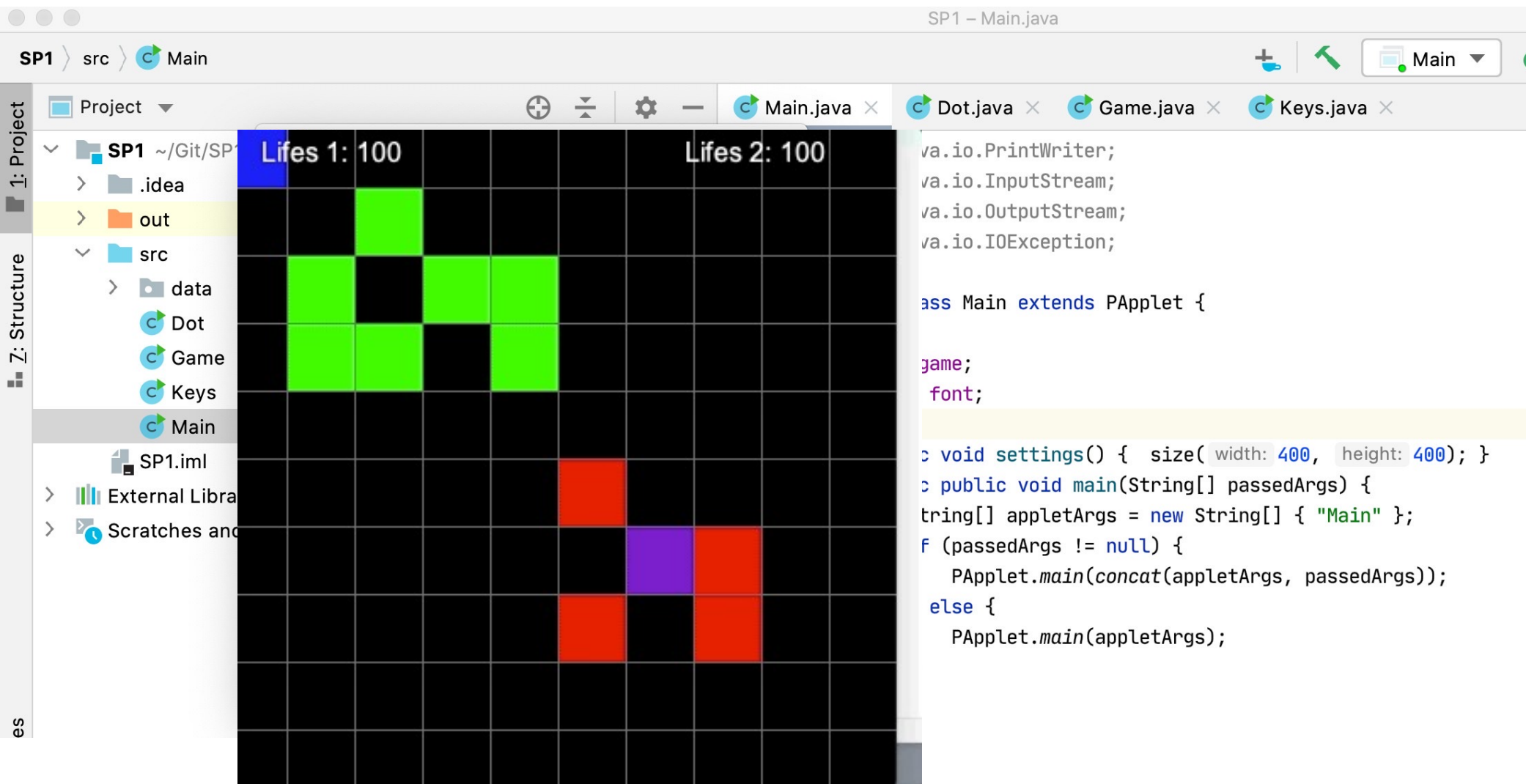


# Processing - På vej til Java



# Dagens tidsplan

1. Velkomst	2. planen	3. Processing i luften	4. Præs- runde I	5. Bogen kap 2	6. Præsrunde II / øvelser	7. Bogen kap 3	8. Næste gang
17:00 - 17:15	17:15 - 17:30	17:30 -	18:20	18:20 - 18:35	18:35 - 19:00	19:15- 19.30	19.30

# Hvad er planen?

- 🔖 Acknowledgments
- > 🔖 Introduction
- ✓ 🔖 Lesson 1: The Beginning
  - > 🔖 Chapter 1: Pixels
  - > 🔖 Chapter 2: Processing
  - > 🔖 Chapter 3: Interaction
  - 🔖 Lesson One Project
- ✓ 🔖 Lesson 2: Everything You Need to Know
  - > 🔖 Chapter 4: Variables
  - > 🔖 Chapter 5: Conditionals
  - > 🔖 Chapter 6: Loops
  - 🔖 Lesson Two Project
- ✓ 🔖 Lesson 3: Organization
  - > 🔖 Chapter 7: Functions
  - > 🔖 Chapter 8: Objects
  - 🔖 Lesson Three Project
- ✓ 🔖 Lesson 4: More of the Same
  - > 🔖 Chapter 9: Arrays
  - 🔖 Lesson Four Project
- ✓ 🔖 Lesson 5: Putting It All Together
  - > 🔖 Chapter 10: Algorithms

• Onsdag 25/8

• Onsdag 1/9

• Onsdag 8/9

• Onsdag 15/9

• Onsdag 22/9

• Onsdag 29/9

• Onsdag 6/10

# Hvad er målet?

Kende til et IDE

Kende (lidt) til grafik

Kende til Processing

Kende til javamaskinen

Bruge Java's elementer:

variabler

operatorer

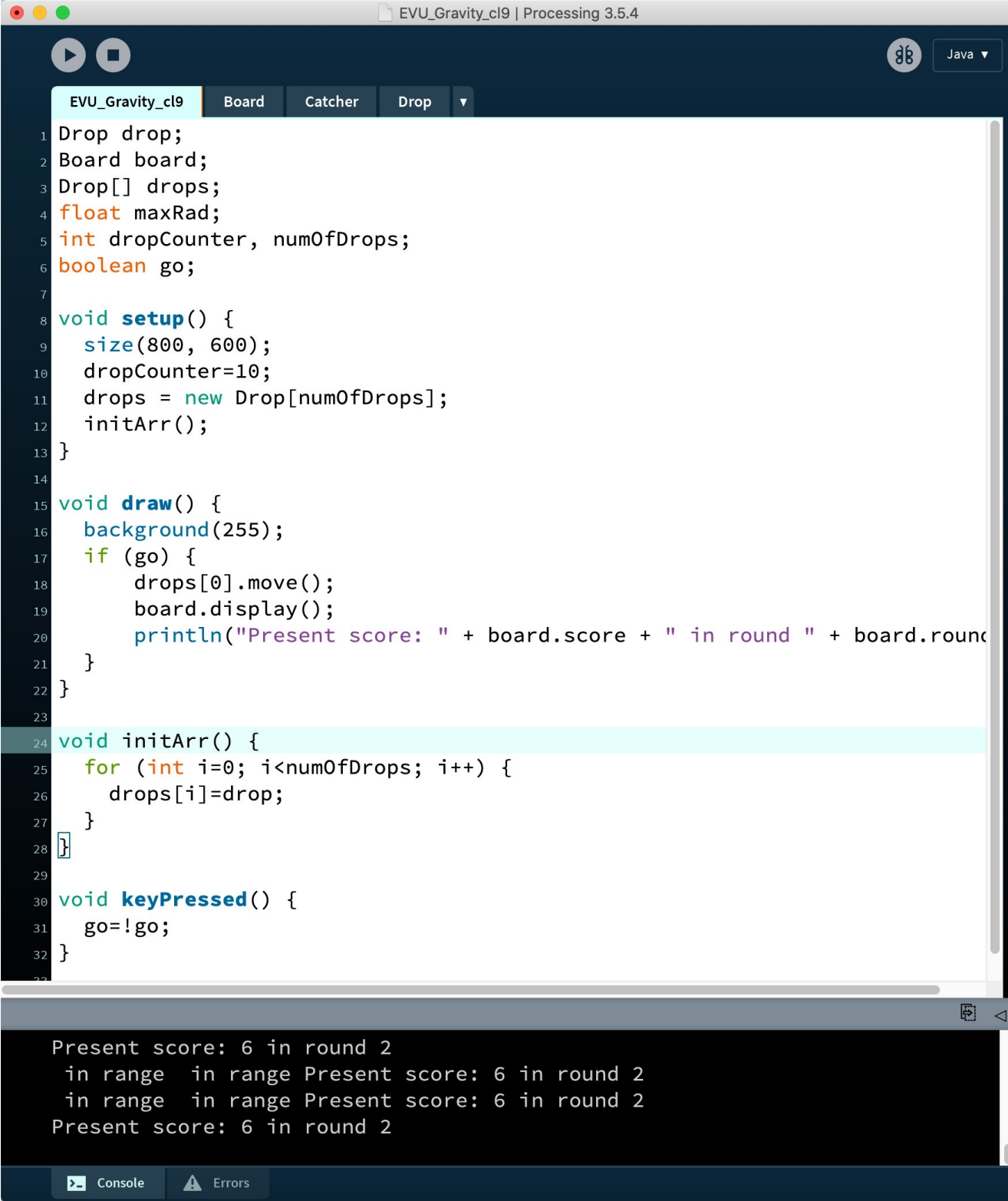
betingelser

loops

lave metoder

Kende (lidt) til klasser:

lave objekter



The screenshot shows the Processing IDE interface. At the top, the title bar reads "EVU\_Gravity\_cl9 | Processing 3.5.4". Below the title bar, there are icons for play, stop, and a menu. The main editor area displays Java code for a gravity simulation. The code includes variables for a board, drops, max radius, drop counter, number of drops, and a go flag. It defines setup, draw, and keyPressed methods. The draw method calls move() on the first drop and displays the current score and round. The keyPressed method toggles the go flag. The console at the bottom shows the output of the program, which is "Present score: 6 in round 2" repeated four times.

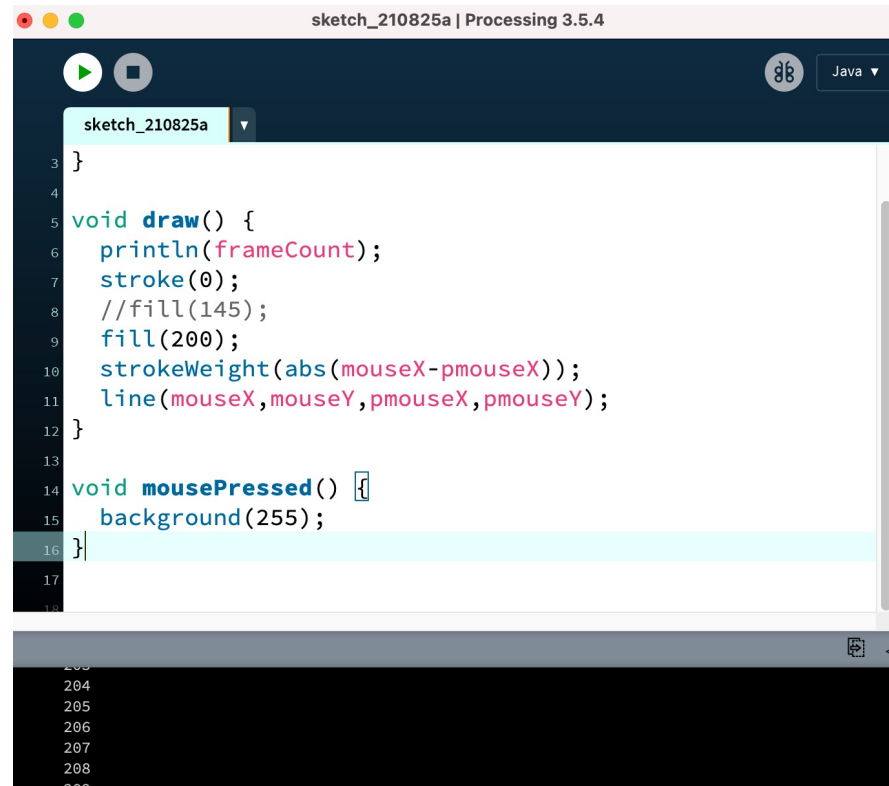
```
EVU_Gravity_cl9 Board Catcher Drop ▼
1 Drop drop;
2 Board board;
3 Drop[] drops;
4 float maxRad;
5 int dropCounter, numOfDrops;
6 boolean go;
7
8 void setup() {
9     size(800, 600);
10    dropCounter=10;
11    drops = new Drop[numOfDrops];
12    initArr();
13 }
14
15 void draw() {
16     background(255);
17     if (go) {
18         drops[0].move();
19         board.display();
20         println("Present score: " + board.score + " in round " + board.round);
21     }
22 }
23
24 void initArr() {
25     for (int i=0; i<numOfDrops; i++) {
26         drops[i]=drop;
27     }
28 }
29
30 void keyPressed() {
31     go=!go;
32 }
```

Present score: 6 in round 2  
in range in range Present score: 6 in round 2  
in range in range Present score: 6 in round 2  
Present score: 6 in round 2

Console Errors

# Dagens mål

- Få Processing i luften
- Få præsenteret os for hinanden
- Få det "praktiske" på plads
  - Teams, Zoom, Moodle
- Få en ide om målet med kurset
  - "Raindrops"
  - Eksamensprojektet
- Få gennemgået kap 1 & 2 (evt 3)
- Kunne "forstå" koden til højre
- Kunne kode eksempler nedenunder



```
sketch_210825a | Processing 3.5.4

3 }
4
5 void draw() {
6   println(frameCount);
7   stroke(0);
8   //fill(145);
9   fill(200);
10  strokeWeight(abs(mouseX-pmouseX));
11  line(mouseX,mouseY,pmouseX,pmouseY);
12 }
13
14 void mousePressed() {
15   background(255);
16 }
17
18
19
20
21
22
23
24
25
26
27
28
29
```

# Ups ... dagens mål

- ...
- Kunne "forstå" koden til højre
- "Forstå"
  - Kunne anvende
  - Kunne forklare
    - I dybden
    - I bredden
- Læringsstile ...
- Værktøjer
  - Moodle
  - Teams (?)
  - GitHub
  - [Shiffman](#)
  - Cheat sheets



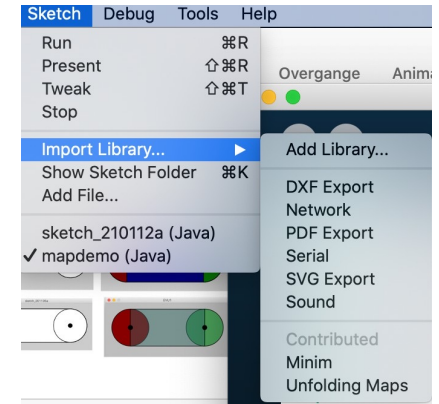
# Processing - digital intro (kap 2)

- Getting started ..
  - Installation
    - Windows & Mac
  - First example
  - First sketch
  - "is it java?"
    - Export ...
  - Preferences
    - Code completion ..
  - Reference
- Koordinatsystemet, Shapes & Colors in action
  - Functions ...
    - size()
    - println()
  - Comments
- Øvelse 2-4

# 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 præsentere dig selv ud fra ...
- Find flg linjer og indsæt dine koordinater i stedet

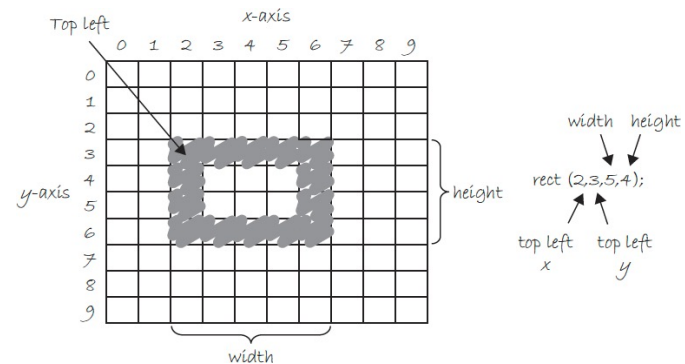
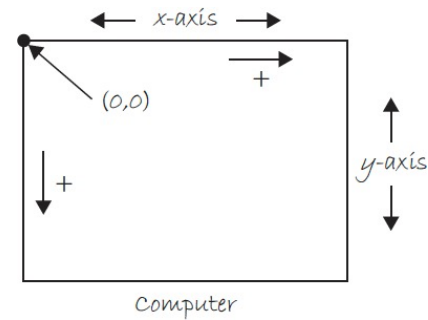
```
lat=52.357995;  
lng=4.868648;  
location = new Location(lat,lng);
```





# Processing - Analog intro (kap 1)


- Koordinatsystemet
  - "ned ad" = y vokser
  - "hen ad" = x vokser
- Basic shapes (with stroke, fill, strokeWeight)
  - rect(5,5,4,4)
  - circle(5,5,3)
  - point(5,5)
  - line(0,0,4,4)
  - (not arc!)
- Colors
  - Gray (0-255)
  - Color (RGB,HSB) & alpha
- Øvelser
  - 1-3
  - 1-4
  - 2-7



# 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



```
ex3_7 | Processing 3.5.4

void setup() {
  size(400,400);
}

void draw() {
  println(frameCount);
  stroke(0);
  //fill(145);
  fill(200);
  strokeWeight(abs(mouseX-pmouseX));
  line(mouseX,mouseY,pmouseX,pmouseY);
}

void mousePressed() {
  background(255);
}
```

Done saving.

524  
525  
526  
527  
528

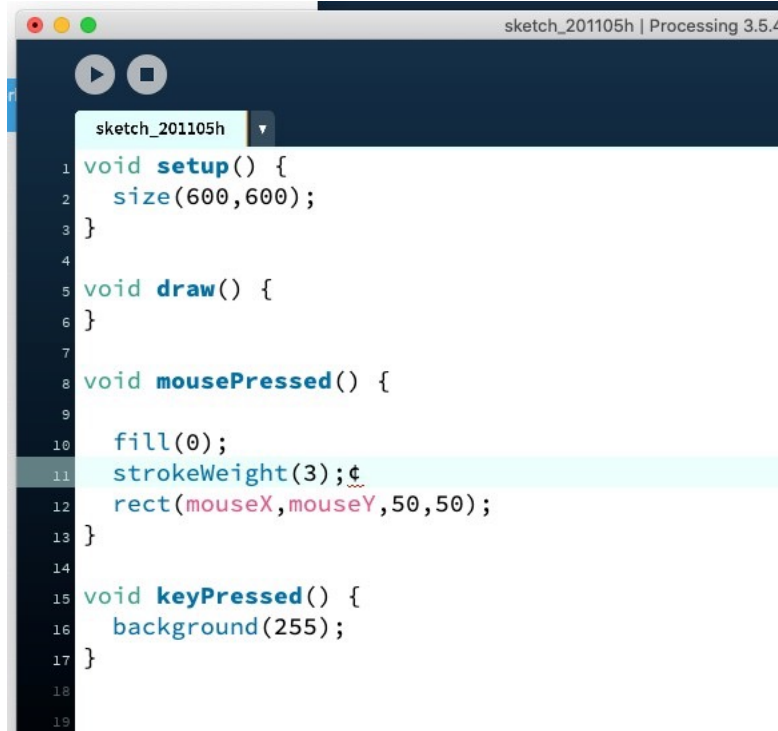
# Processing -Interaction øvelse I



# Mere mus ..

- Interaction

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



```
sketch_201105h | Processing 3.5.4

1 void setup() {
2   size(600,600);
3 }
4
5 void draw() {
6 }
7
8 void mousePressed() {
9
10  fill(0);
11  strokeWeight(3);
12  rect(mouseX,mouseY,50,50);
13 }
14
15 void keyPressed() {
16   background(255);
17 }
18
19
```

# Processing -Interaction øvelse II

1. Lav en mellem-tilfreds smiley som følger musen
2. Lav en glad smiley (brug arc)
3. Sørg for at ændring i size skalerer figuren (hint: tjek [width](#))

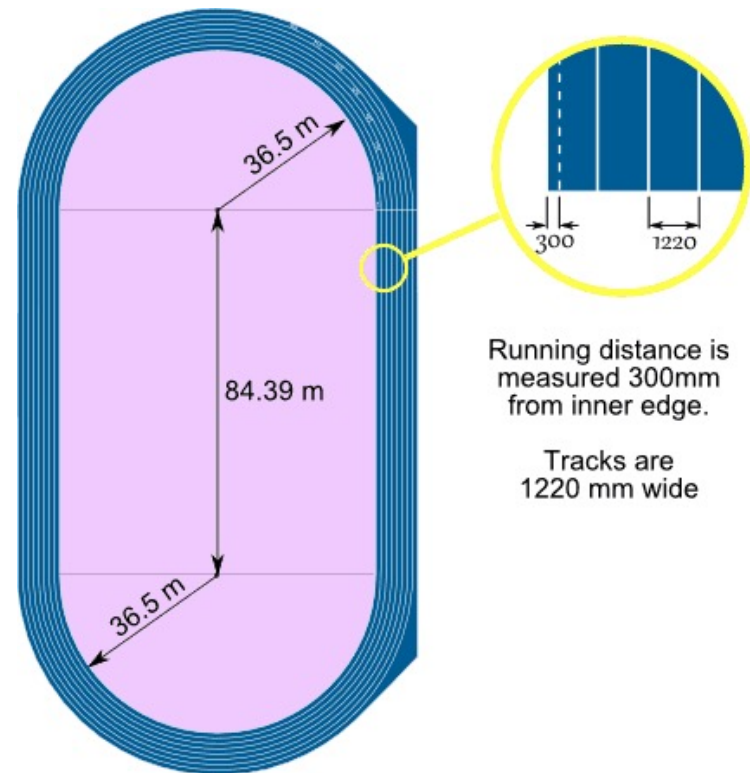
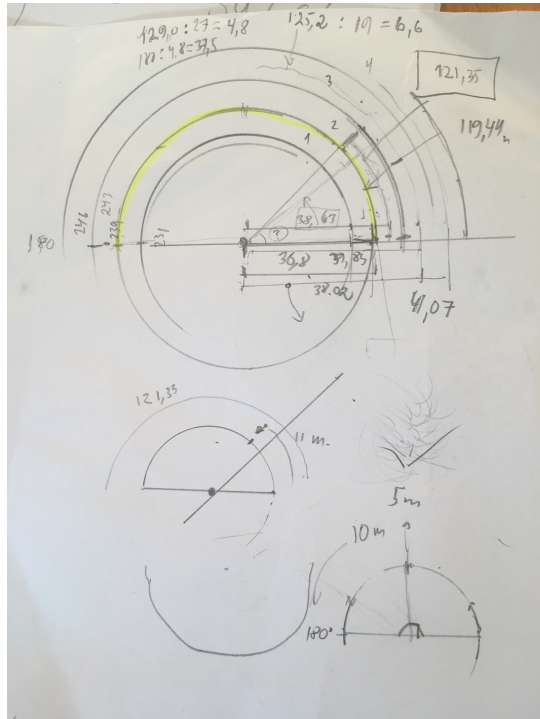


# Næste gang ....

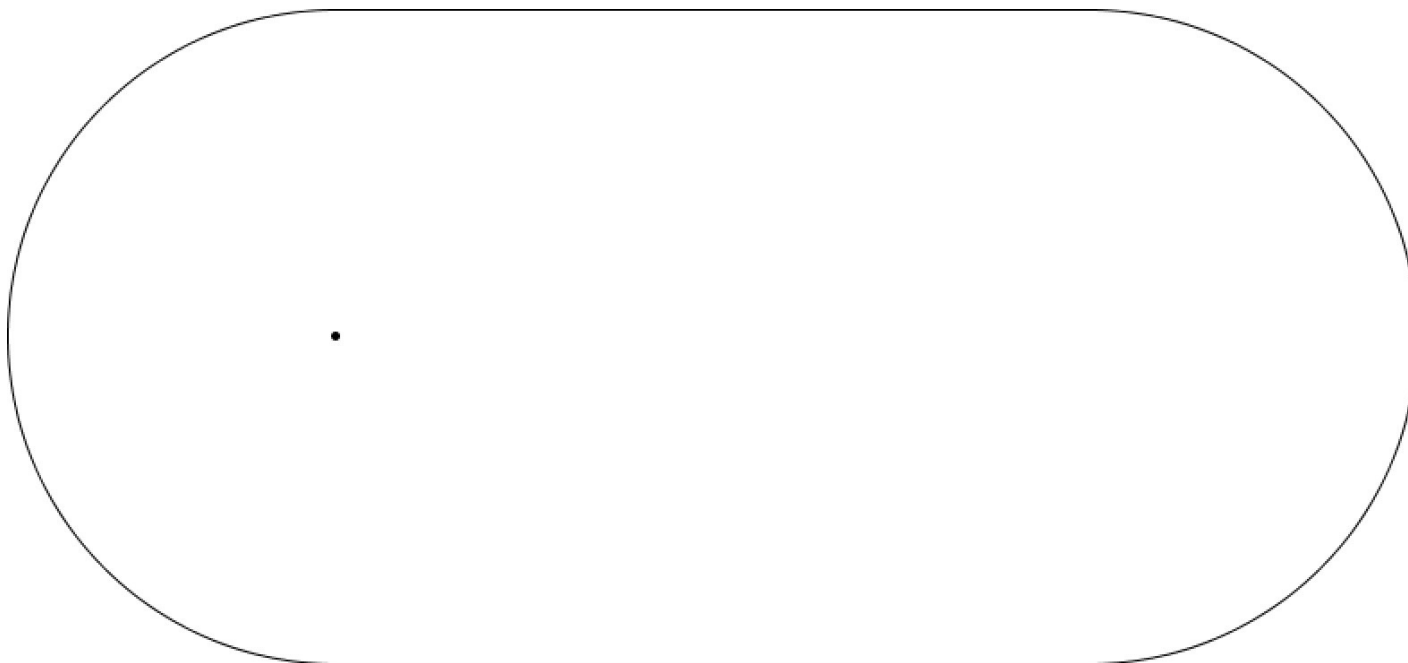
- Mere eller mindre
  - Hands-on?
  - "klassisk" gennemgang
  - Live coding ...

# Øvelse - Atletikbanen - challenge

- Konstruér en 400 m atletikbane med 8 løbebaner. Buen laves vha arc-shapen
- Ekstra: Tilføj forskudt start

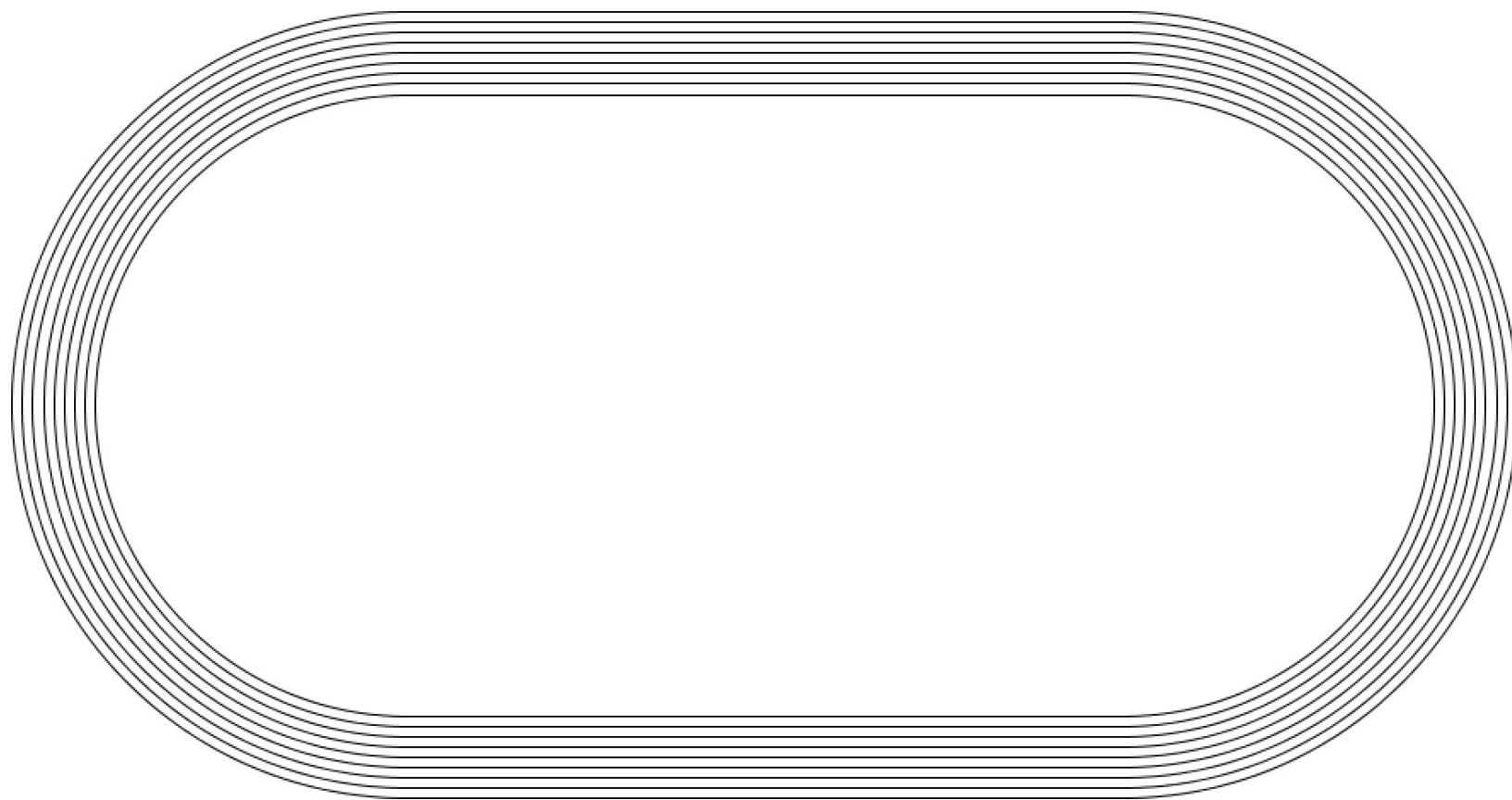


# Øvelse - Atletikbanen - step 1





## Øvelse - Atletikbanen - step 2



## Øvelse - Atletikbanen - step 3, polar coords

