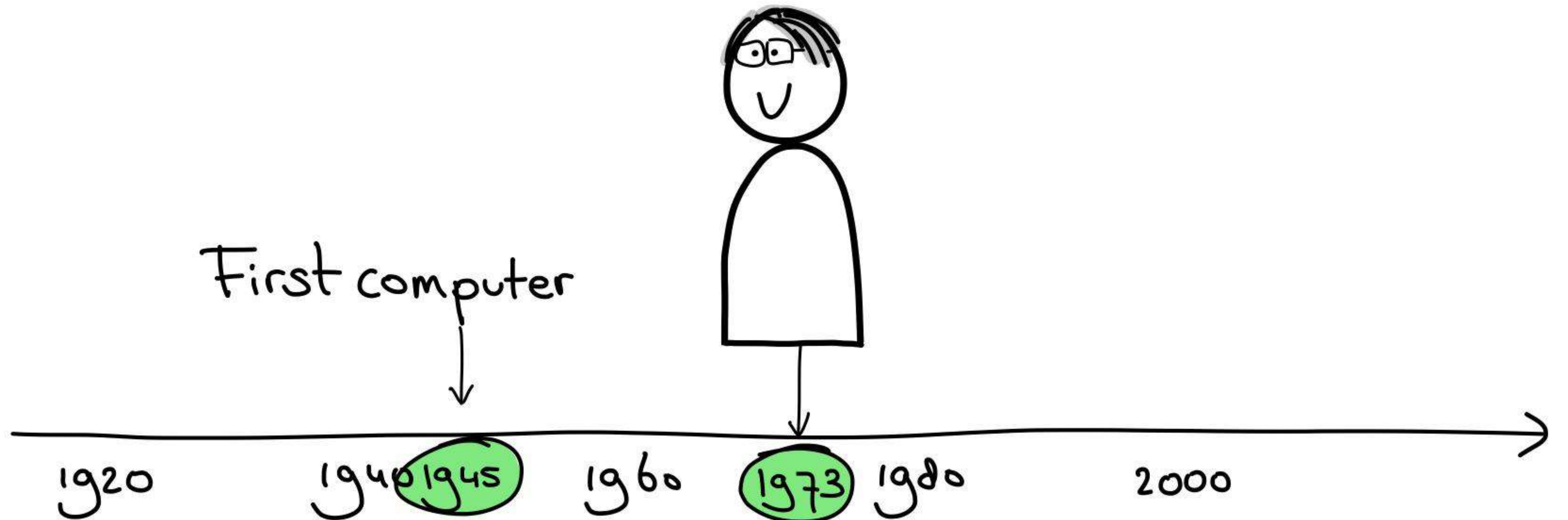


"I intend to present programming as a mathematical activity"









First computer

1920

1940

1945

1960

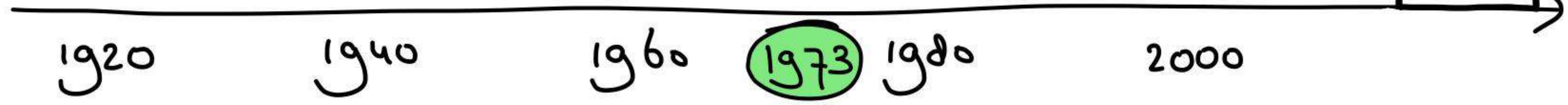
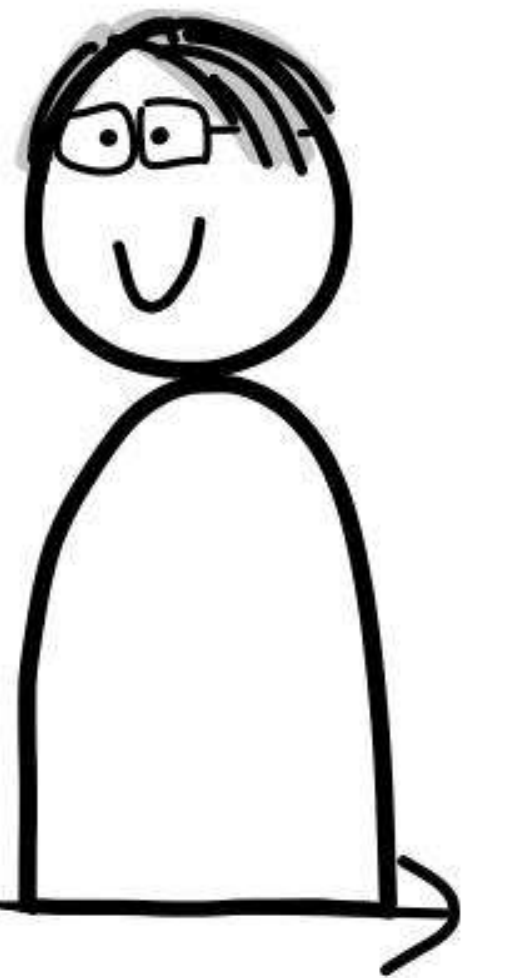
1973

1980

2000

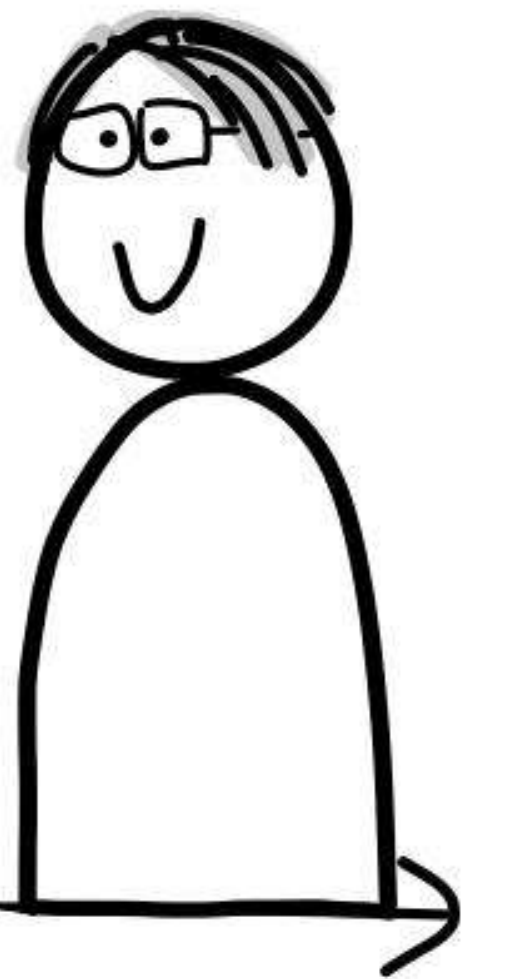
"Natural sciences have historically been defined by, and their credibility built upon, manly attributes"

"an inventive and effective mathematician... find challenge and bring his abilities to bear"

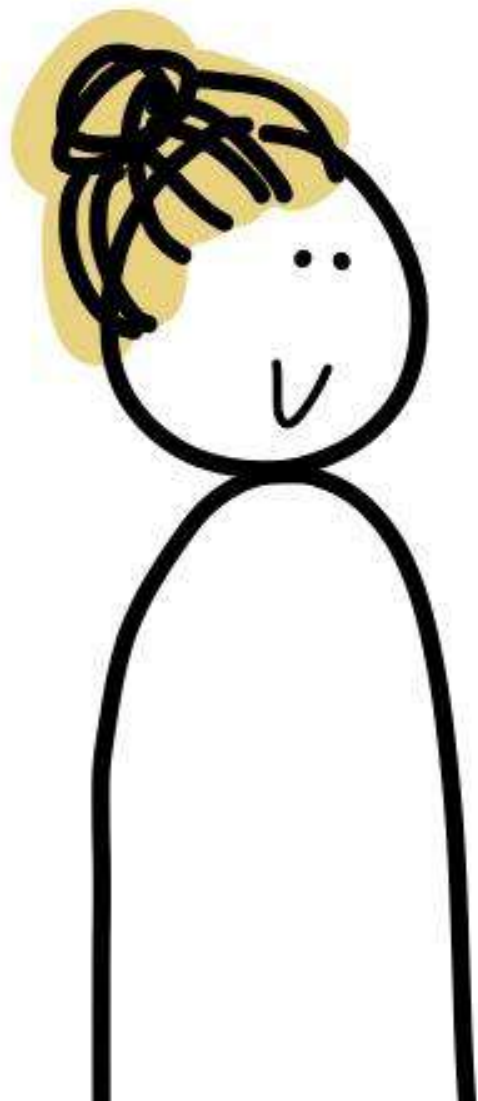
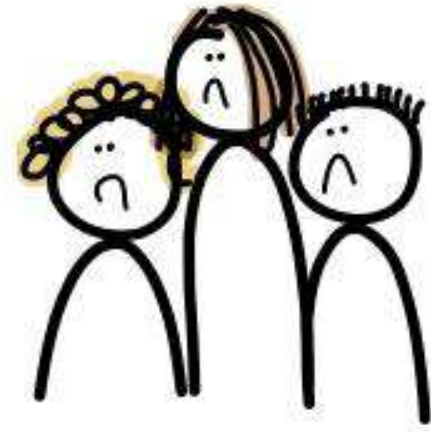
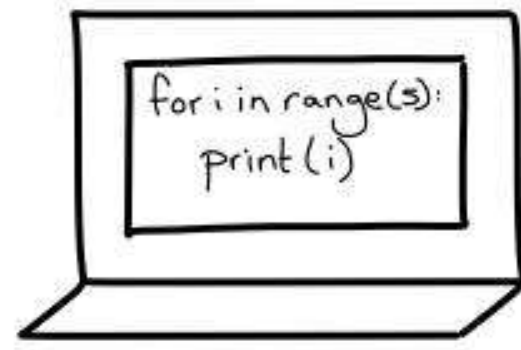
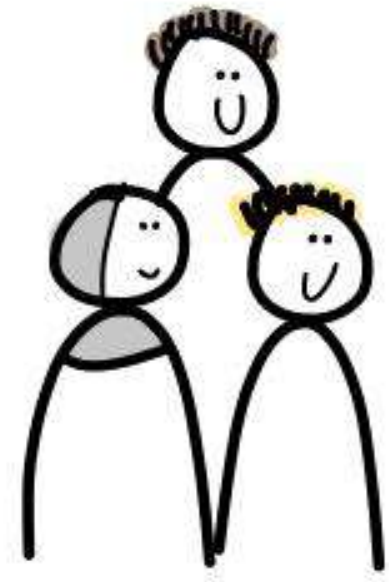


"Natural sciences have historically been defined by, and their credibility built upon, manly attributes"

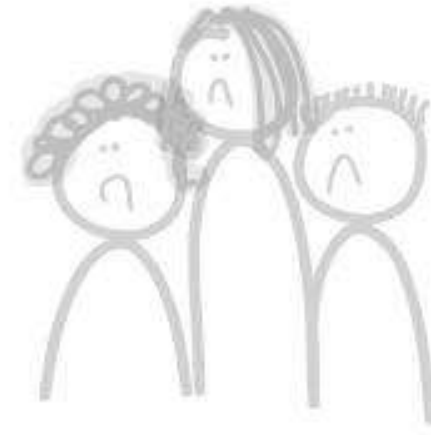
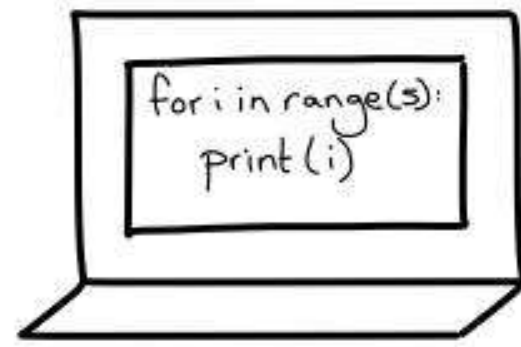
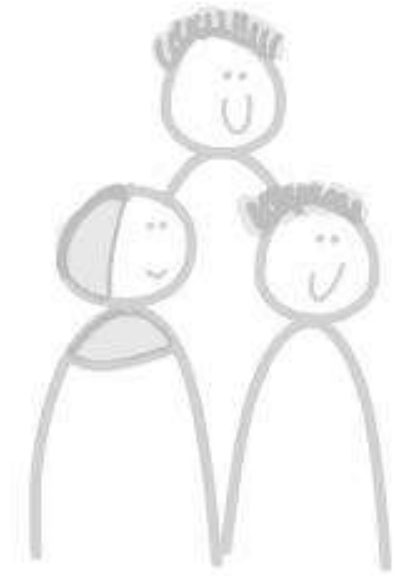
"an inventive and effective mathematician... find challenge and bring his abilities to bear"



Reflected in what we study



Reflected in what we study



Benchmarking

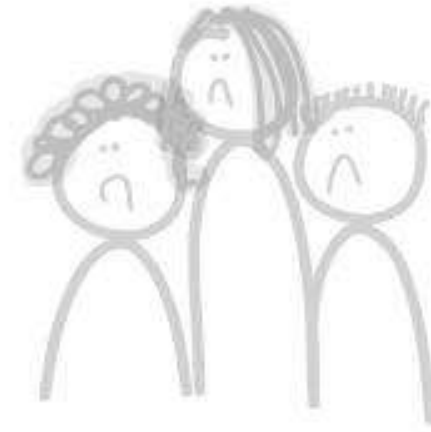
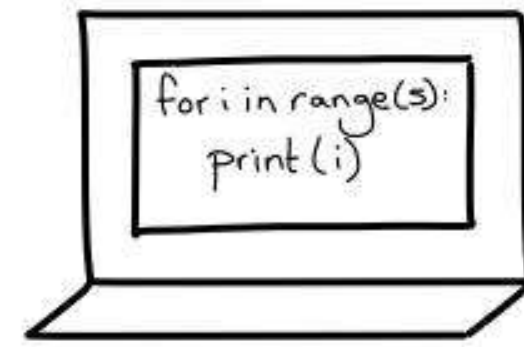
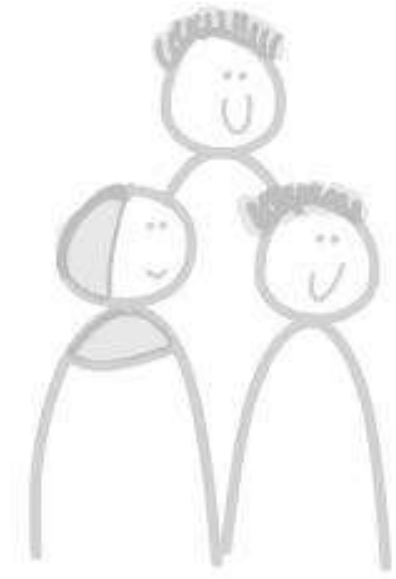


Proving

Building



Reflected in what we study



Observing

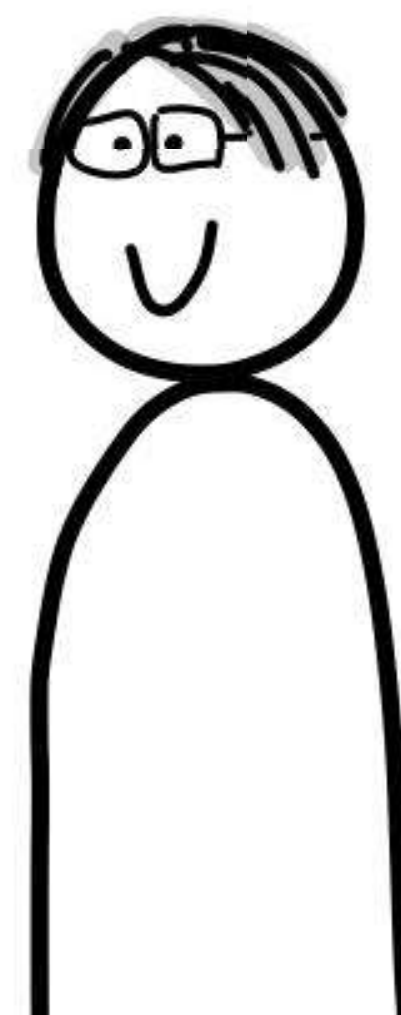


Interviewing

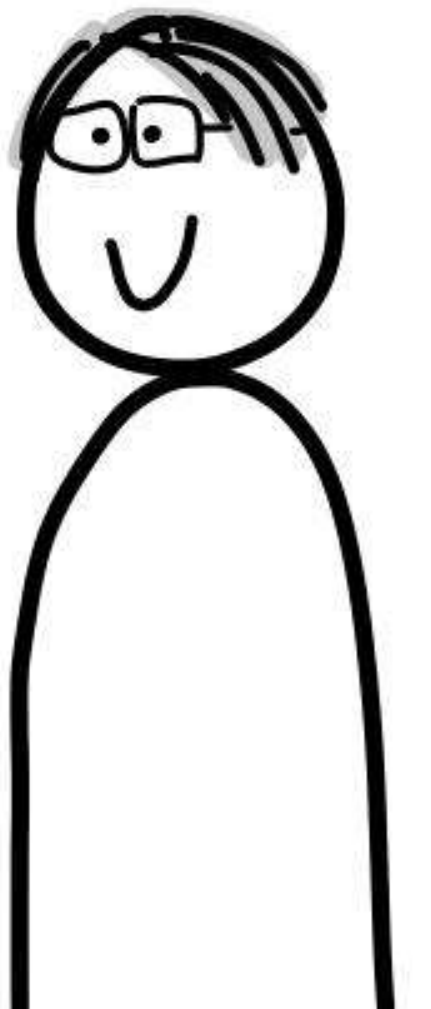




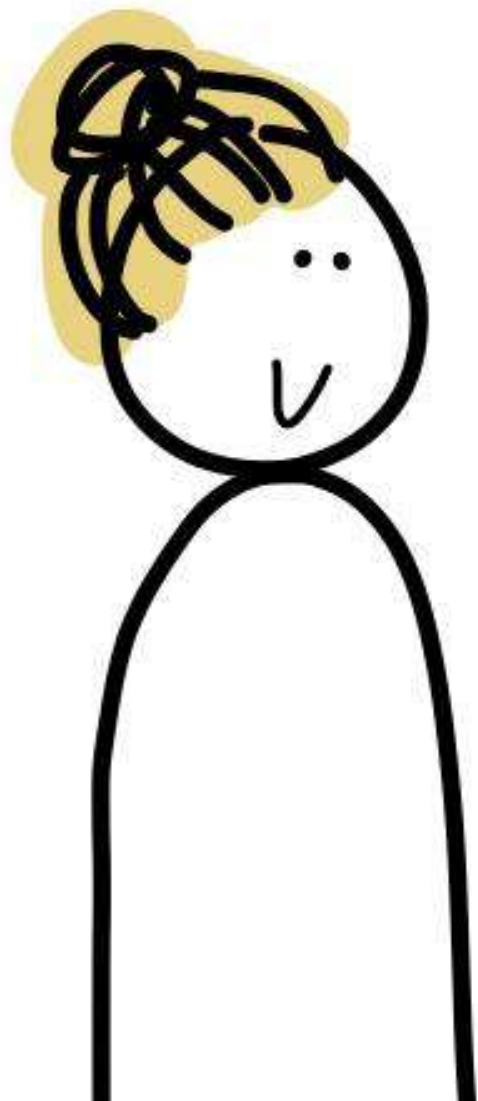
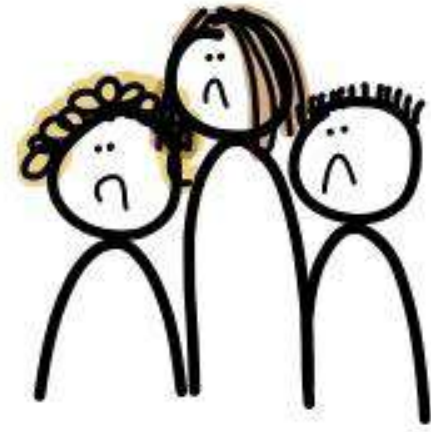
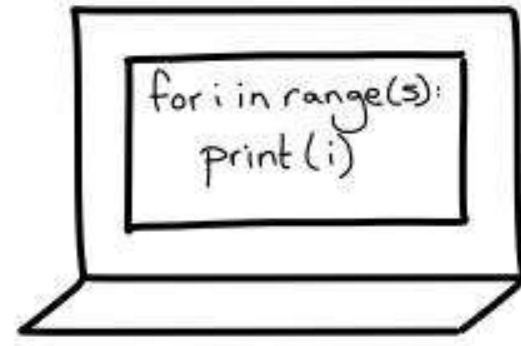
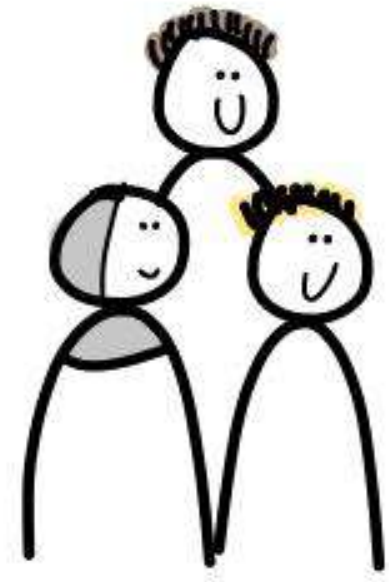
Dijkstra

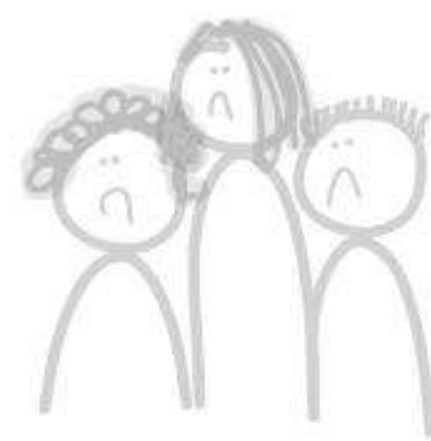
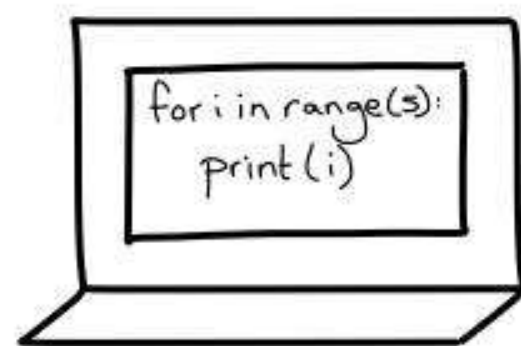
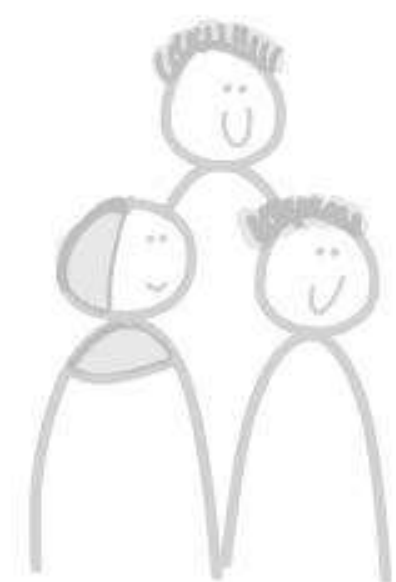


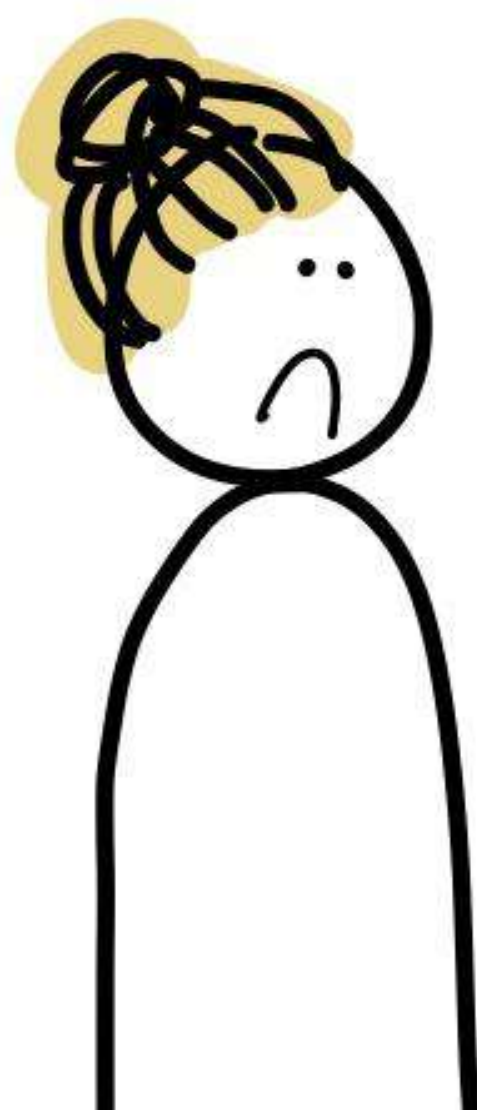
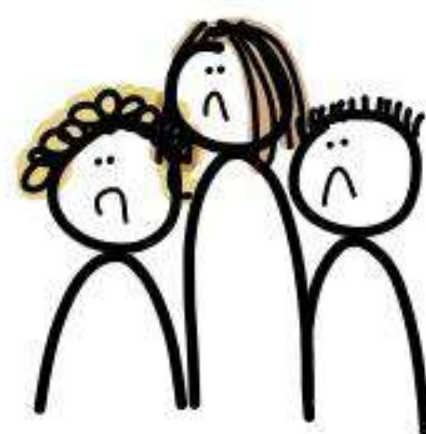
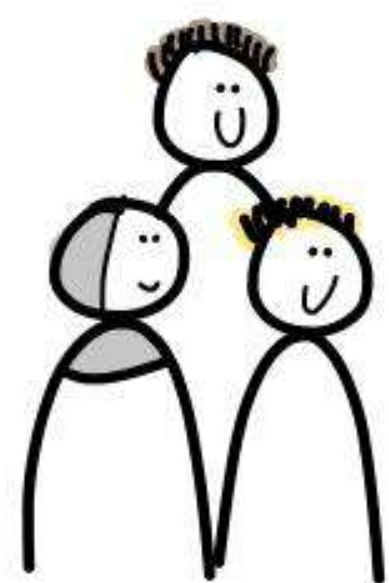
"By claiming they can contribute to software engineering social scientists make themselves even more ridiculous."

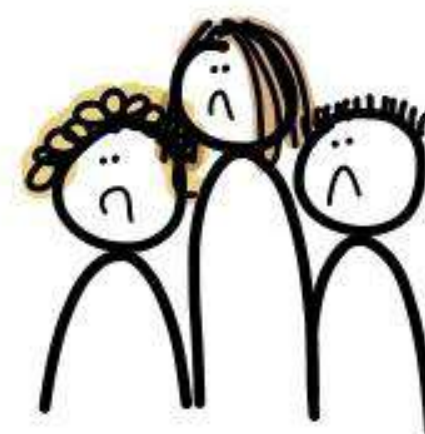
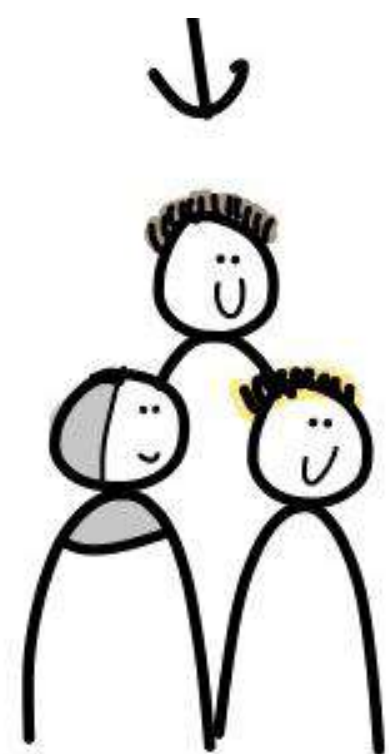
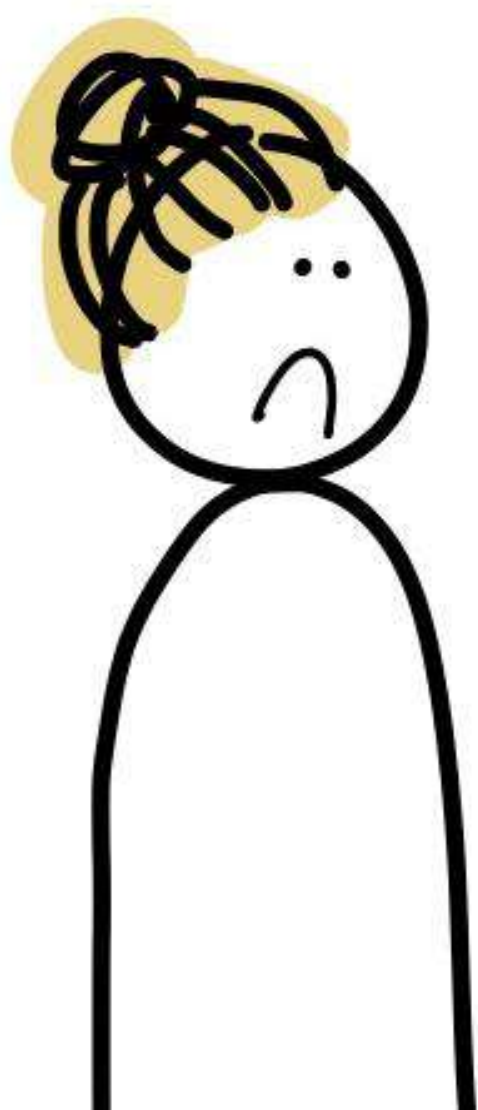


Reflected in what we study

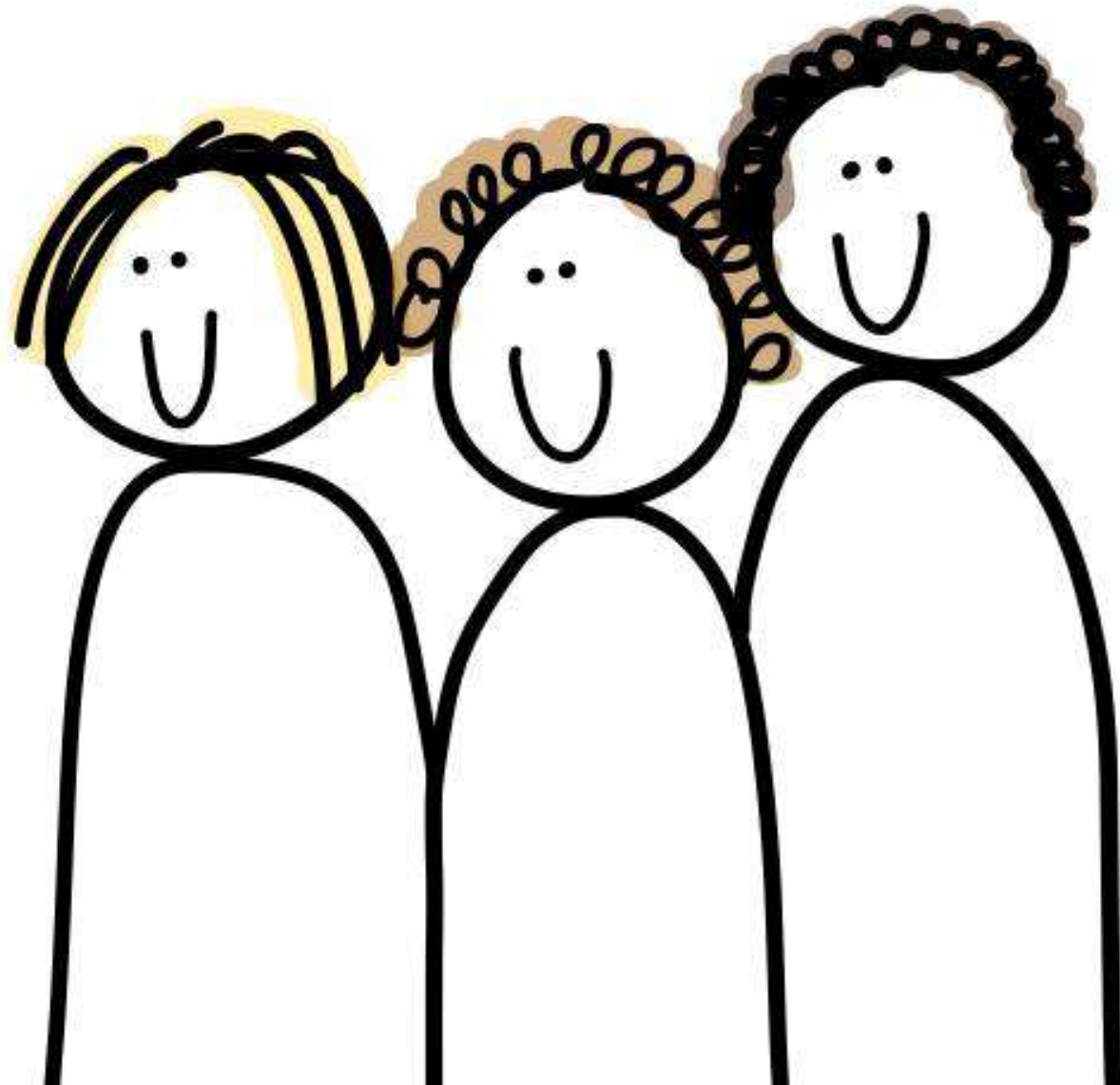










Now what?



A Case for Feminism in Programming Language Design

Authors:  [Feliene 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](#)

 Check for updates

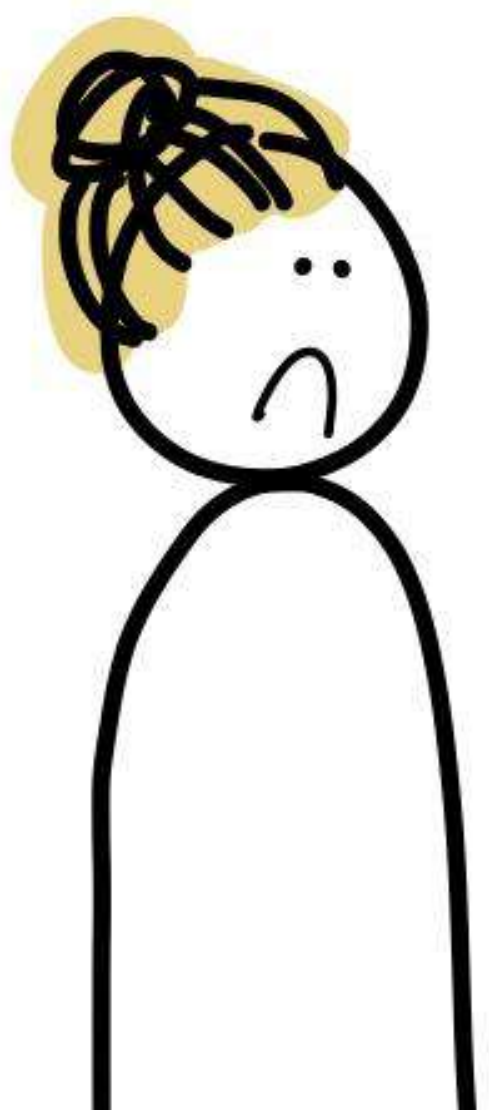
 2  8,337

    PDF  eReader

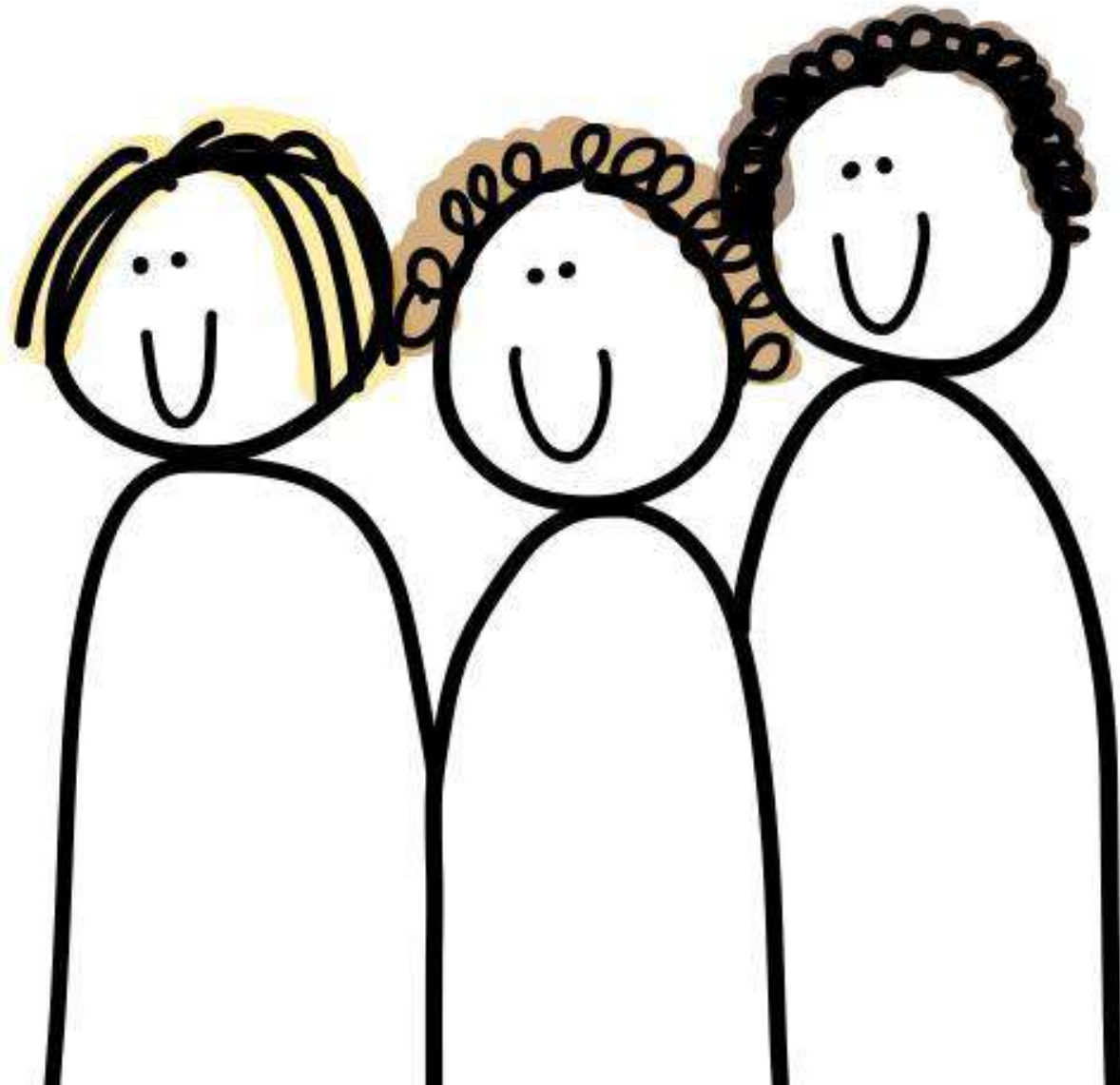
Abstract

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.

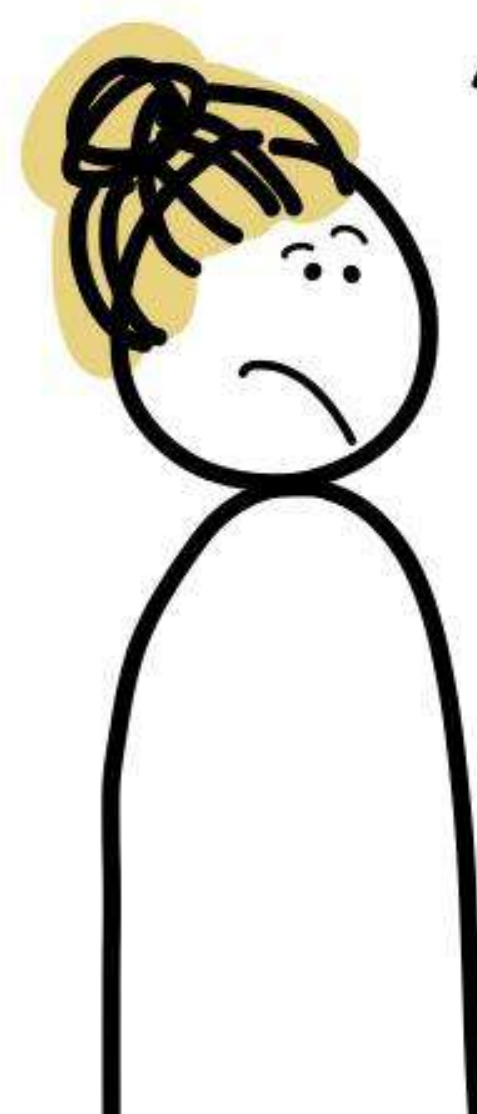
    133    



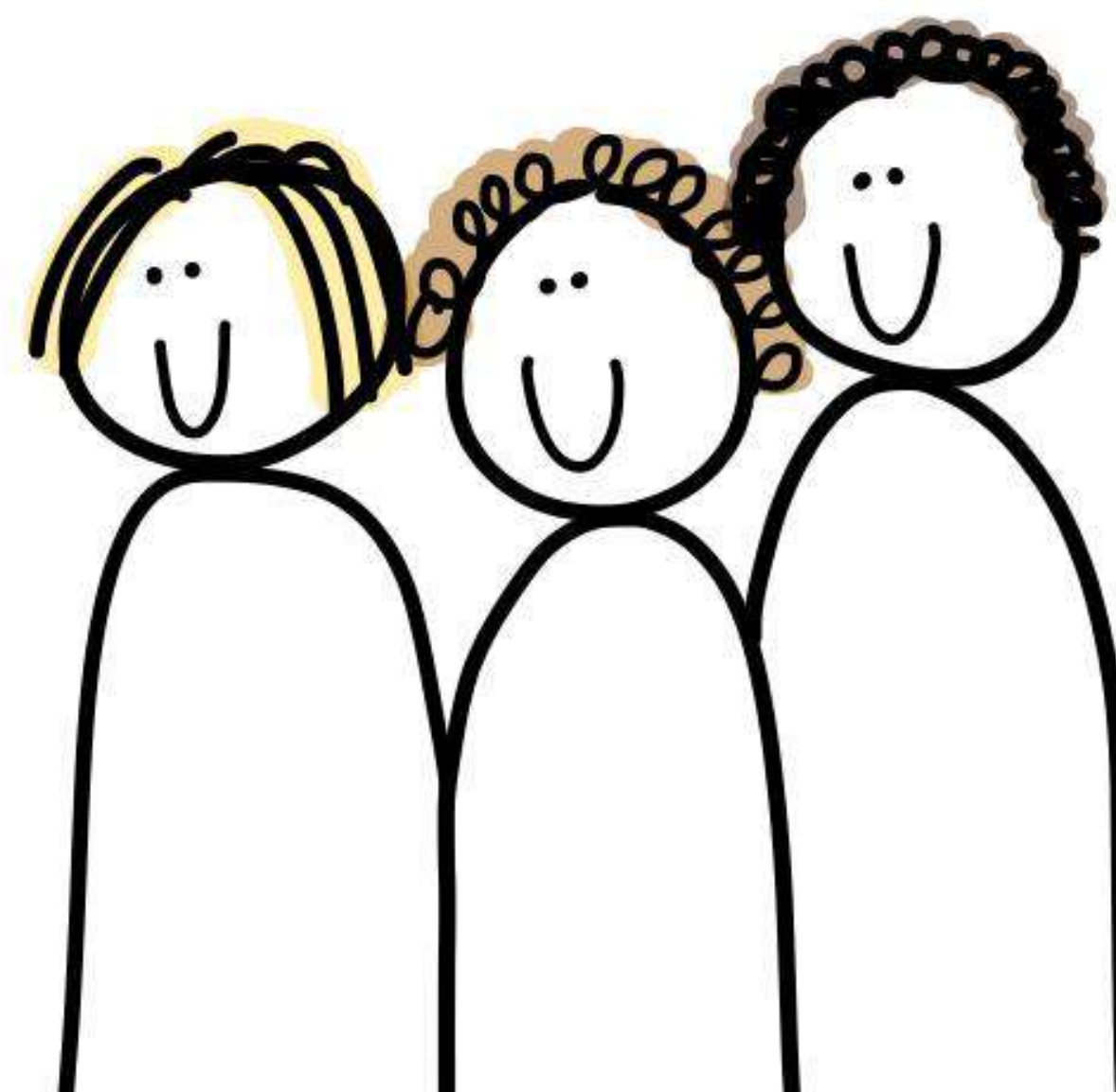
Now what?

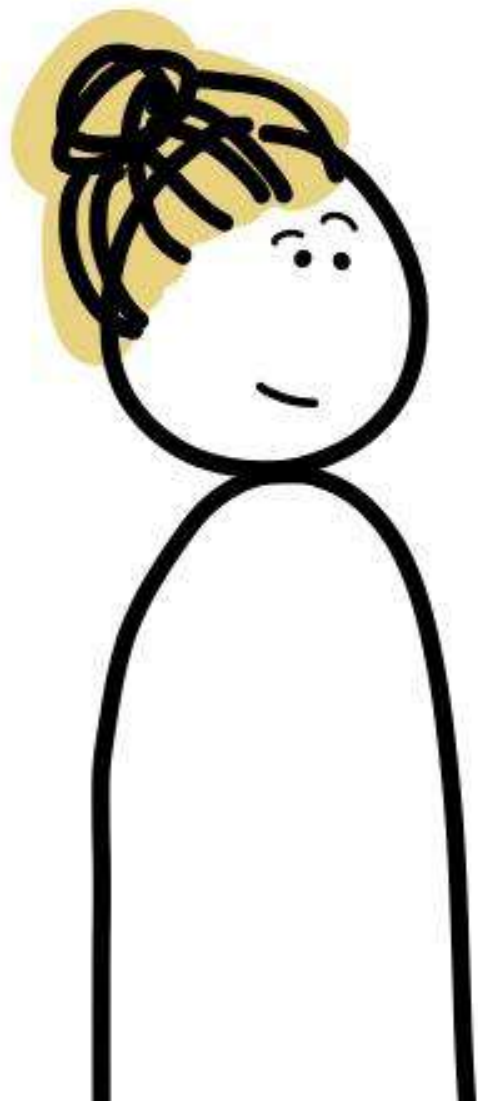
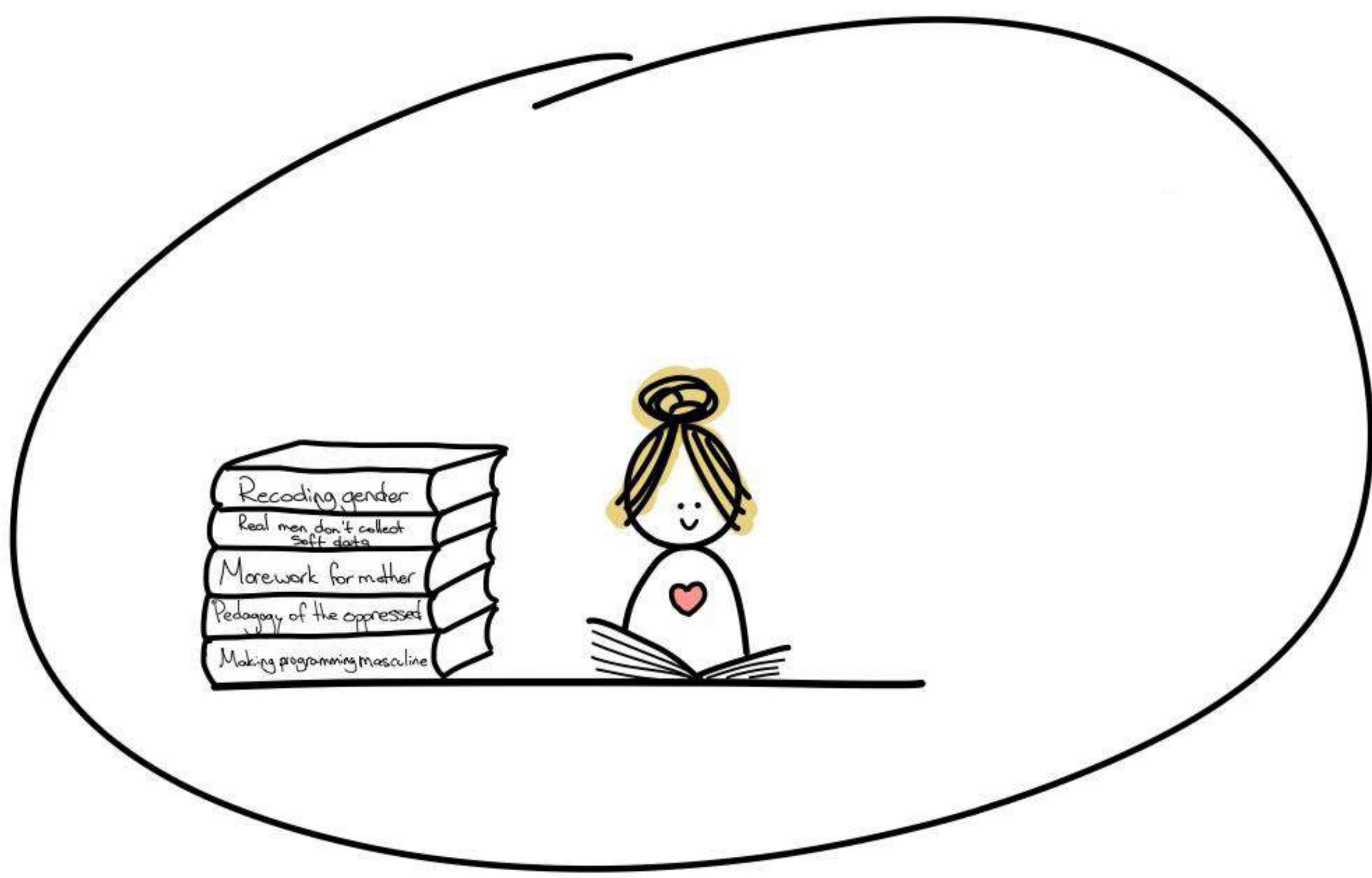


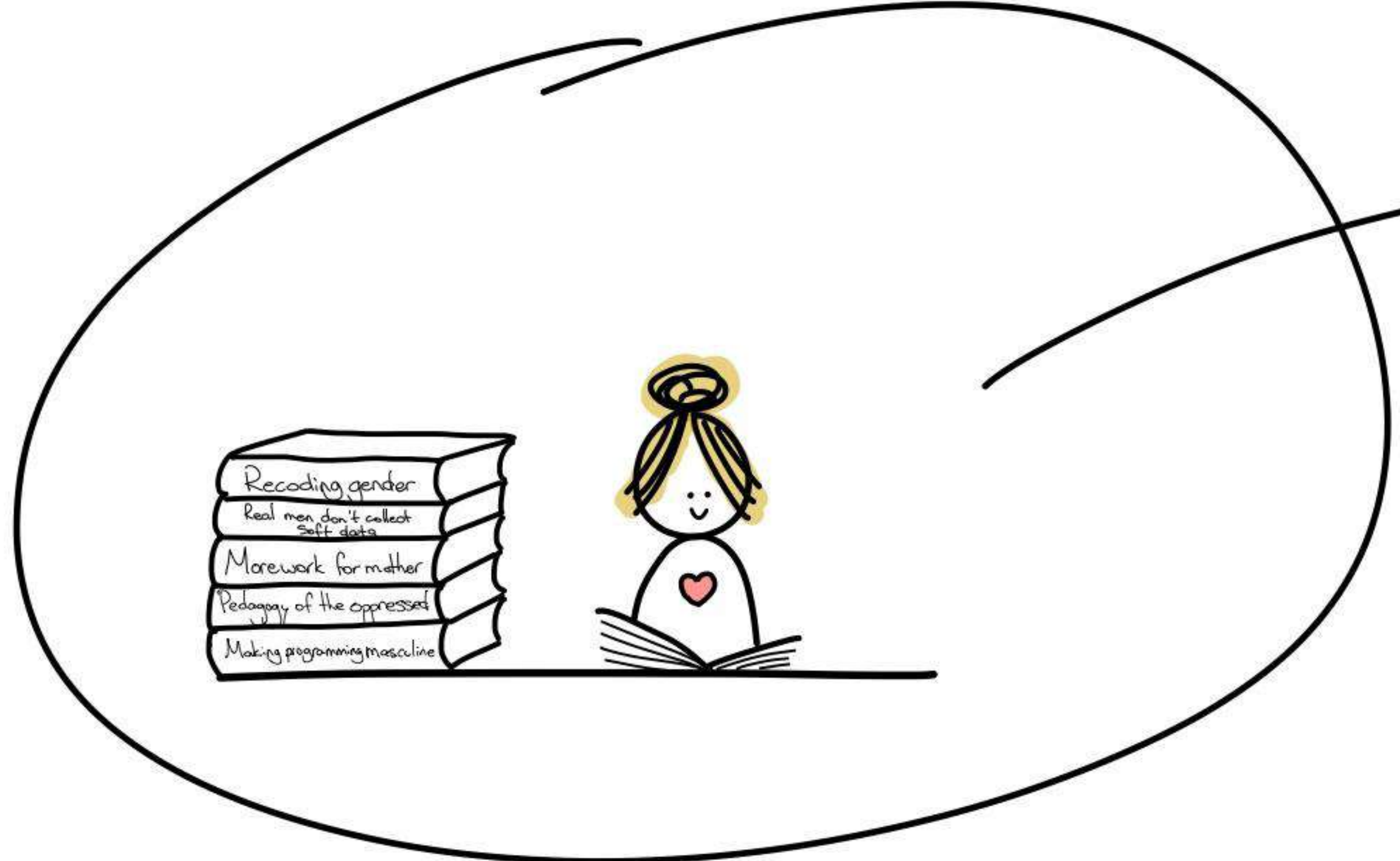
I don't know!



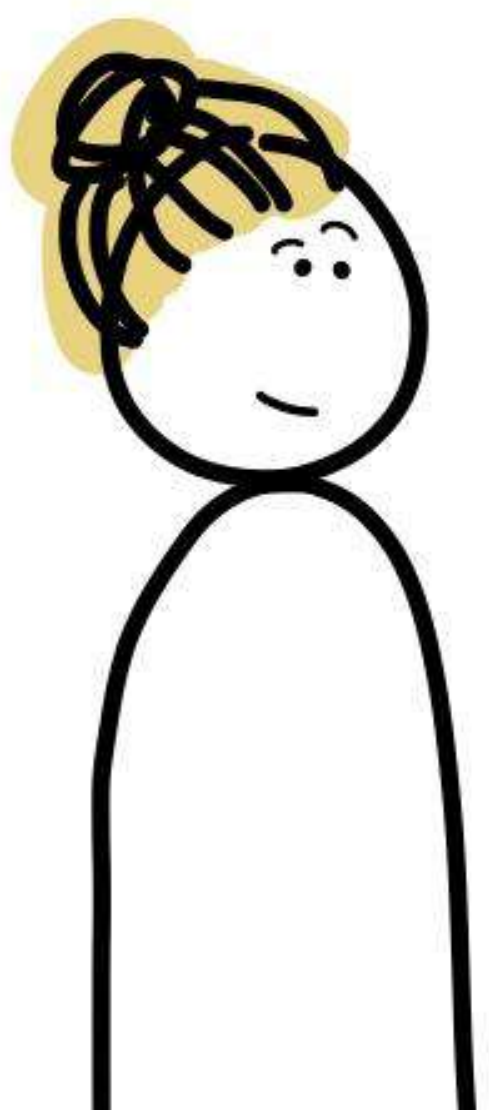
Now what?

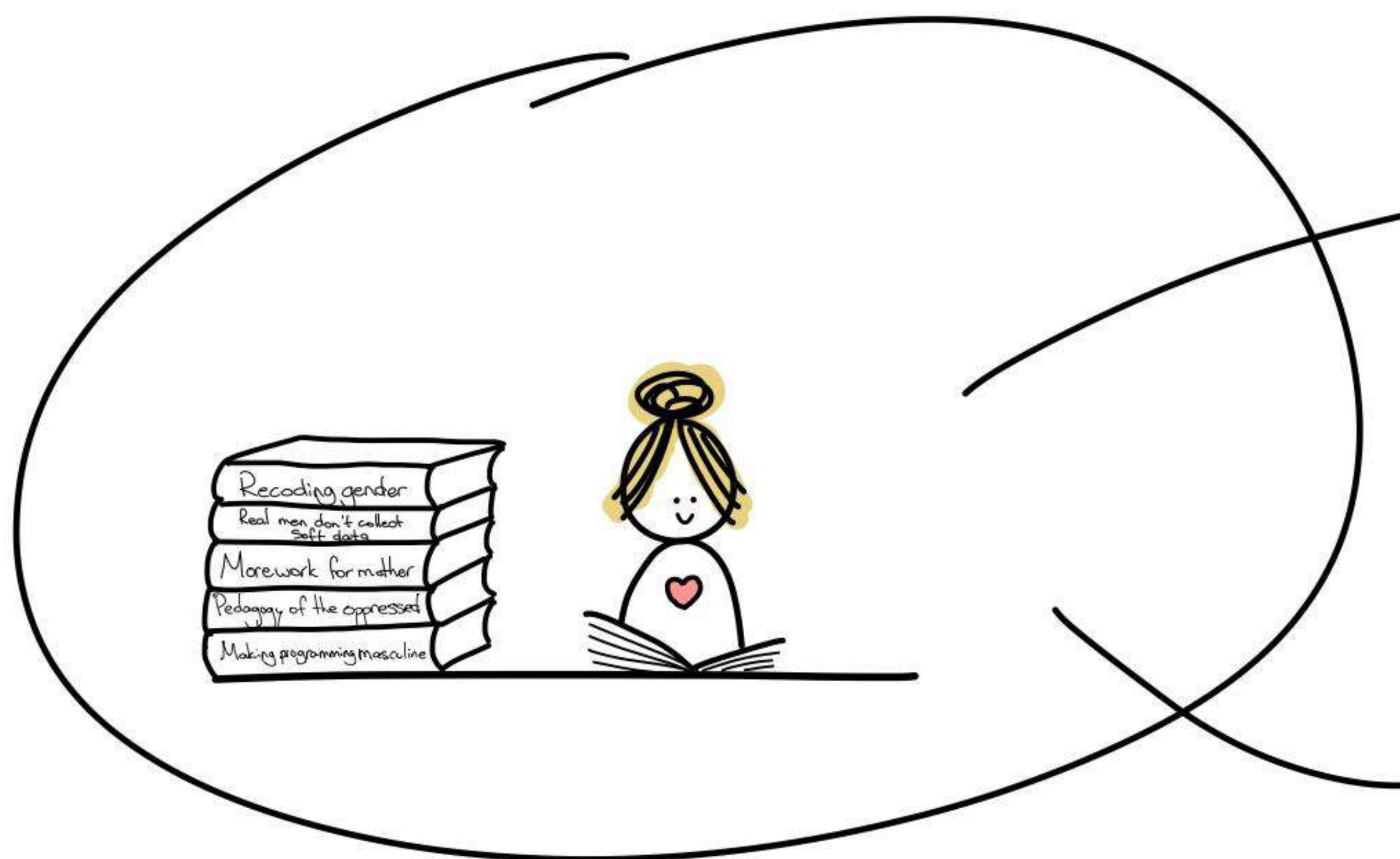






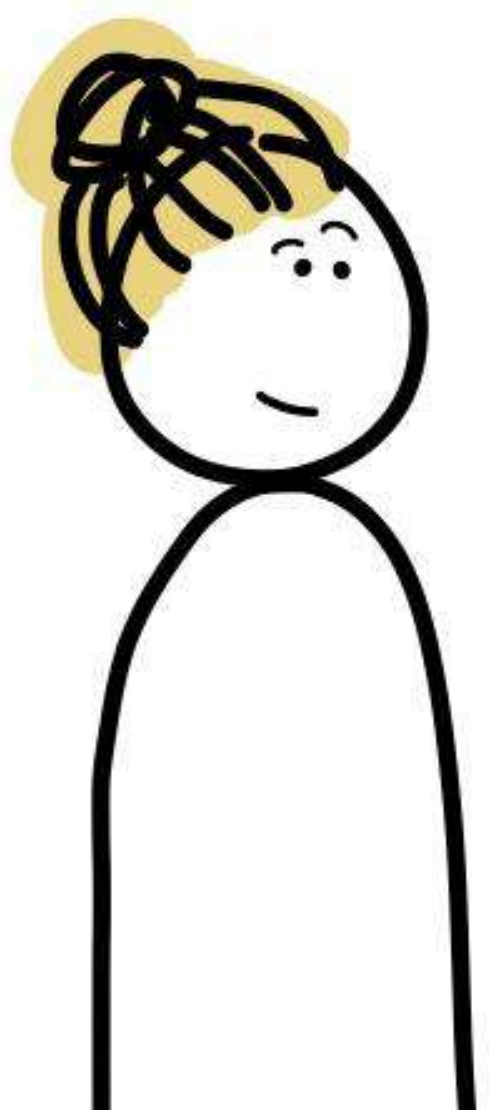
"Women can be coders or female but not both"

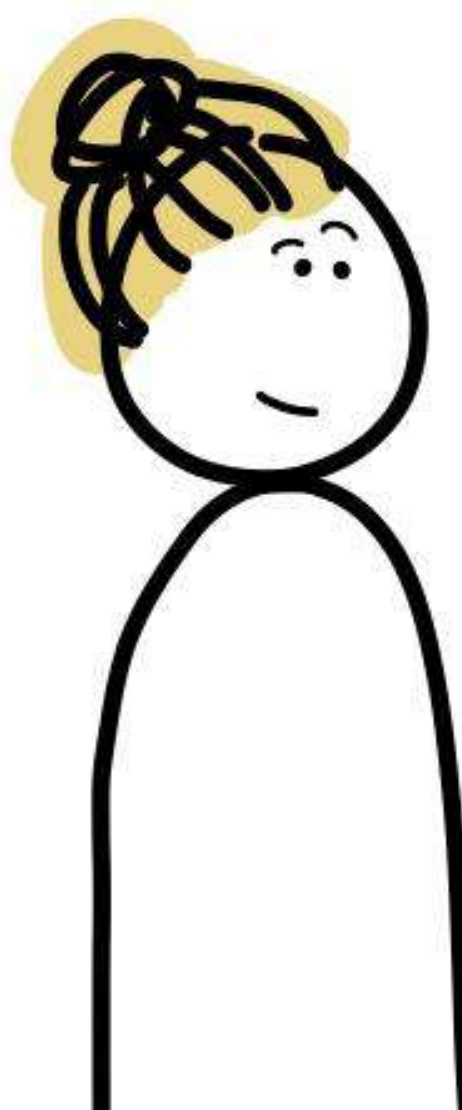
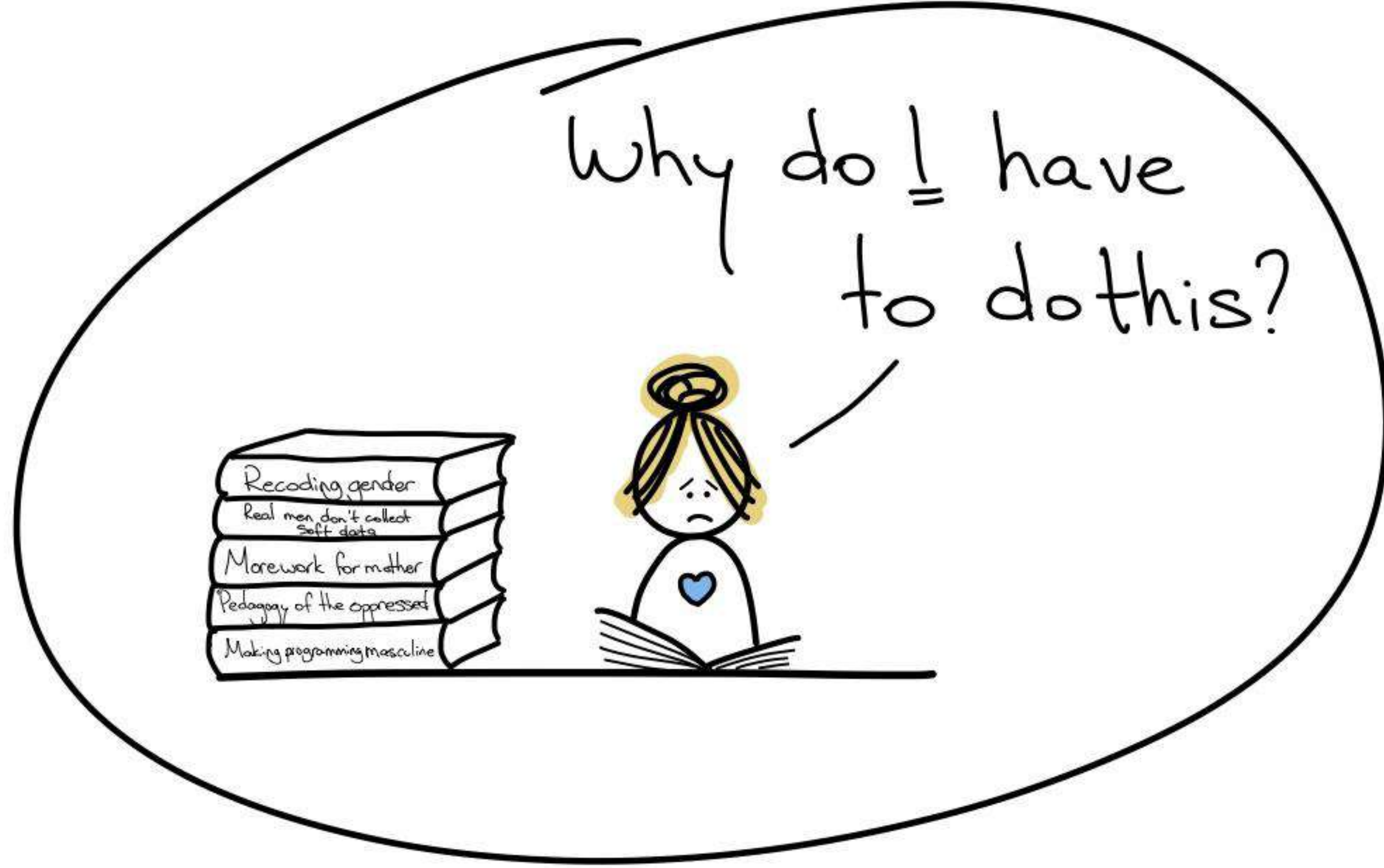


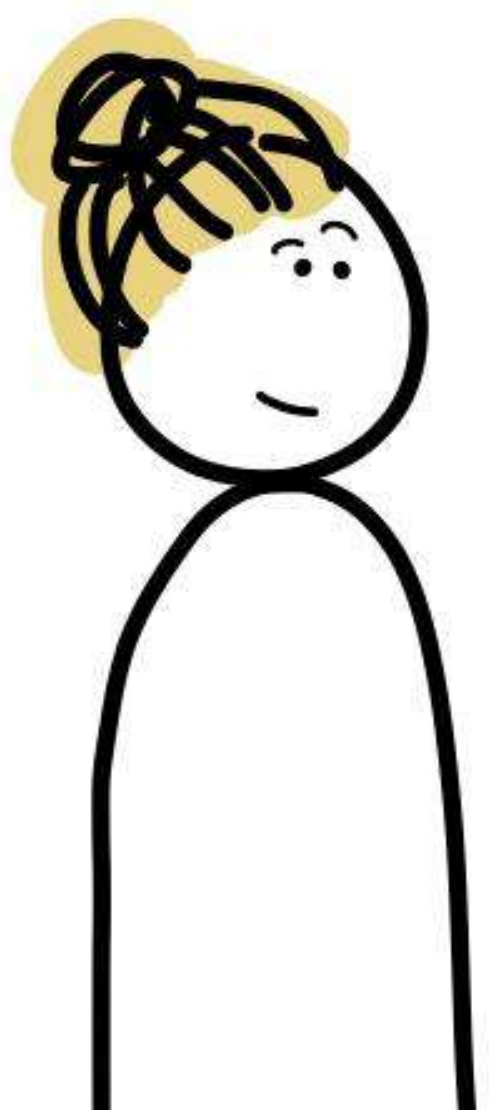
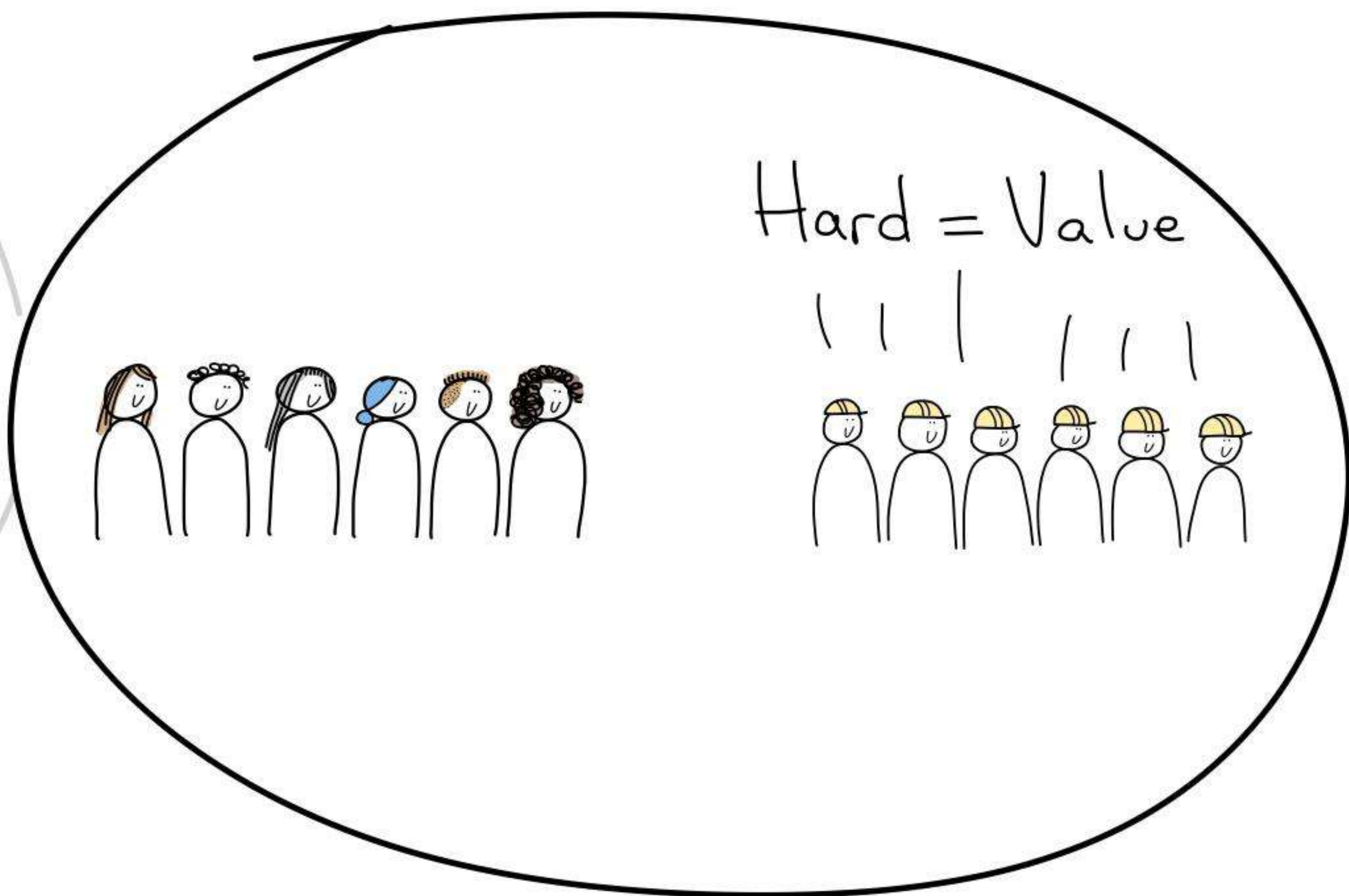
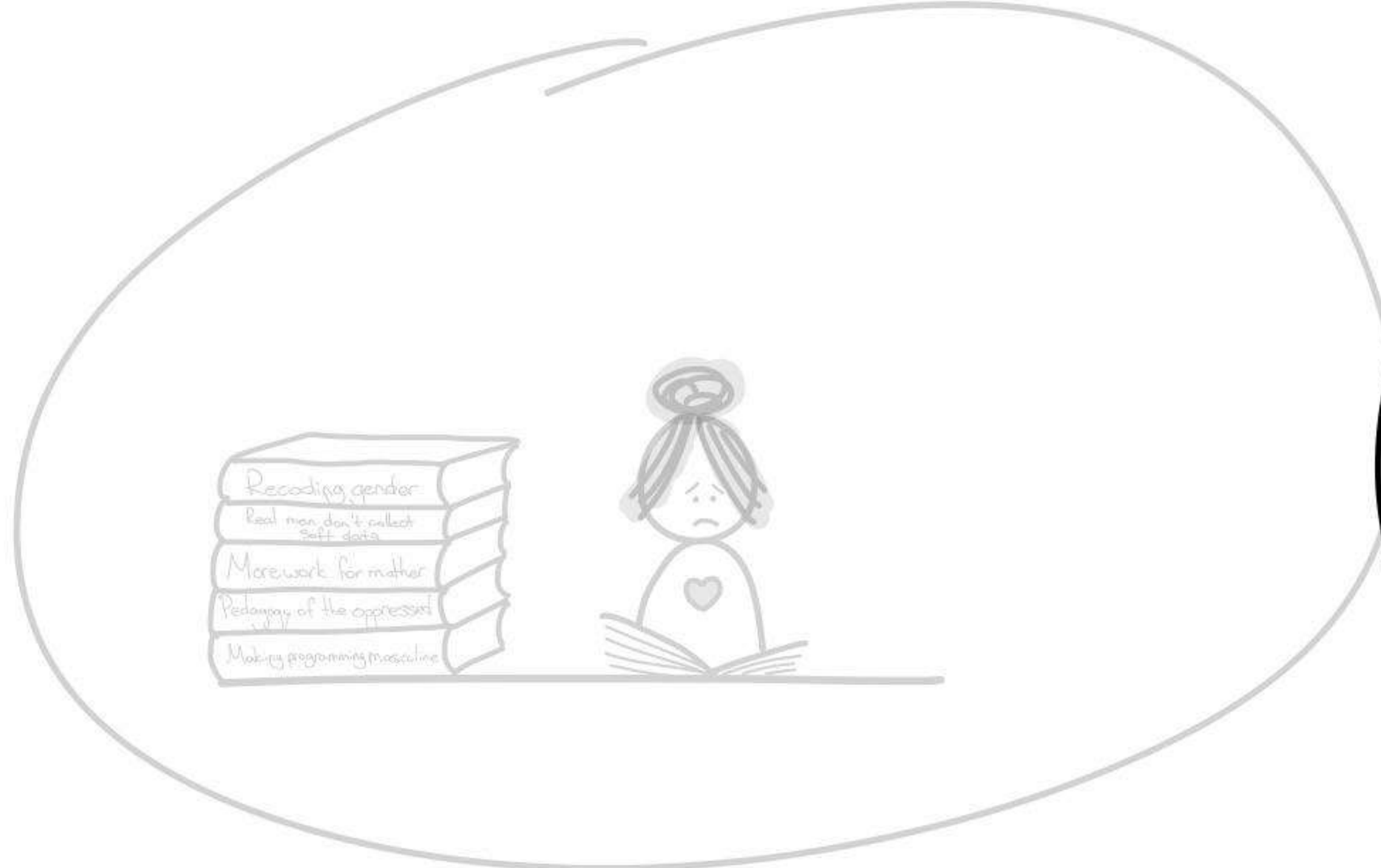


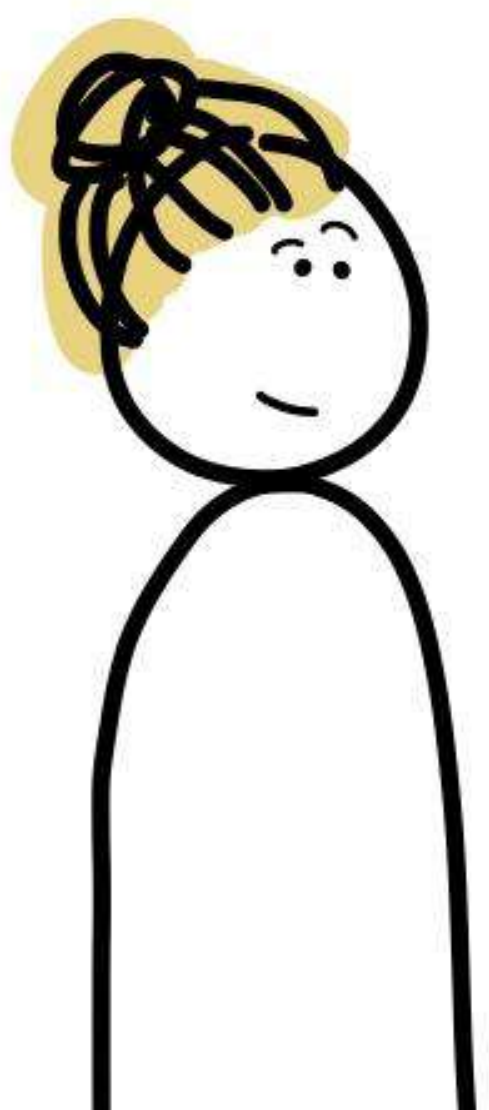
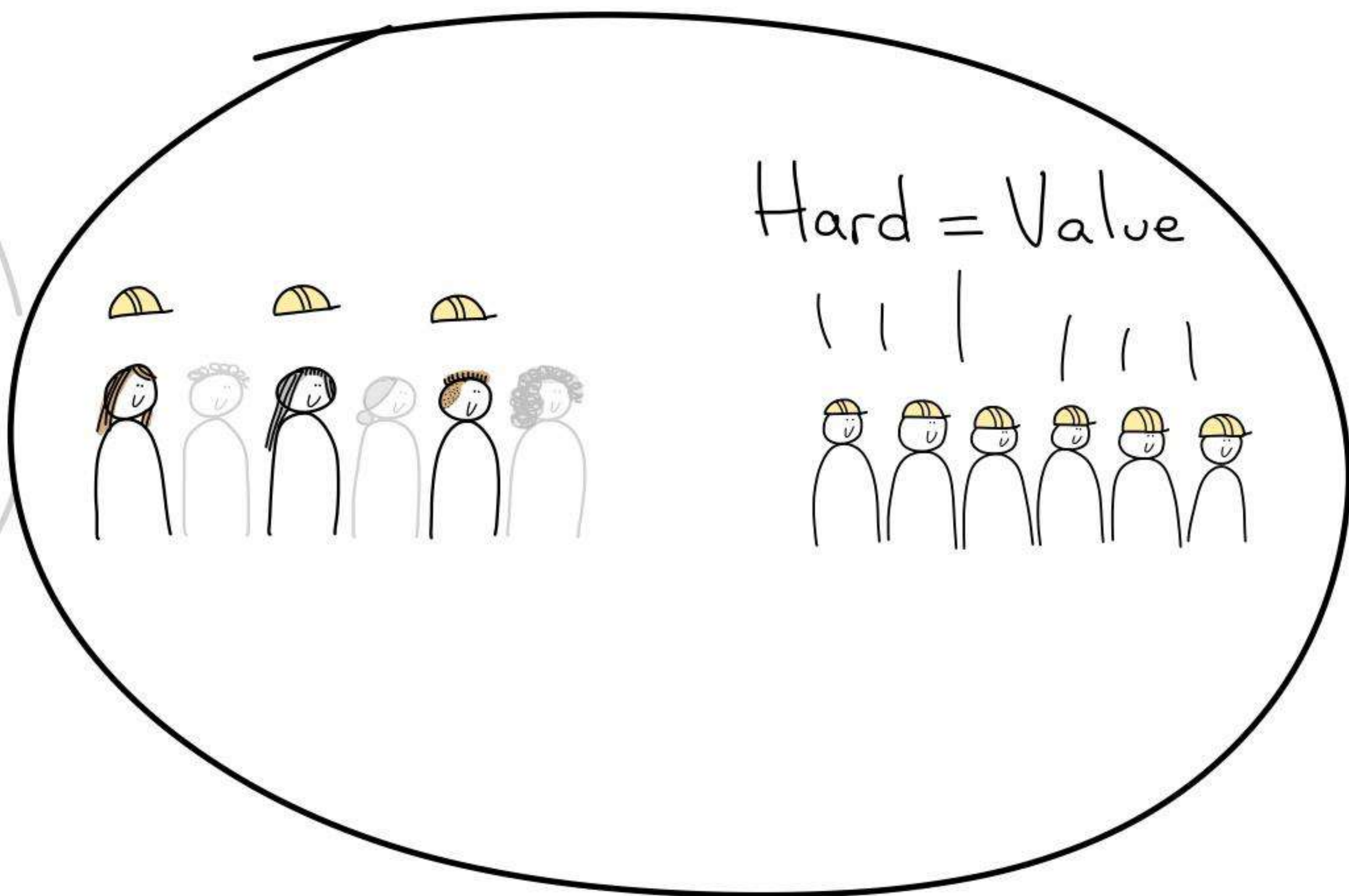
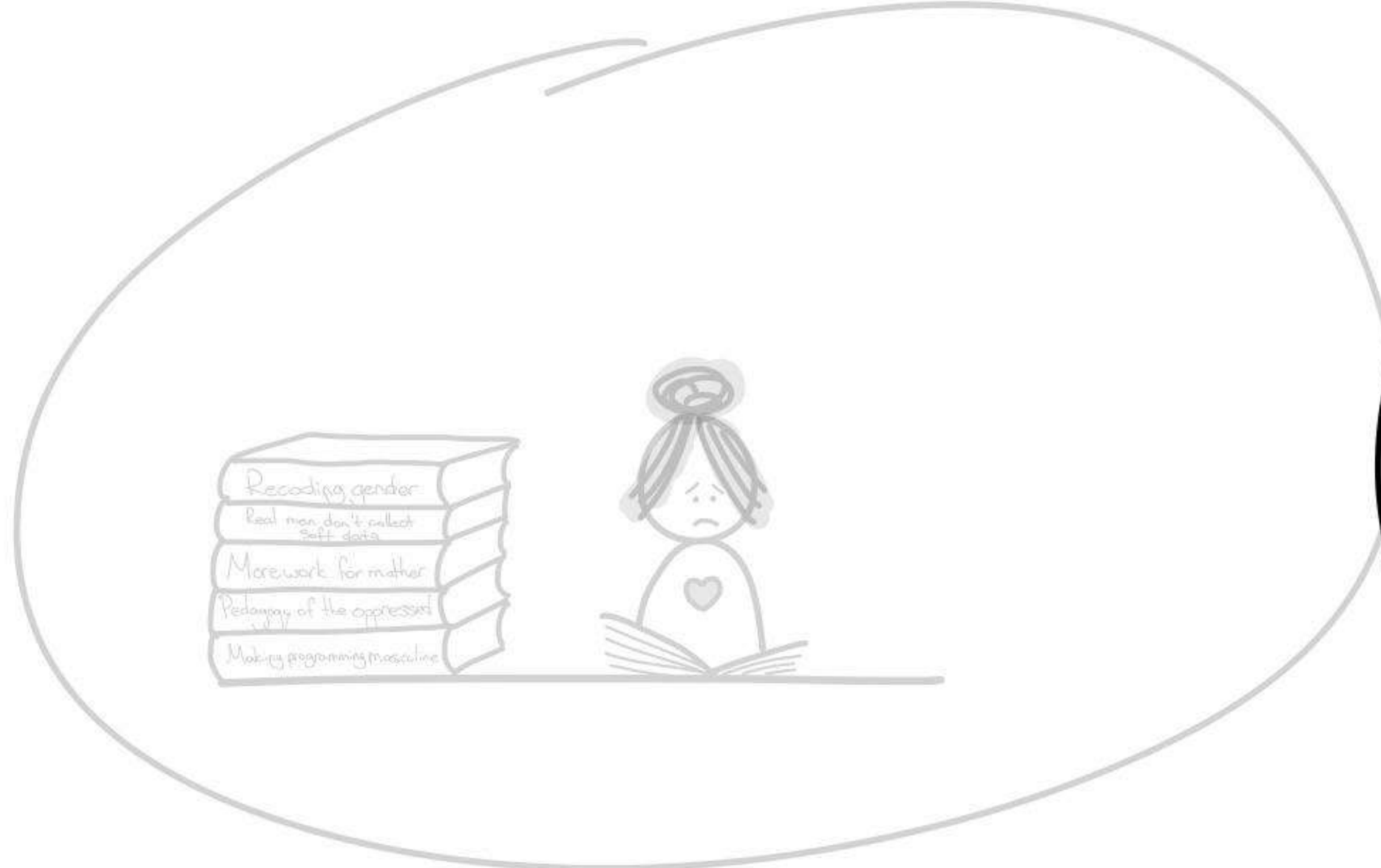
"Women can be coders or female but not both"

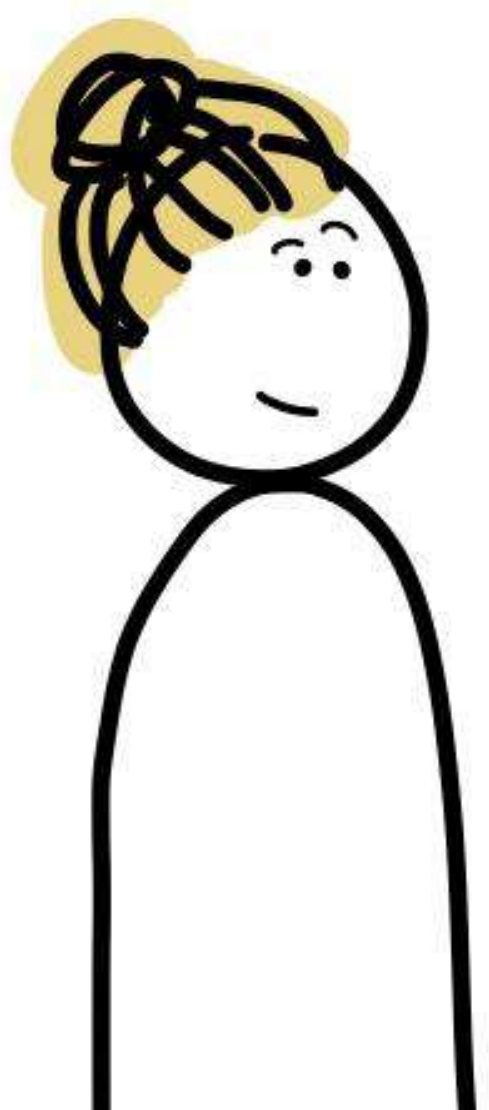
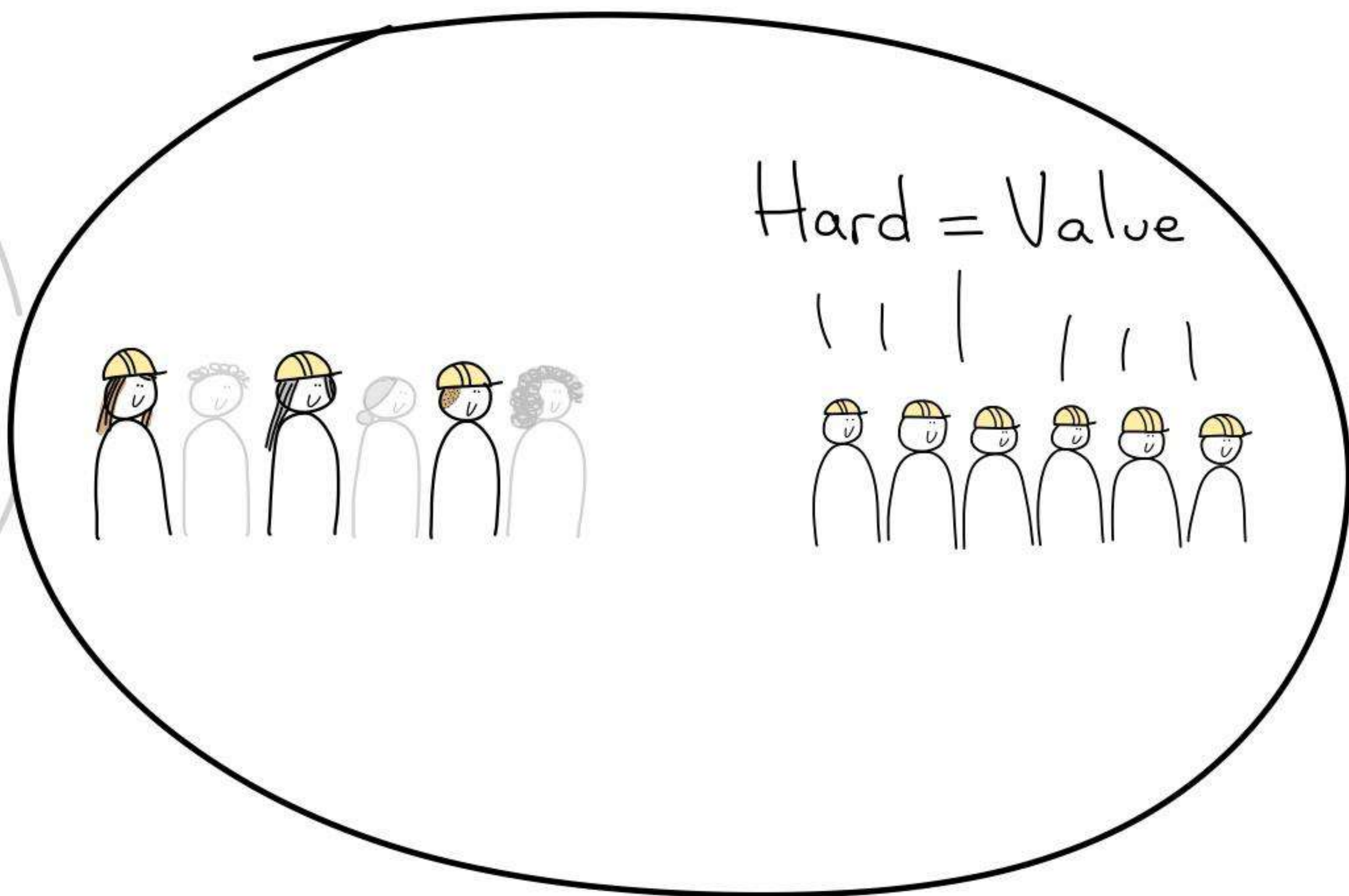
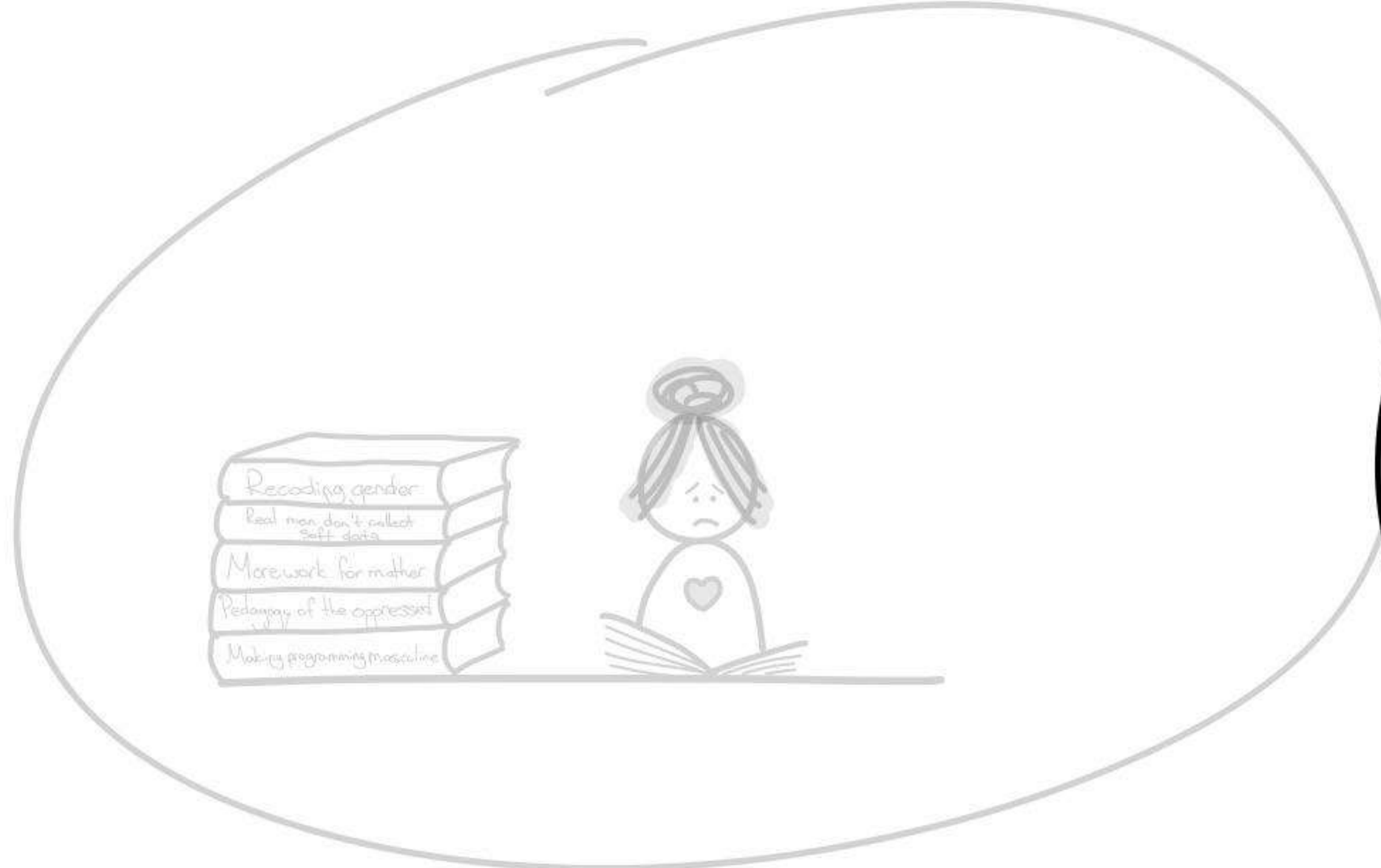
"You think your pain is unique, and then you read"
- James Baldwin

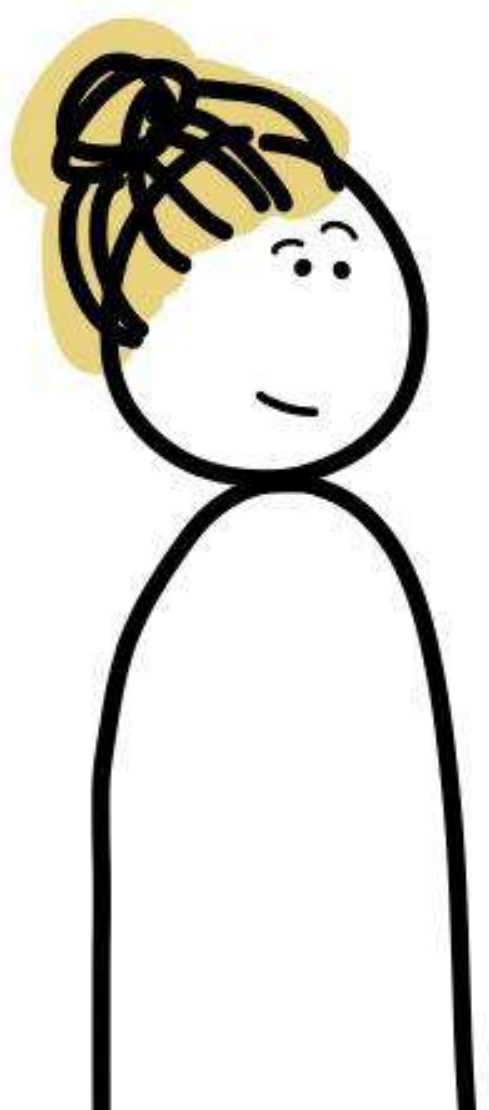
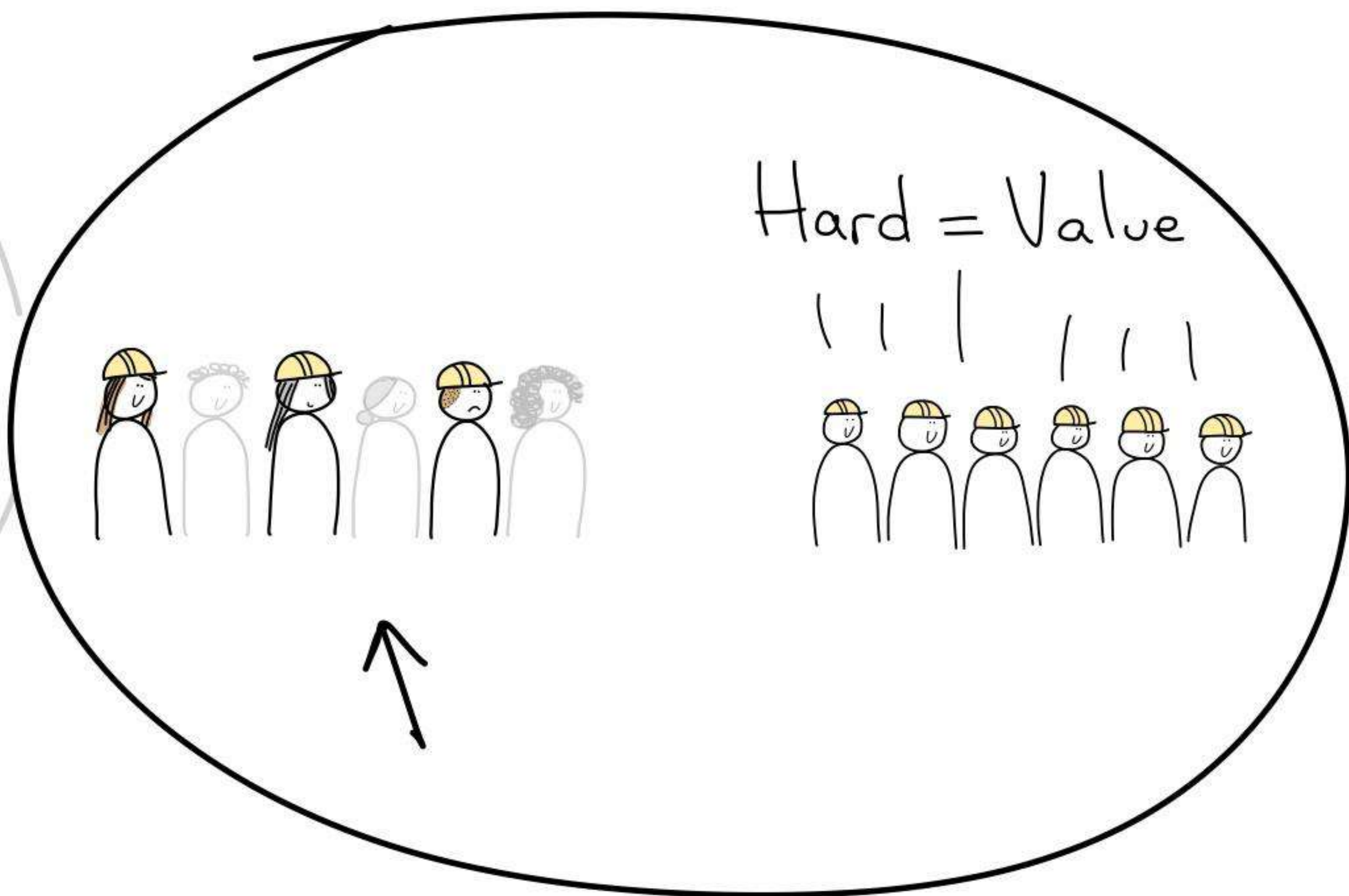
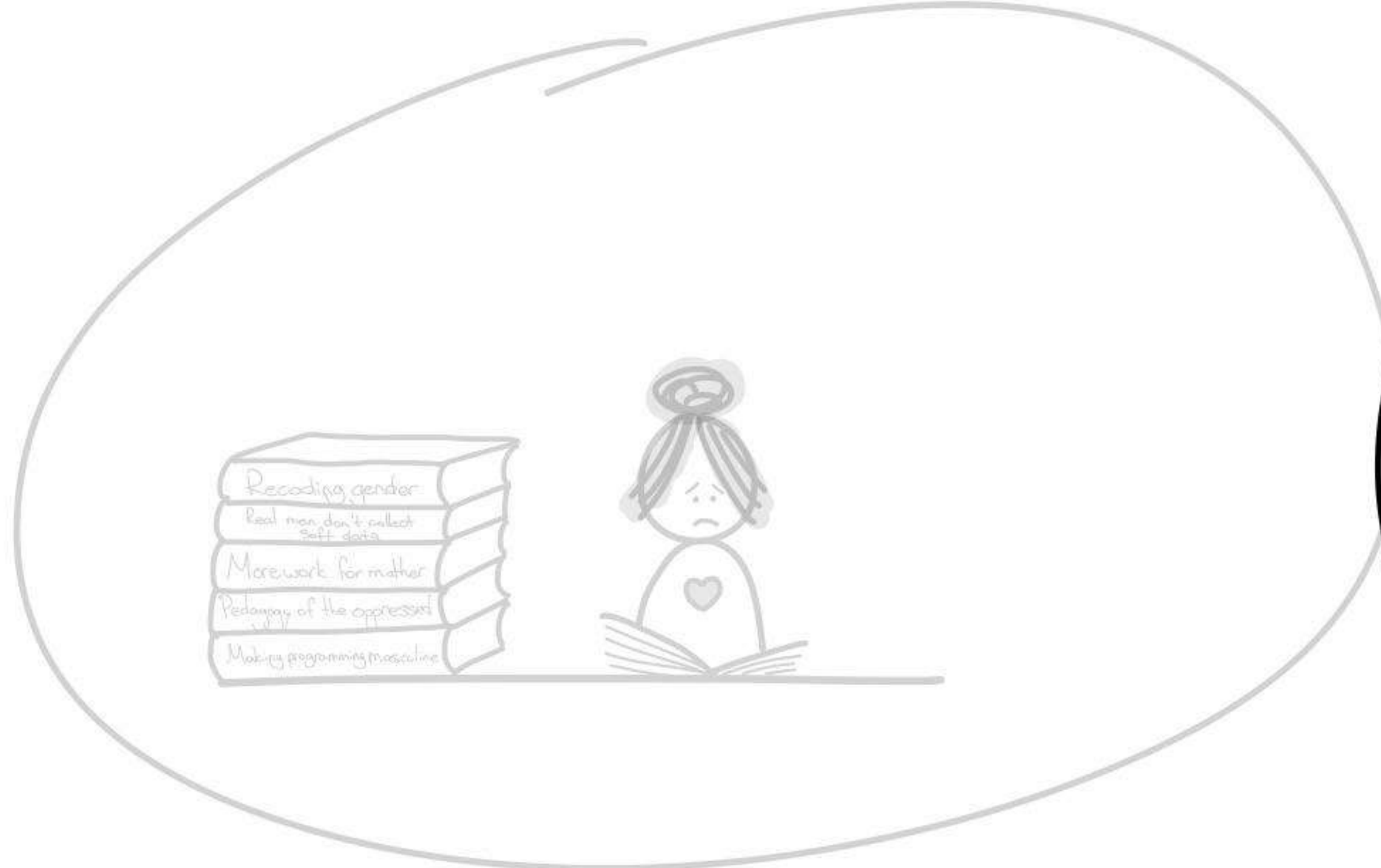


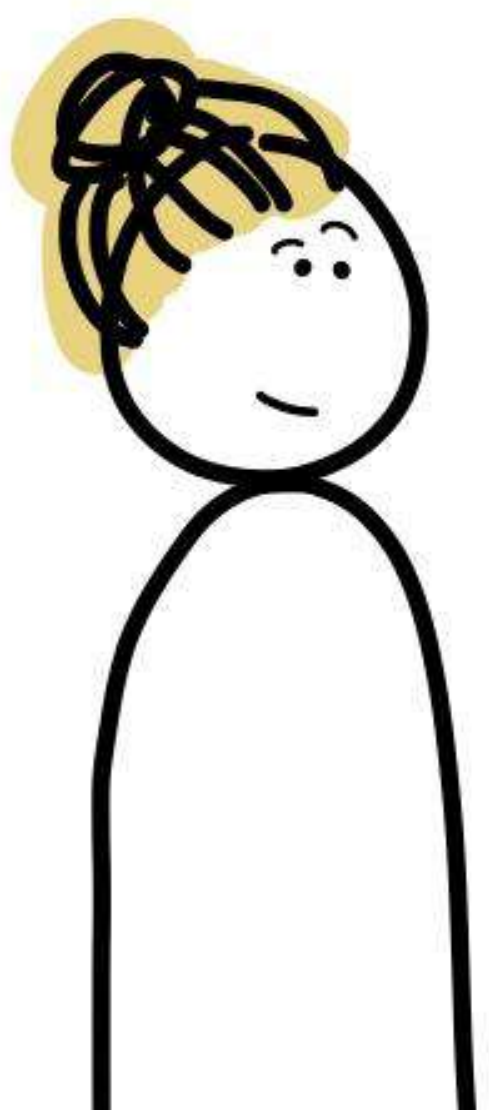
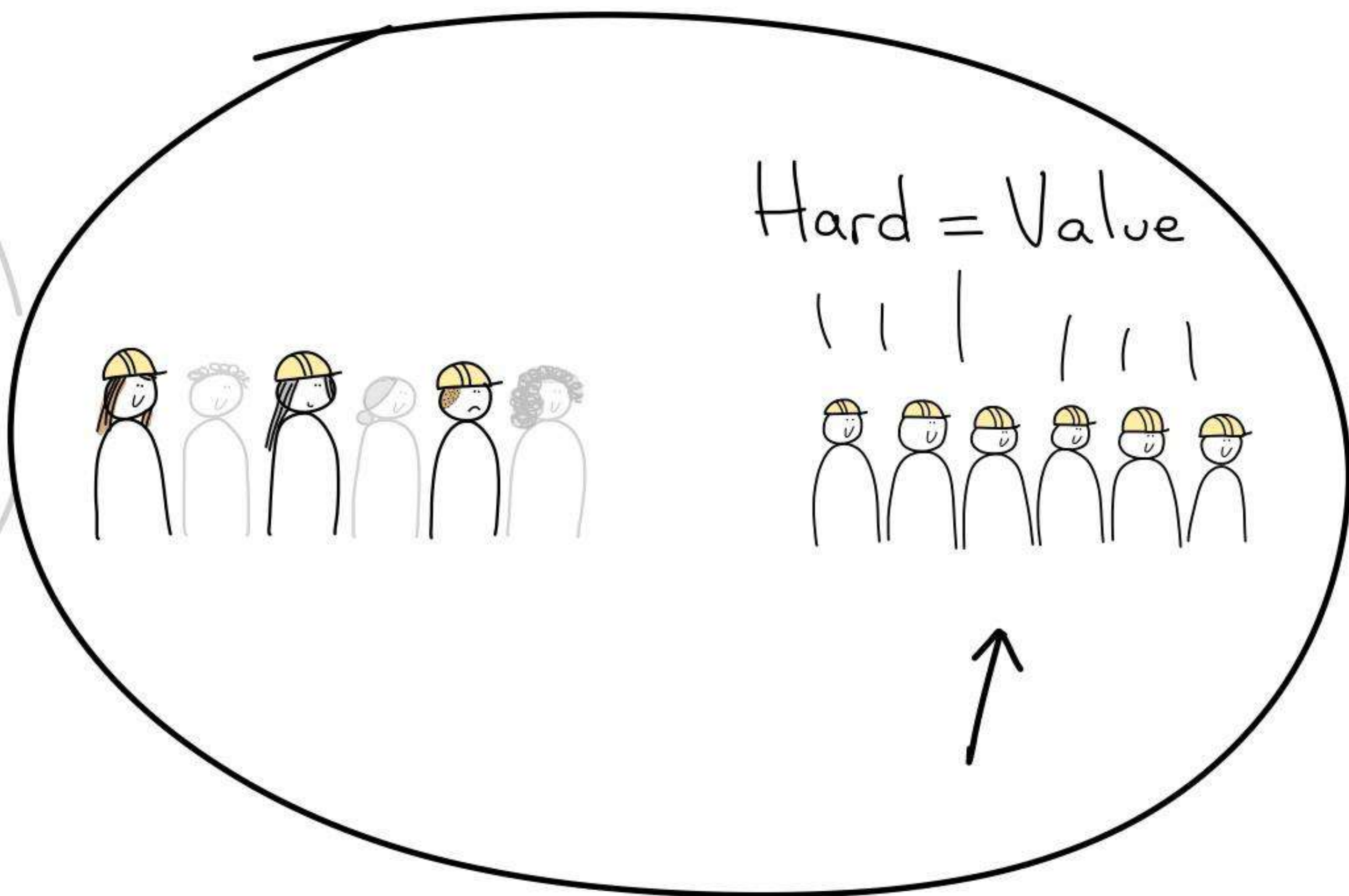
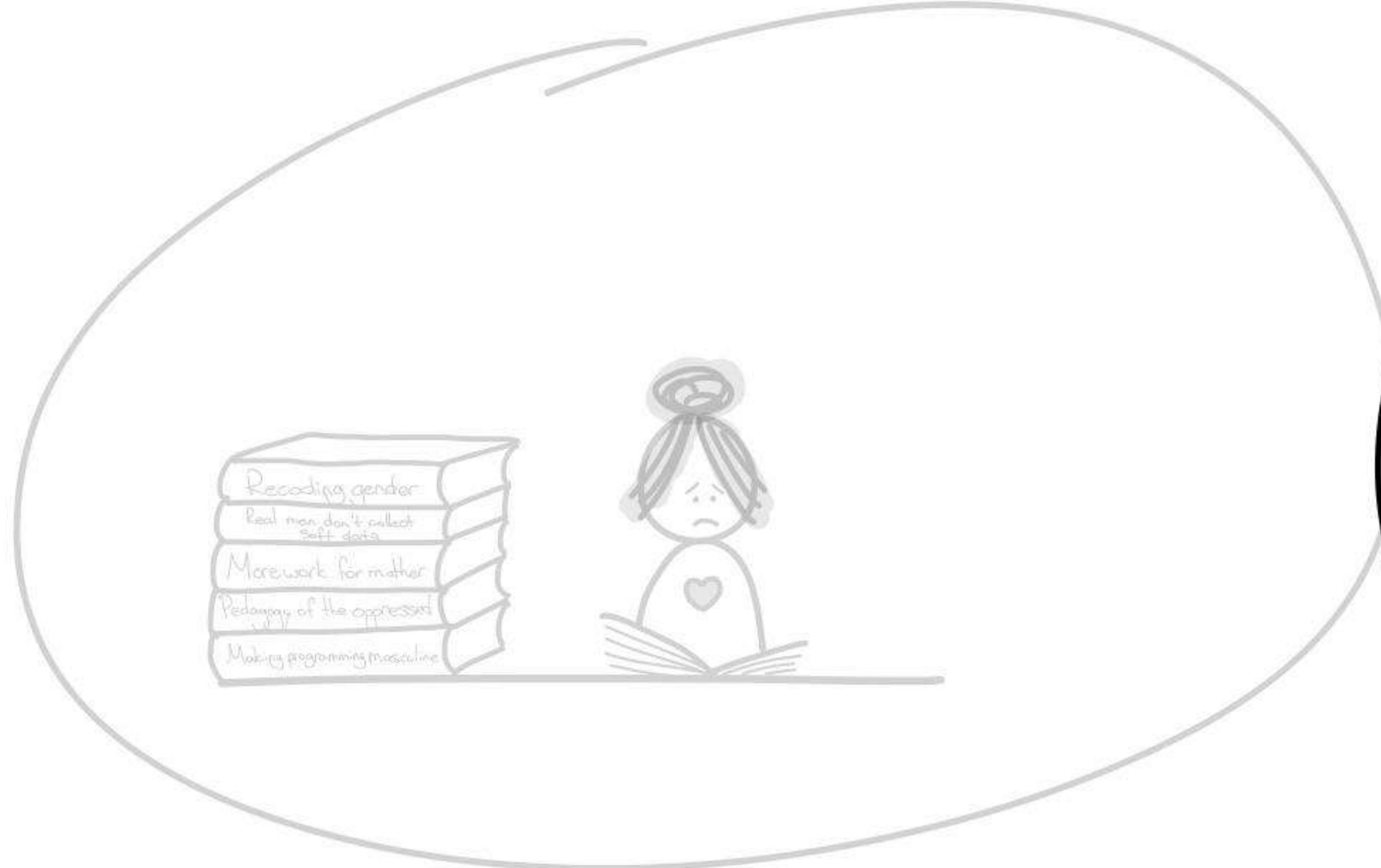






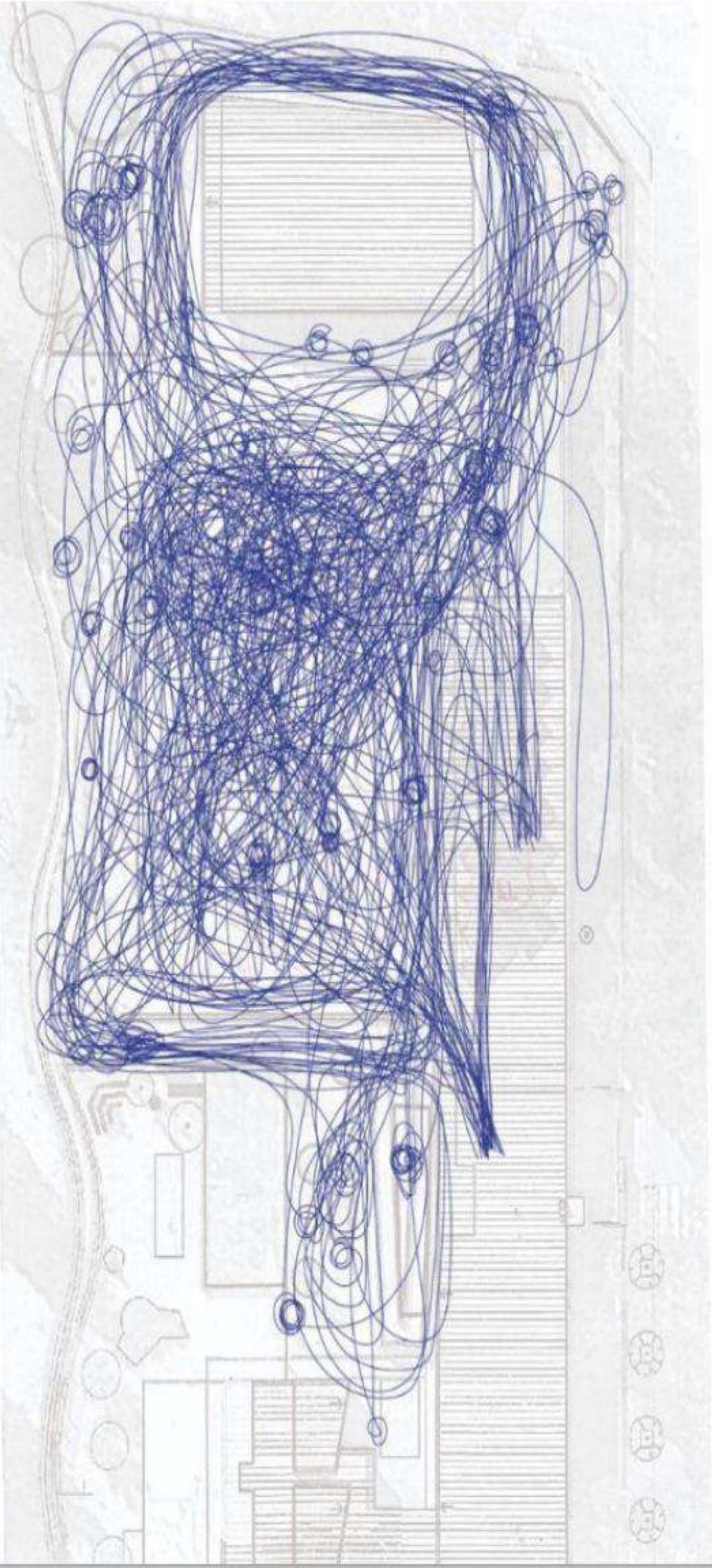






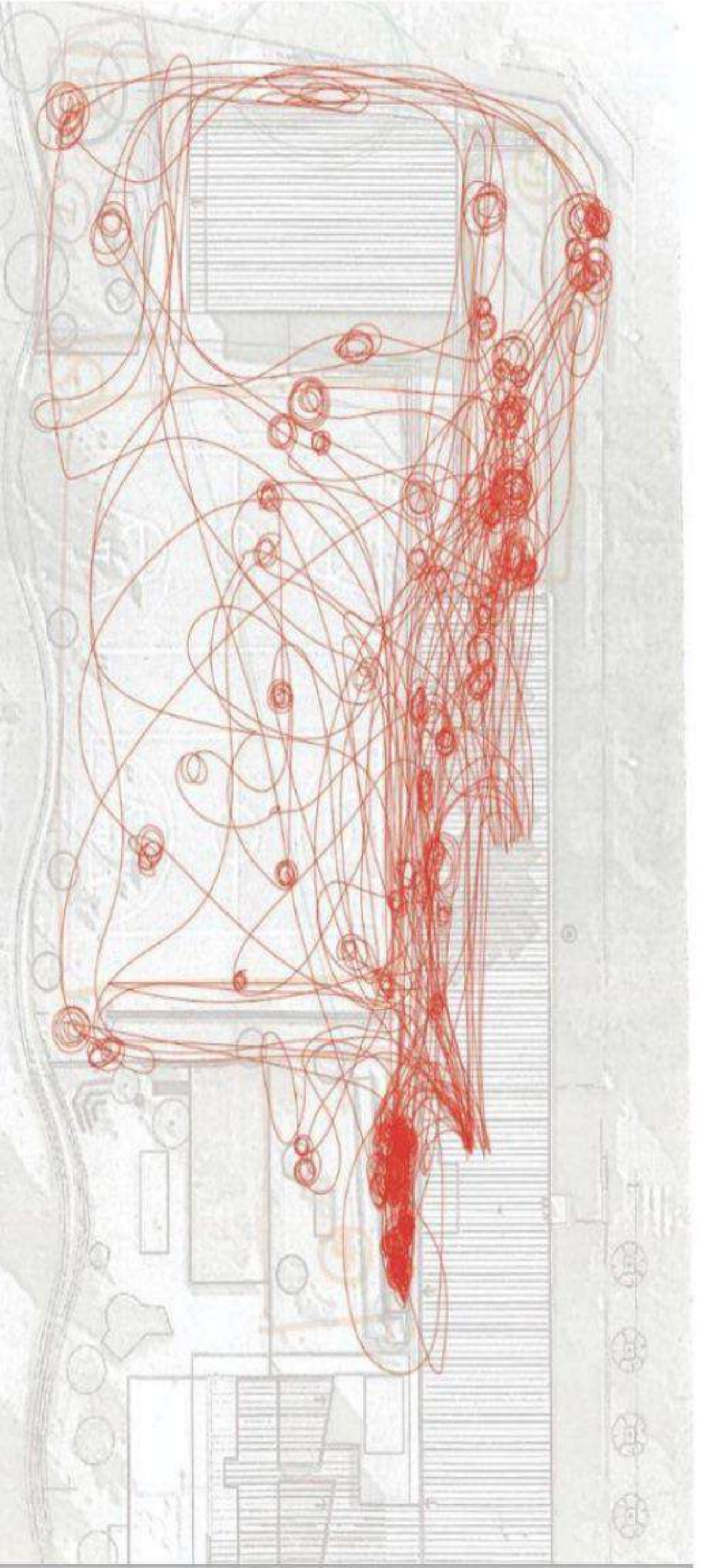
DATA: 07/06/23
 HORA: 10.30-11.00
 GRUP: P3, P5, (ter. 2on)
 NEN: 2on
 NENA: ter
 Tota Polona jugant a la borsa de sots Pasada

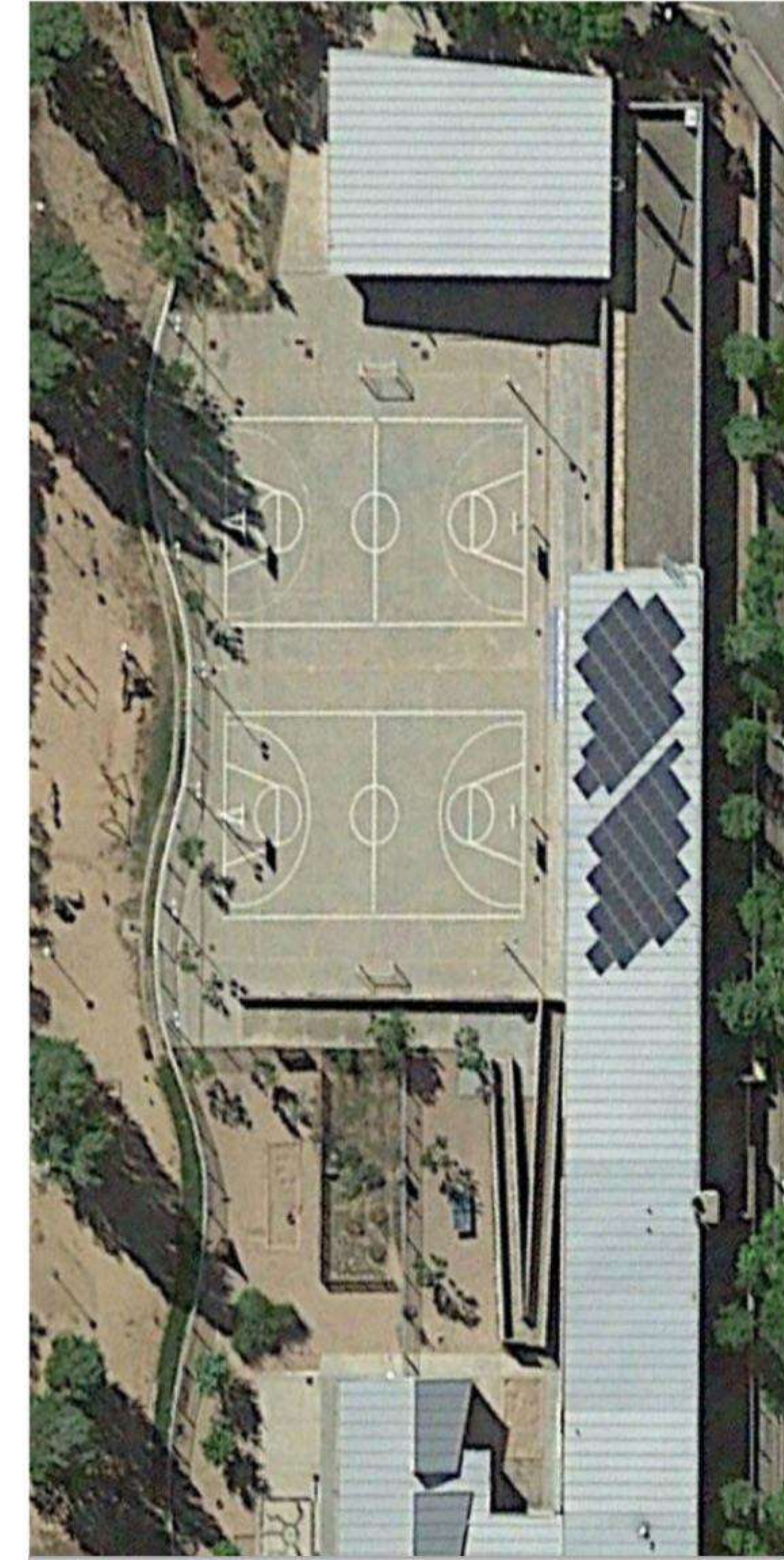
	I	F
1	12	11
2	3	8
3	6	18
4	8	2



DATA: 18/10/23
 HORA: 11.00h.
 GRUP: Ser
 NEN: Biel Gombau
 NENA: Mica Miralles

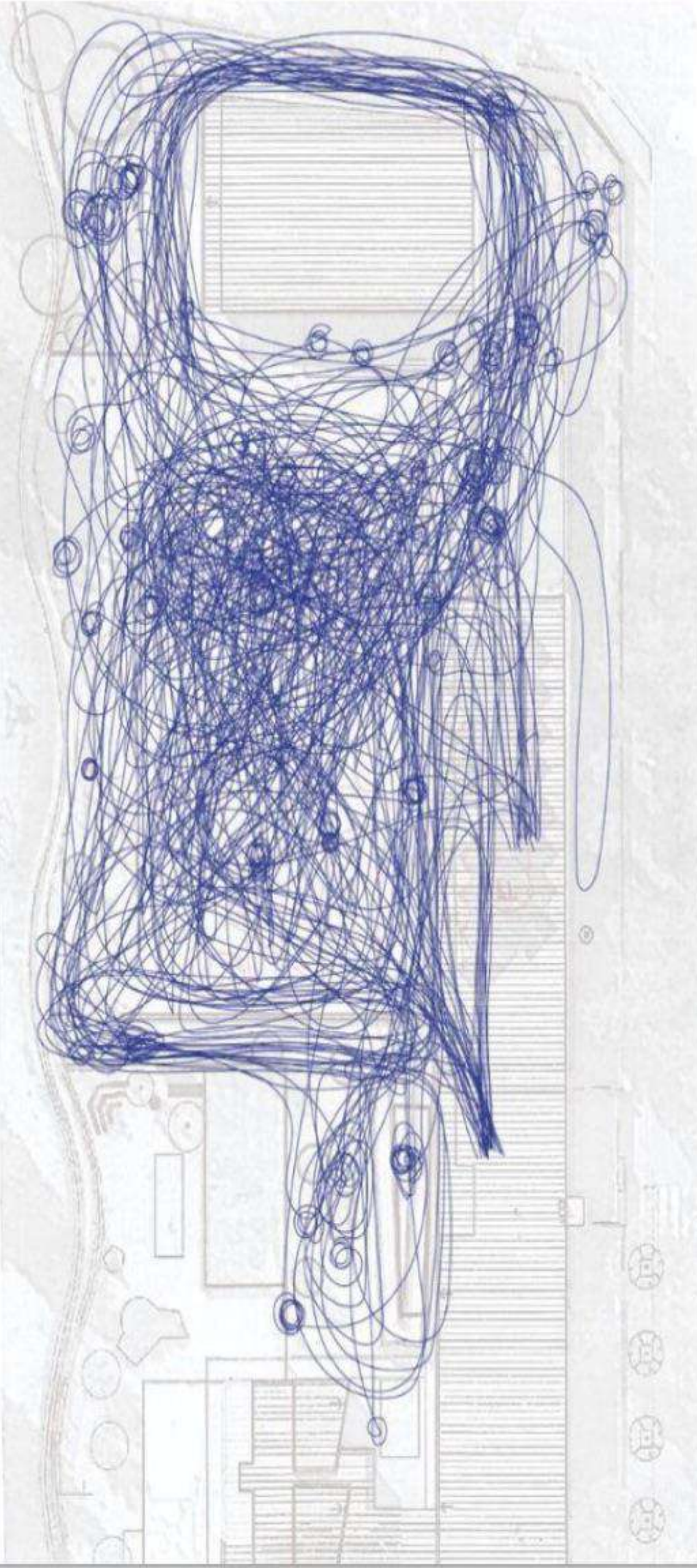
	I	F
1		
2		
3		
4		





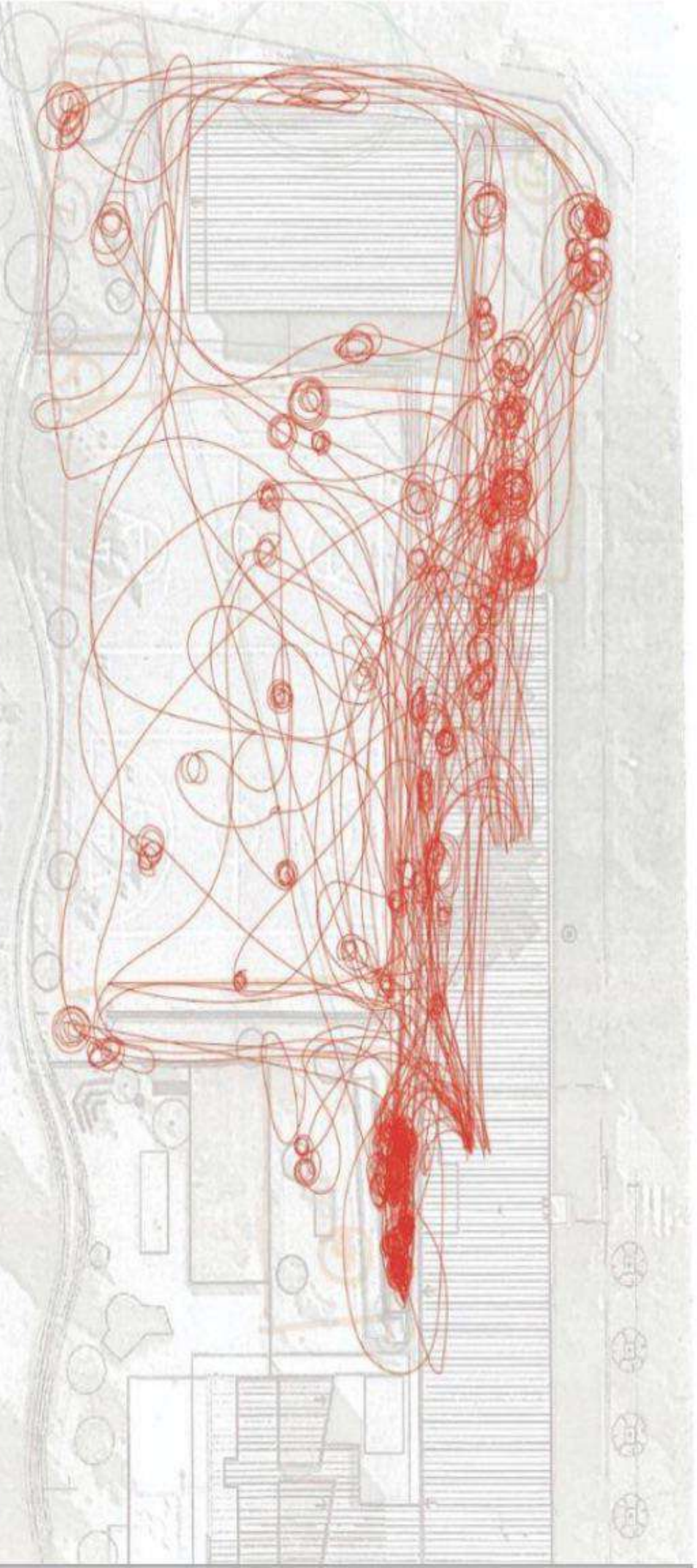
DATA: 07/06/23
 HORA: 10.30-11.00
 GRUP: P3, P5, (Ar. 2on)
 NEN: 2on
 Filled
 NENA: 1er
 Tota Polona jugant a la borsa de sota Pasada

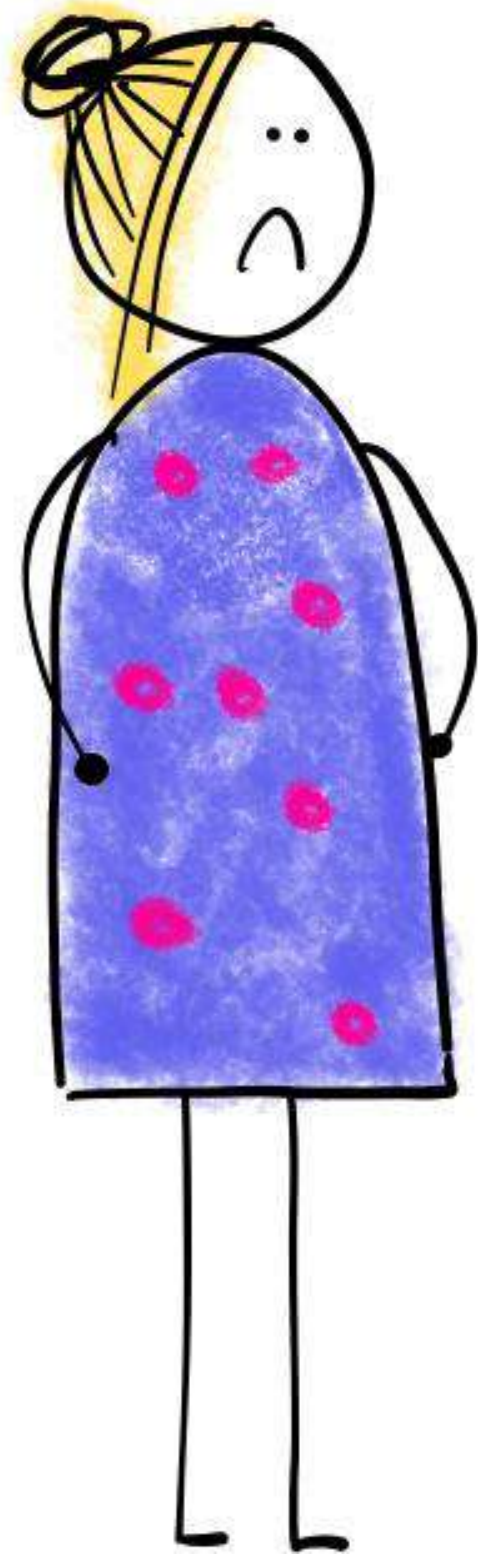
	I	F
1	12	11
2	3	8
3	6	18
4	8	2



DATA: 18/10/23
 HORA: 11.00h.
 GRUP: Ser
 NEN: Biel Gombau
 NENA: Mica Miralles

	I	F
1		
2		
3		
4		





Computer Science Curricula 2023

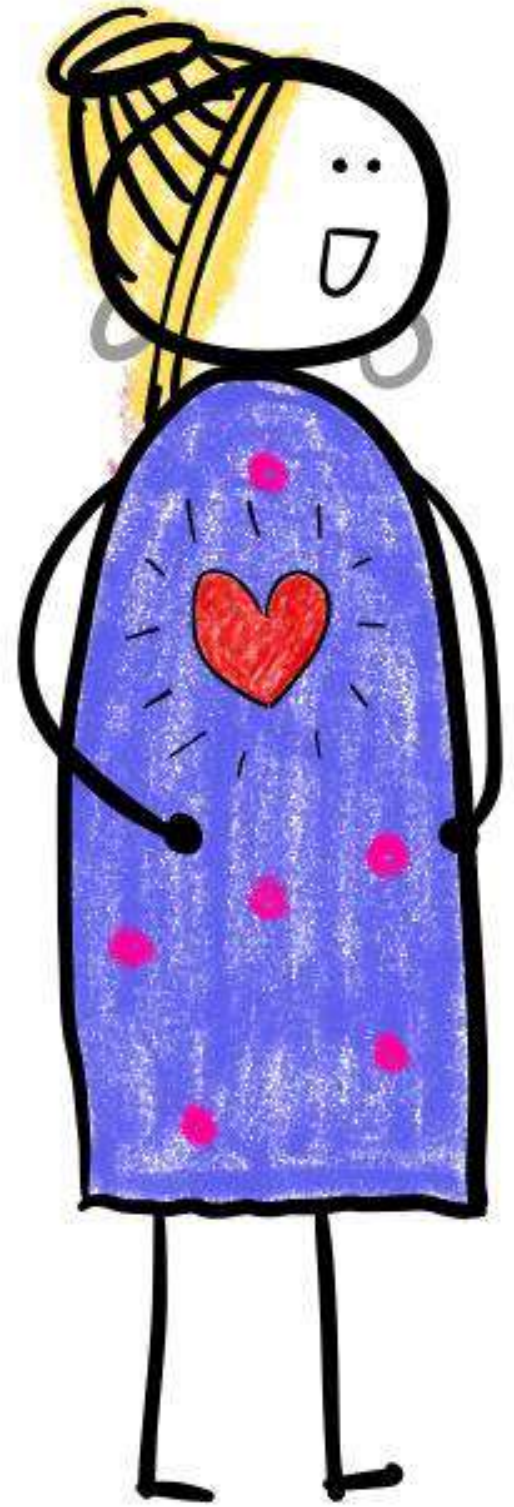
Version Beta
March 2023

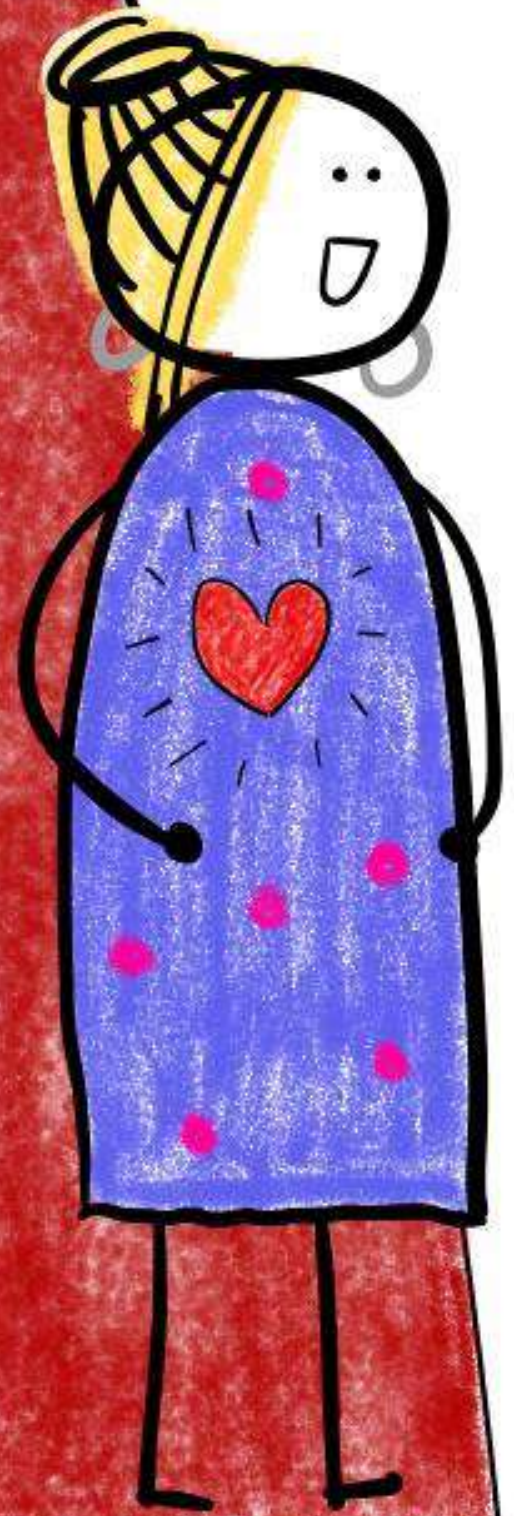
The Joint Task Force on Computing Curricula
Association for Computing Machinery
(ACM)
IEEE-Computer Society
(IEEE-CS)
Association for Advancement of Artificial
Intelligence
(AAAI)



Knowledge Areas of CS2023:

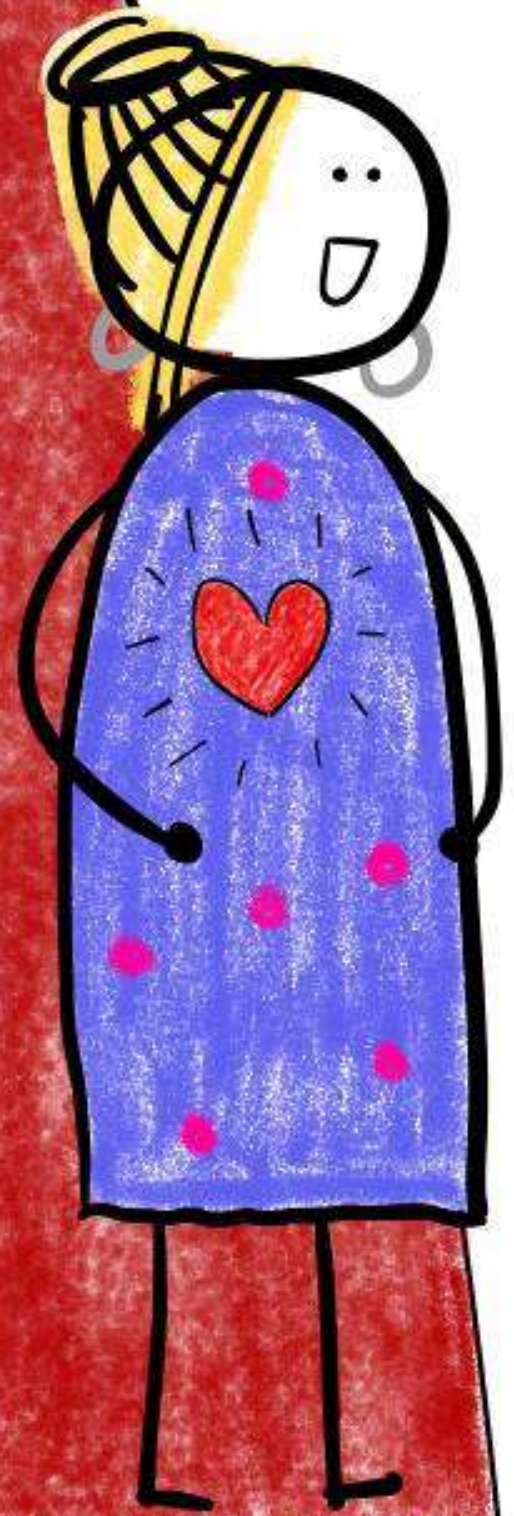
- Algorithmic Foundations (AL)
- Architecture and Organization (AR)
- Artificial Intelligence (AI)
- Data Management (DM)
- Foundations of Programming Languages (FPL)
- Graphics and Interactive Techniques (GIT)
- Human-Computer Interaction (HCI)
- Mathematical and Statistical Foundations (MSF)
- Networking 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)





Felienne

Hermans



www.Felienne.nl

**Programma
Digital Summit 2026**

**NETWERK
DIGITALE
SAMENLEVING**

**Tolhuistuin,
Amsterdam**

**11 april 2026
12:00 - 19:00**

Hoofdprogramma

GALERIJ

12:00

Inloop

12:30

Opening door Piek Knijff

Keynote door Felienne Hermans
De IT kan wel wat feminisme gebruiken

13:30

Pauze

**Onderwijs in transitie
ZONZIJ**

14:00

De Studeercrisis

Izaak Dekker

14:50

Stuur Big Tech de klas uit!
(en dan?)

Geert-Jan Meewisse & Maaike Rive

**Digitale autonomie in de praktijk
GALERIJ**

Investeren in
digitale soevereiniteit

Lokke Moerel

Digitale soevereiniteit in actie

Ellen Mok

**Duurzame digitalisering
IJZAAL**

IT als enabler voor
een circulaire economie

Sjoerd Rongen

Een duurzamer web
voor iedereen

Charlotte Bax & Hidde de Vries

15:30

Pauze

16:00

Paneldiscussie & Plenaire Afsluiting

Piek Knijff, Kim van Sparrentak, Marjolein
Moorman, Barbara Kathmann & Felienne Hermans

17:15

Borrel



**GROEN
LINKS PvdA**

Filosofie in actie