Processing – på vej til Java

Hvad er målet?

Kende til et IDE

Kende (lidt) til grafik

Kende til Processing

Kende til java-maskinen

Java sprogets elementer

Kende til variabler

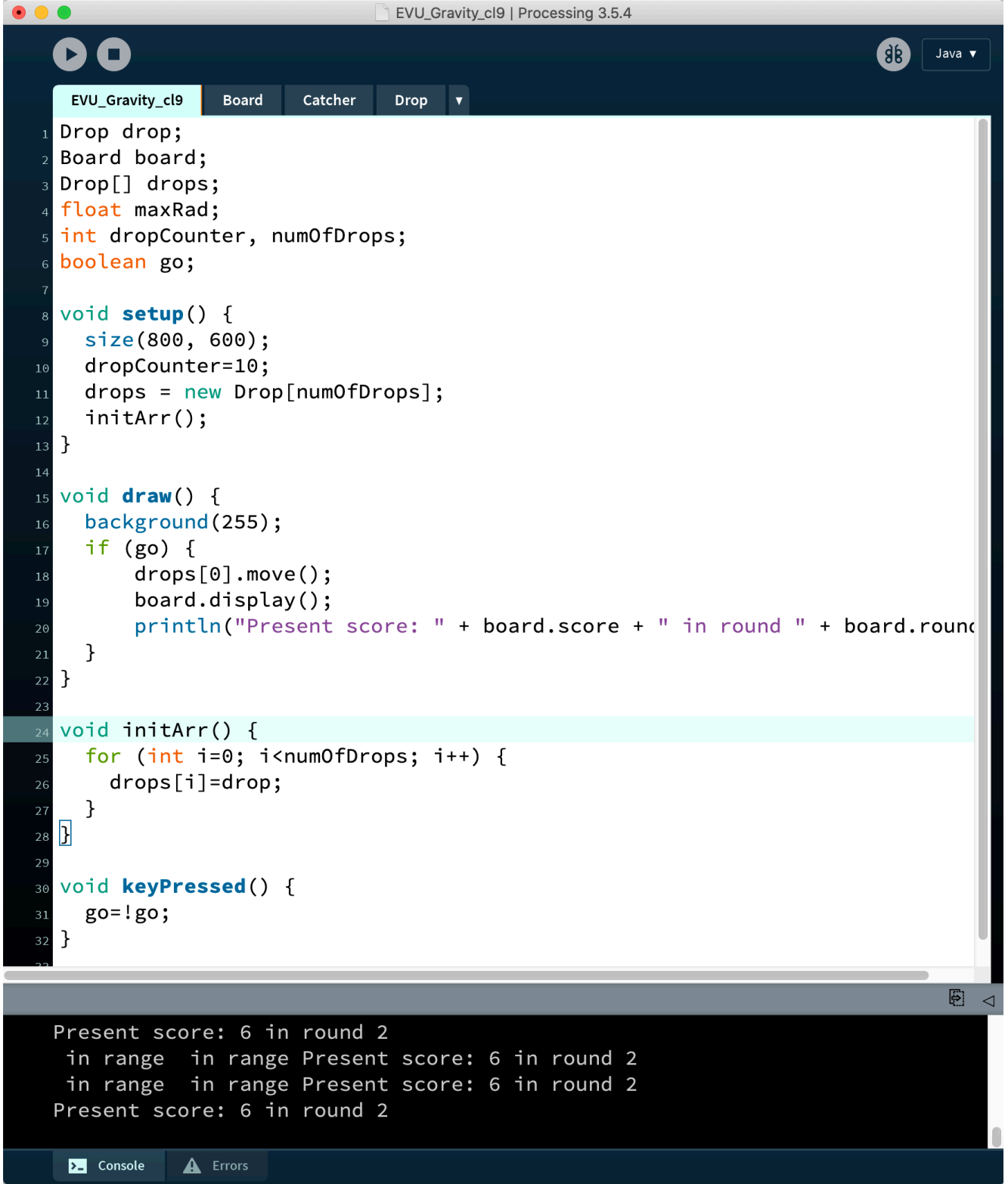
Kende til operatorer

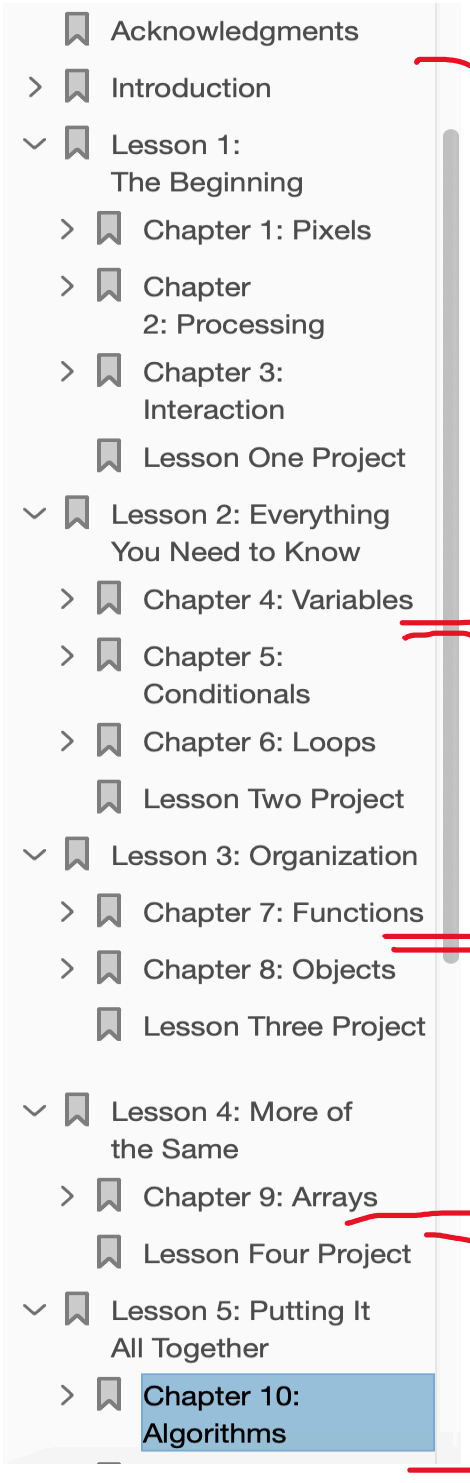
Kende til betingelser

Kende til loops

Kende til metoder

Kende (lidt) til klasser

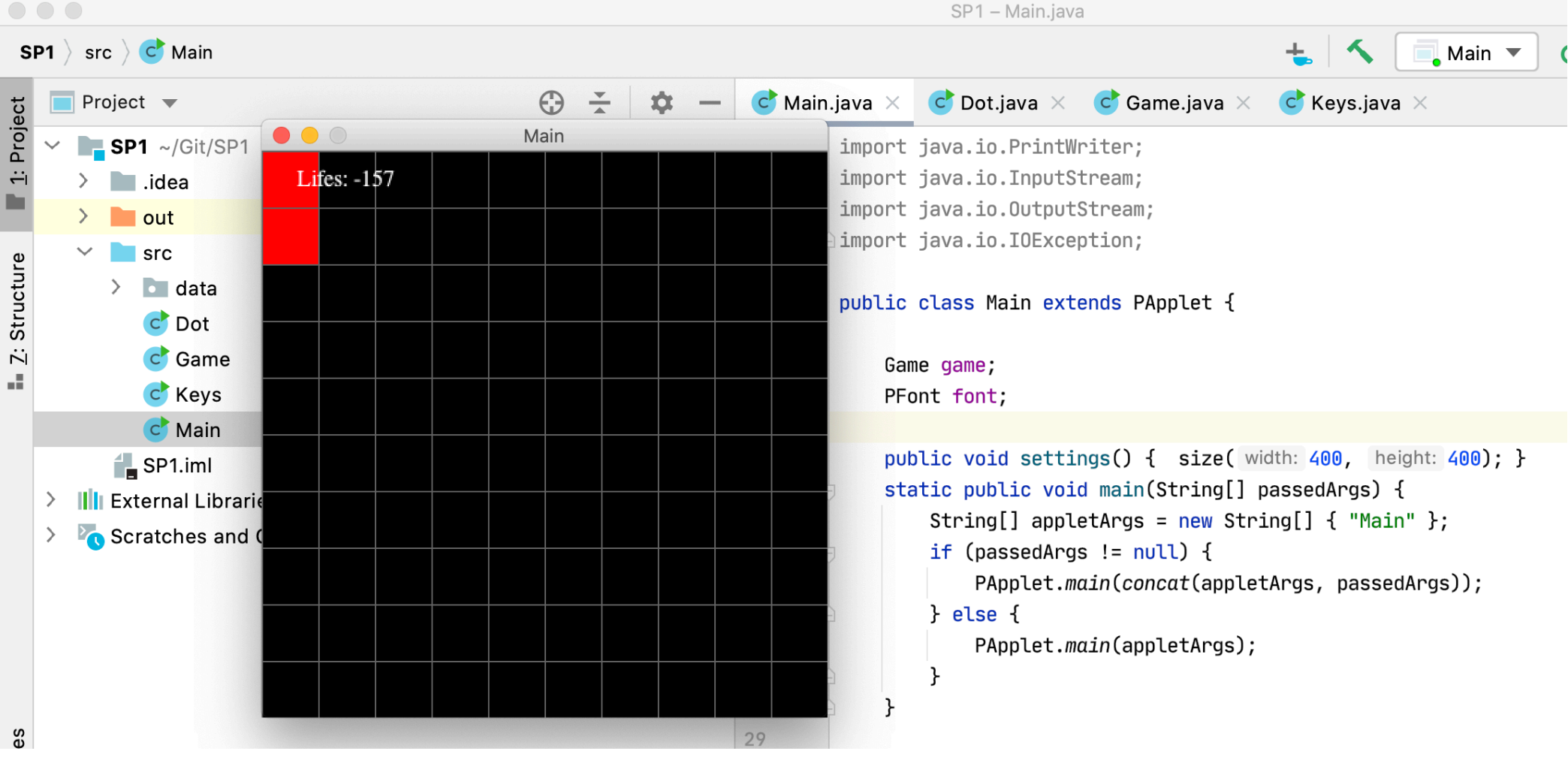




Hvad er planen?

- Onsdag 13/1
- Onsdag 27/1
- Onsdag 10/2
- Onsdag 24/2

Processing – Er det Java?

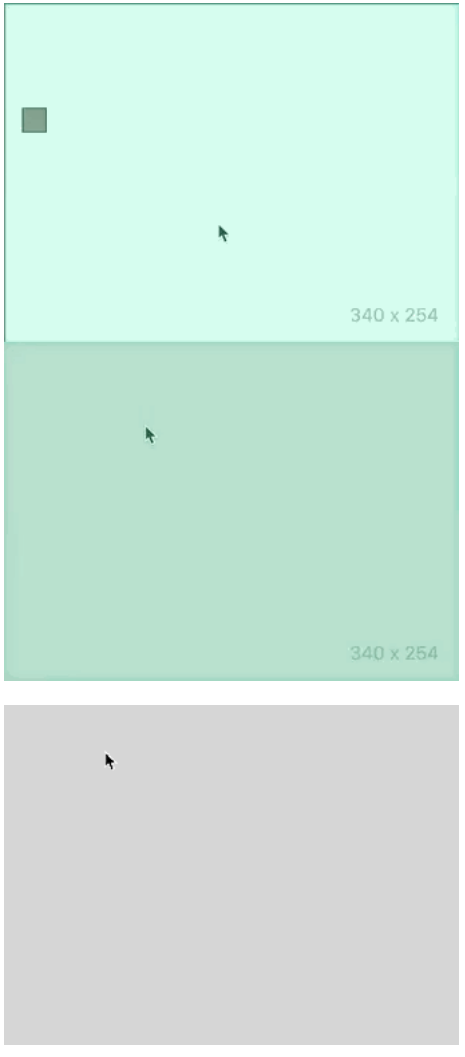


Dagens tidsplan

1.Slot: Start	2.Slot: Præsentation & inst	3.Slot: op-samling	4.Slot: Kap 1	5.slot: Øvelse	6.slot: Kap 2	7.slot: øvelser	8.slot: Afrunding
9:00 - 9:15	9:15 - 9:45	9:45	10:00-10:20	10:20 - 10:30	10:40 - 11:00	11:15-12.00	12.00-12.30

1.Slot:	2.Slot: Kap 2	3.Slot: øvelse	4.Slot: Kap 2	5.slot: Øvelse	6.slot: Kap 3	7.slot: øvelser	8.slot: Afrunding Og lektier
13:00 - 13:15	13:15 - 13:30	13:30 - 13:50	14:00-14:20	14:20 - 14:30	14:30 - 15:00	15:15-16.00	16.15

Dagens mål



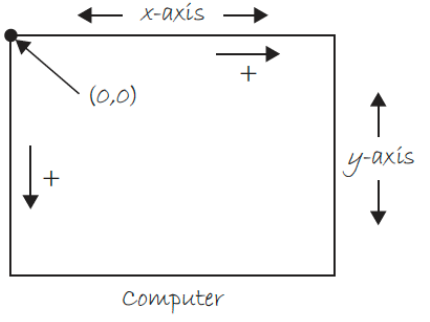
EVU2021First | Processing 3.5.4

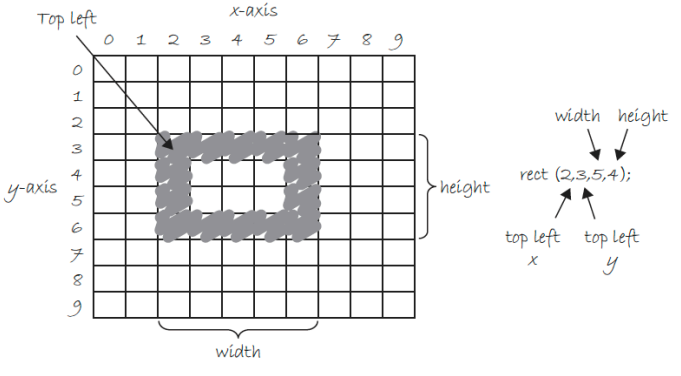
EVU2021First

```
1  int x=0;
2  boolean go;
3  void setup() {
4    size(400,400);
5    go=false;
6
7  }
8
9  void draw() {
10   if (go) {
11   fill(x,x/12,x/30);
12   background(255);
13   x = x + 1;
14   rect(x,100,40,40);
15   }
16 }
17
18 void mousePressed() {
19   go=true;
20
21 }
22
```

Processing – Analog intro

- Koordinatsystemet
  - ”ned ad” = y vokser
  - ”hen ad” = x vokser
- ”draw line from 3.4 to 6.4”
- Basic shapes (with stroke&fill)
  - rect(5,5,4,4)
  - circle(5,5,3)
  - point(5,5)
- Colors
  - Gray (0-255)
  - Color (RGB,HSB) & alpha
- Øvelser
  - 1-4
  - 1-7





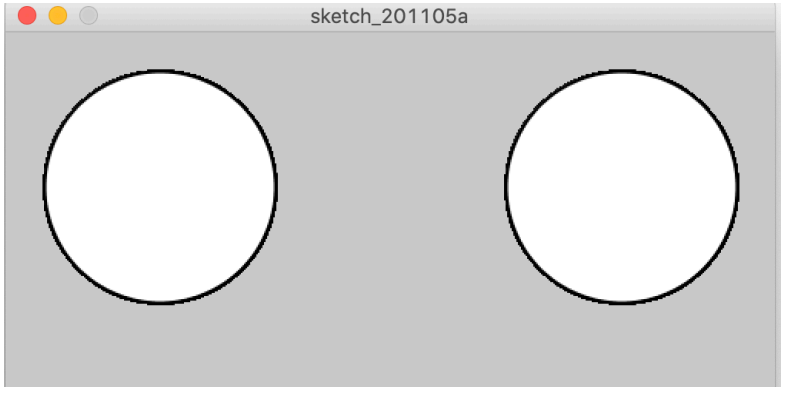
Processing – digital intro (kap 2)

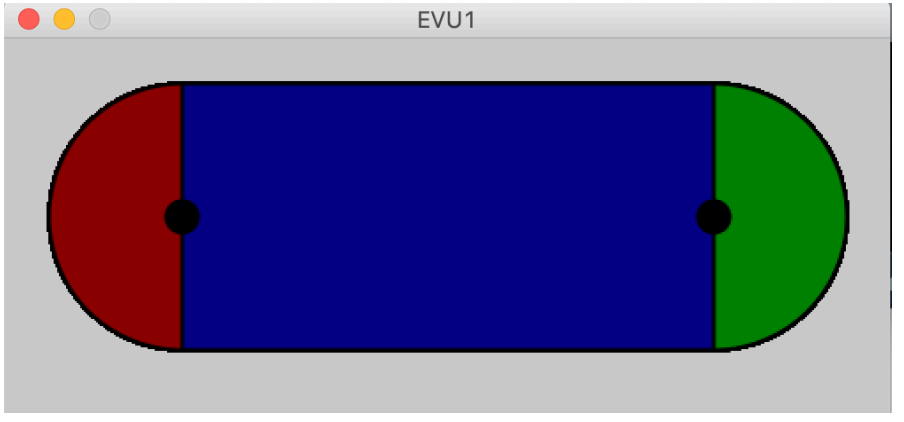
- Getting started ..
  - Installation
  - First example
  - First sketch
  - ”is it java?”
    - Export …
  - Preferences
  - Reference

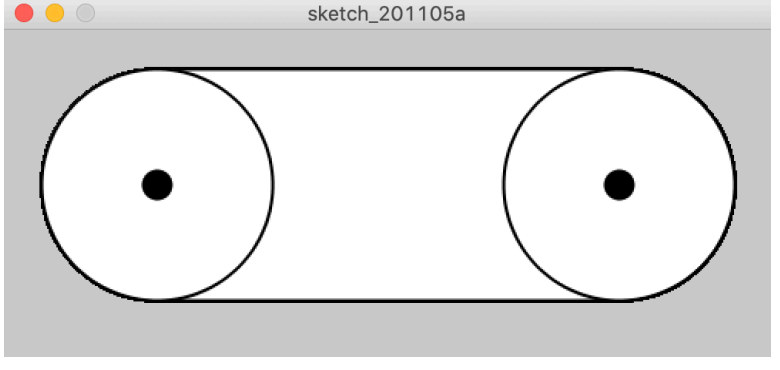
- Koordinatsystemet, Shapes & Colors in action
  - Functions …
    - size()
    - println()
  - Comments
- Øvelse 2-4

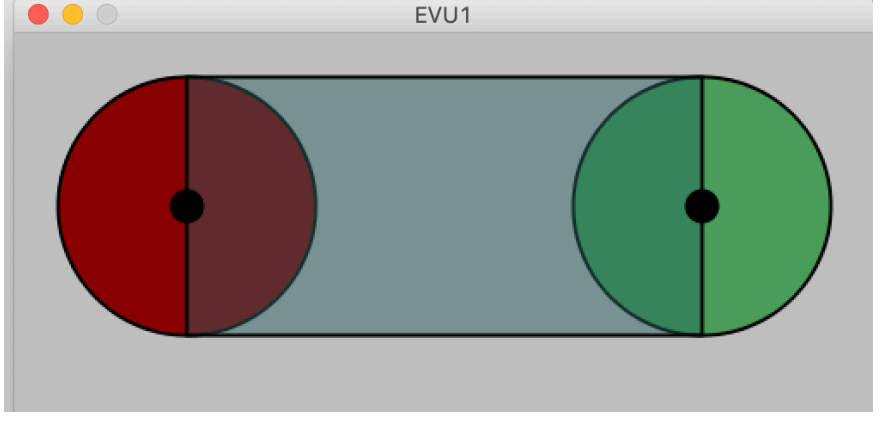
Processing – digital intro (kap 2)

- Prøv at skabe følgende figurer

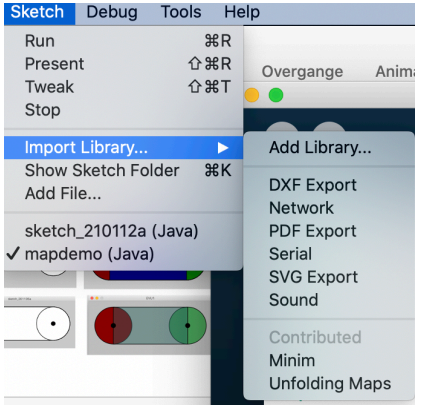








Præsentation – Google maps …

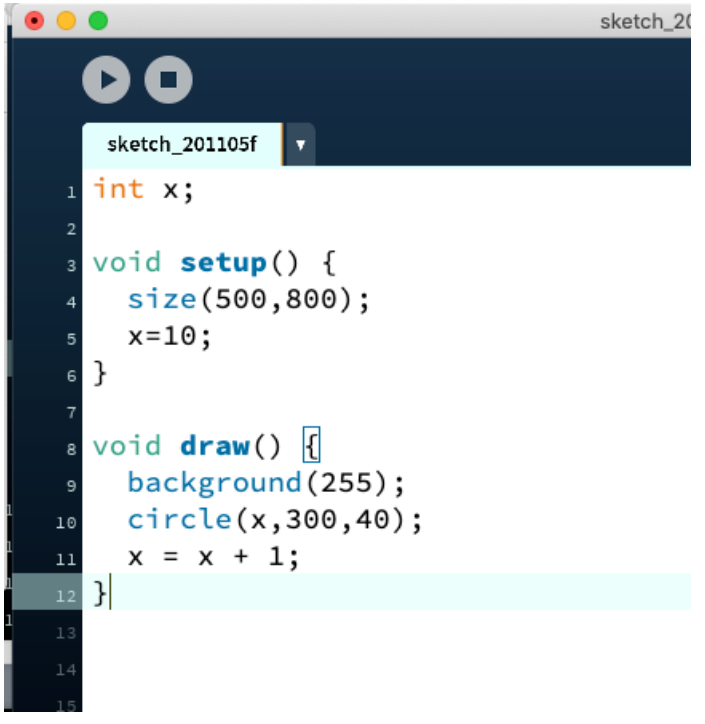


- Hent Unfolding_for_processing_0.9.6.zip fra https://github.com/cphwulf/EVU-uge3
- Pak ud og placér det ”rigtige” sted
  - ./Processing/libraries/Unfolding/

- Start en ny sketch og copy/paste mapdemo.pde
- Find koordinaterne på et sted som du vil præsenterer dig selv ud fra …
- Find flg linje og indsæt dine koordinater
  - Location loneLoc = new Location(55.39594, 10.38831);

Processing –Interaction (kap 3)

- The Flow
  - Setup()
  - Draw()
    - Internal loop
    - (framecounter)
  - Block of code {}
  - Variation: Mouse
    - mouseX,mouseY
    - Ex 3-2 (background)
    - pmouseX,pmouseY
    - Ex 3-4



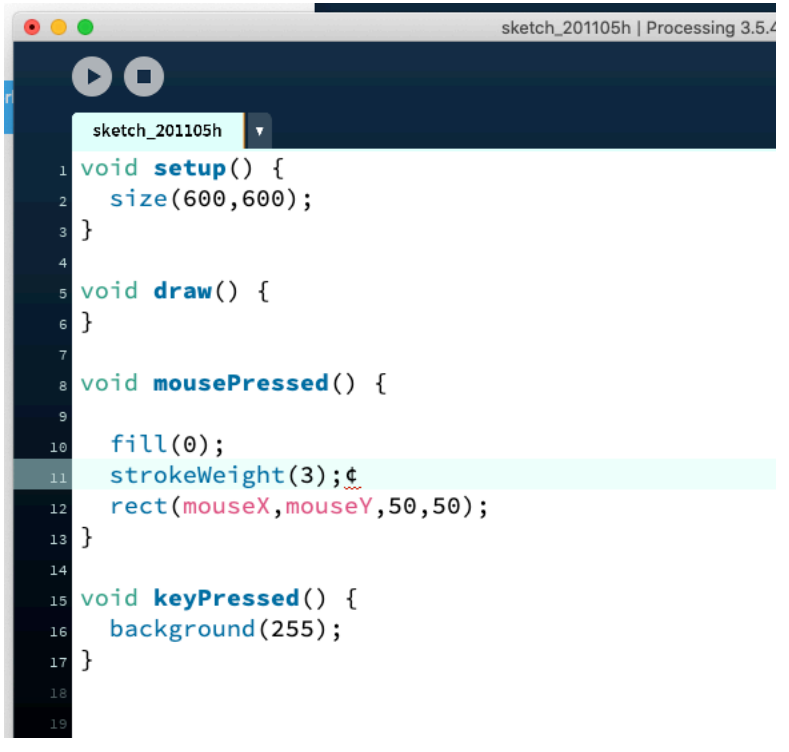
Processing –Interaction øvelser

- 3-4 Zoog
- 3-7 Update

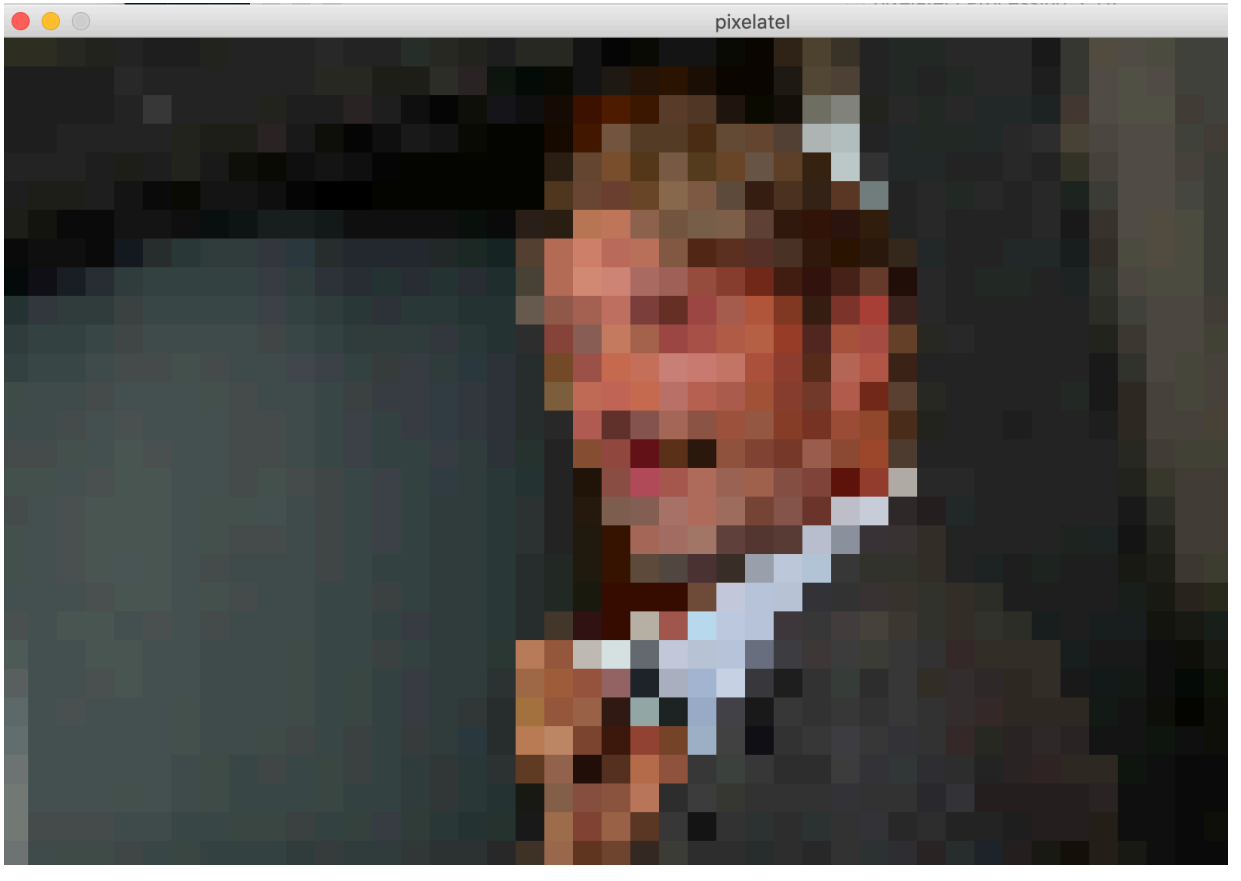
Mere mus ..

- Interaction
  - mousePressed()
  - mouseReleased()
  - keyPressed()

- Øvelser
  - Få baggrunden til at skifte
  - Tegn en figur
  - Sæt baggrund til muspos



Pixel Quiz



7. Øvelse – Lav jeres egen pixel-quiz

- Find billeder indenfor et tema
- Læg dem i data-mappen
- Brug frameRate eller Counter til at udregne point

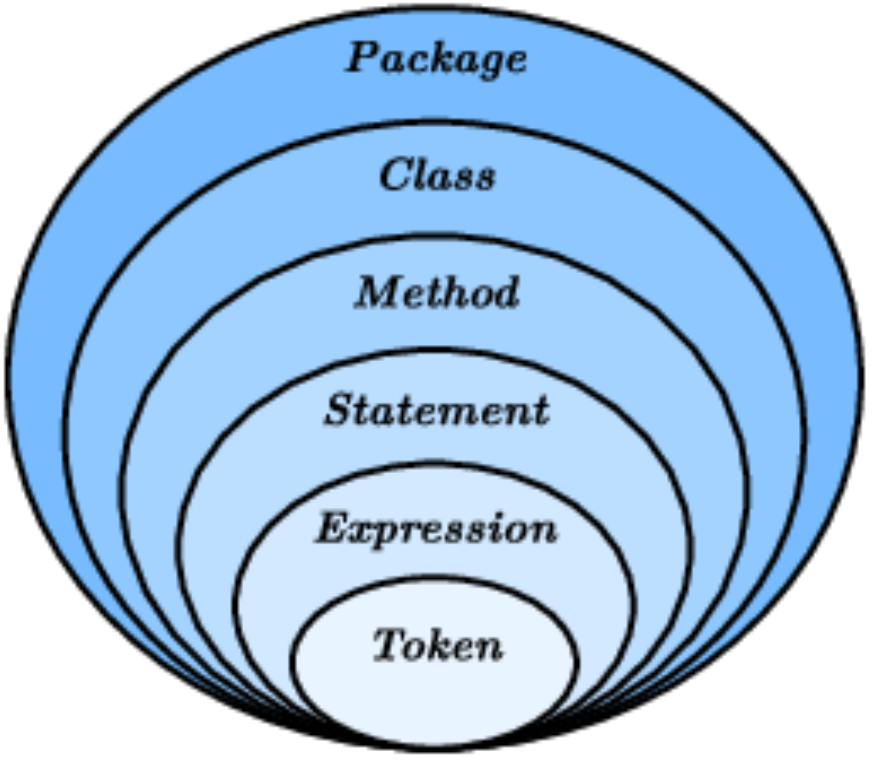
```
59 void draw() {
60   println("C " + factor);
61   println("FrameRate: " + frameRate);
```

Variabler – Declare, initialize & use

- Brugt i processing
  - boolean
  - Int
  - float
  - char
  - String

- System Variabler
  - width —Width (in pixels) of sketch window.
  - height —Height (in pixels) of sketch window.
  - frameCount —Number of frames processed.
  - frameRate —Rate that frames are processed (per second).
  - key —Most recent key pressed on the keyboard.
  - keyPressed —True or false? Is a key pressed?
  - mousePressed —True or false? Is the mouse pressed?

Elements of the language



java.util

Scanner

nextInt

hour = in.nextInt();

hour * 60

hour

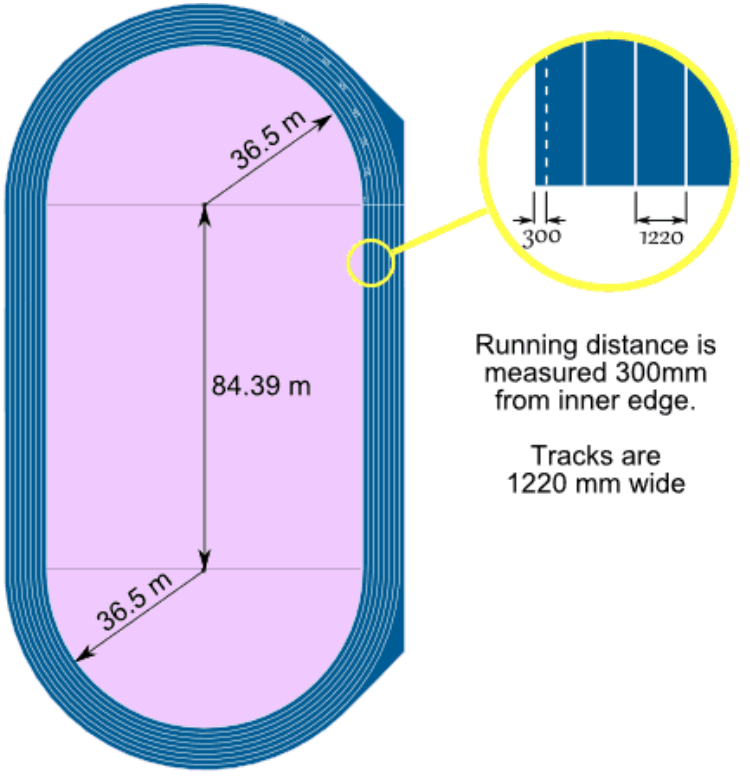
Operators og bogen s. 77

Level	Operators	Description	Associativity
15	() [] .	Function Call Array Subscript Member Selection	Left to Right
14	++ --	Postfix Increment / Decrement	Right to Left
13	++ -- + - ! ~ (type)	Prefix Increment / Decrement Unary plus / minus Logical negation / bitwise complement Casting	Right to Left
12	* / %	Multiplication Division Modulo	Left to Right
11	+ -	Addition / Subtraction	Left to Right
10	<< >> >>>	Bitwise Left Shift Bitwise Right Shift with sign extension Bitwise Right Shift with zero extension	Left to Right
9	< <= > >= instance of	Relational Less Than / Less than Equal To Relational Greater / Greater than Equal To Type Comparison for objects	Left to Right
8	== !=	Equality Inequality	Left to Right
7	&	Bitwise AND	Left to Right
6	^	Bitwise XOR	Left to Right
5	|	Bitwise OR	Left to Right
4	&&	Logical AND	Left to Right
3	||	Logical OR	Left to Right
2	?:	Conditional Operator	Right to Left
1	= += -= *= /= %= &= ^= |= <<= >>=	Assignment Operators	Right to Left

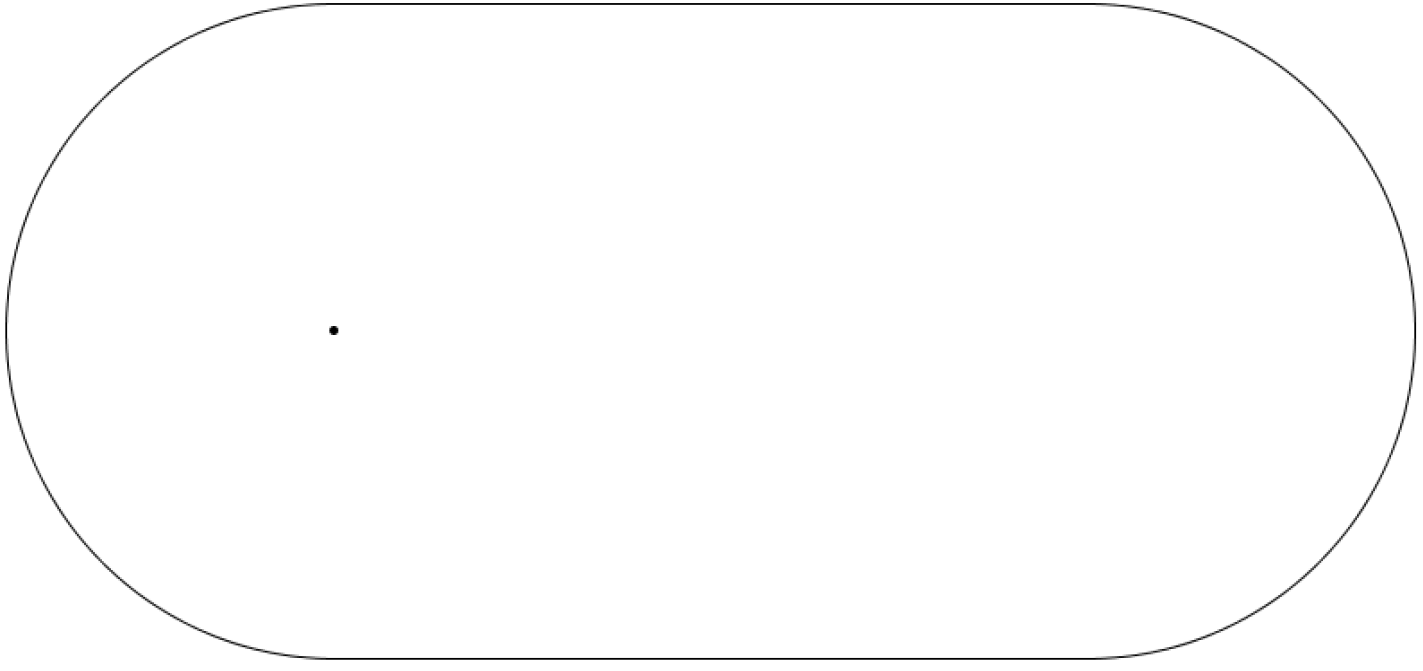
Øvelse - Atletikbanen

- Konstruér en 400 m atletikbane med 8 løbebaner. Buen laves vha arc-shapen

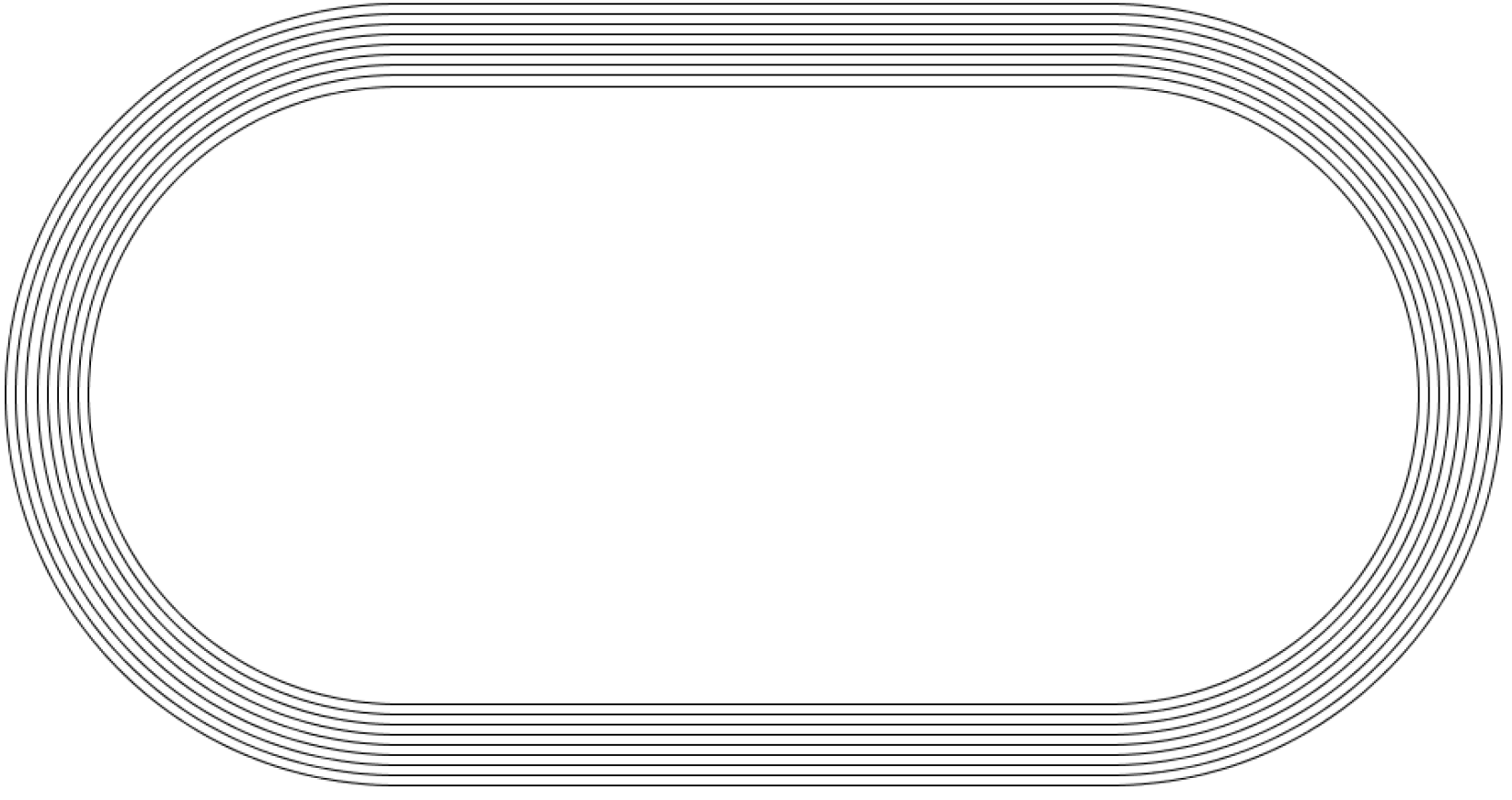
- Ekstra: Tilføj forskudt start



Øvelse – Atletikbanen – step 1



Øvelse – Atletikbanen – step 2



Øvelse – Atletikbanen – step 3