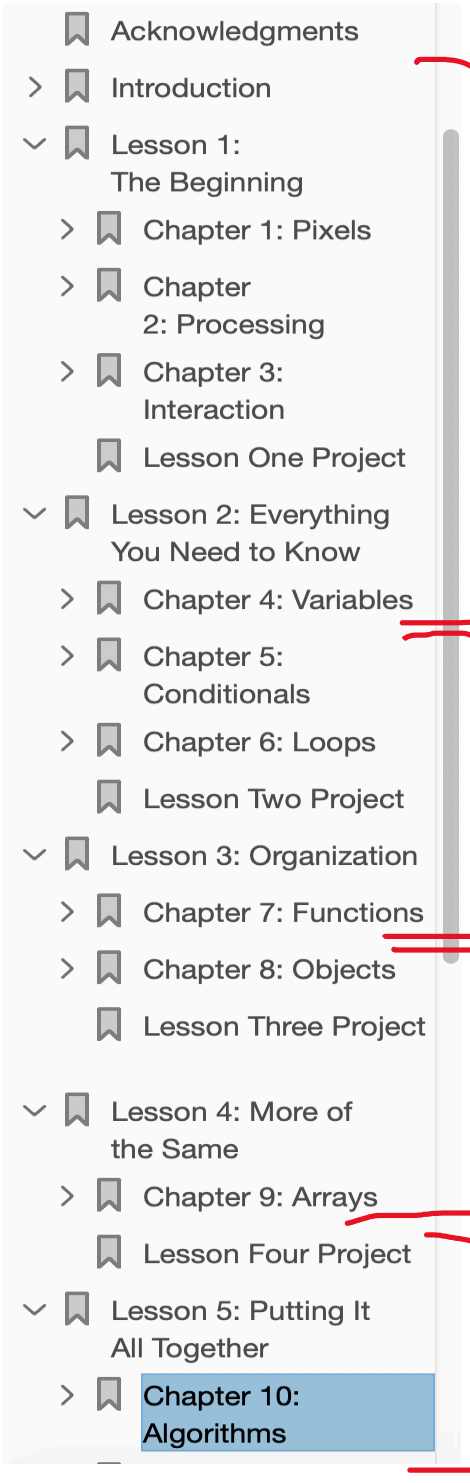
Processing – på vej til Java



Hvad er planen?

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

Dagens mål ….

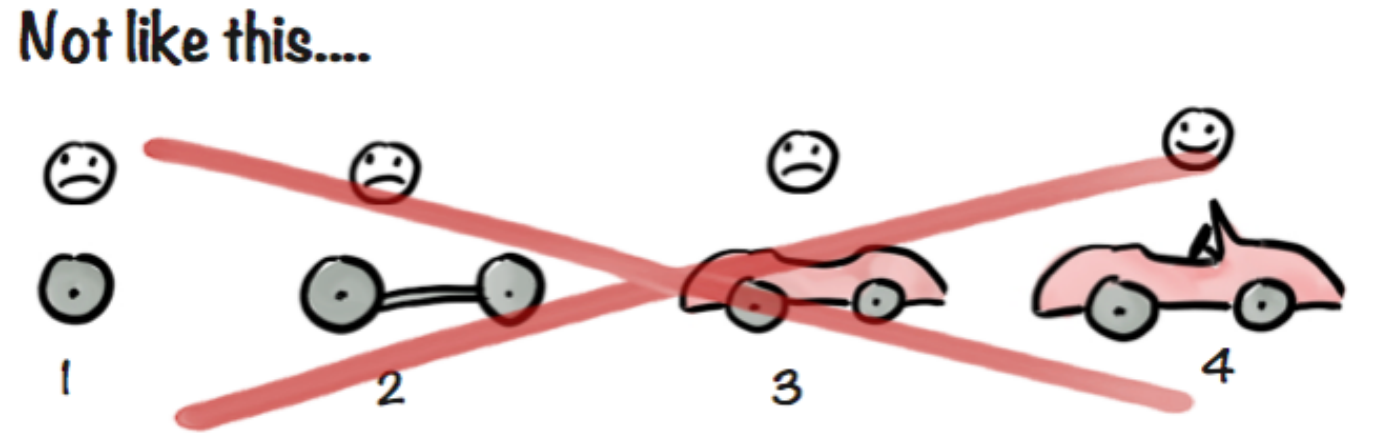
- Brug
  - Variabler
  - Betingelser
  - Loops
  - Arrays
  - Funktioner
  - Arrays
  - Objekter
  - Strings
- Krav-spec forbedringer
- Finde dit ”skateboard”

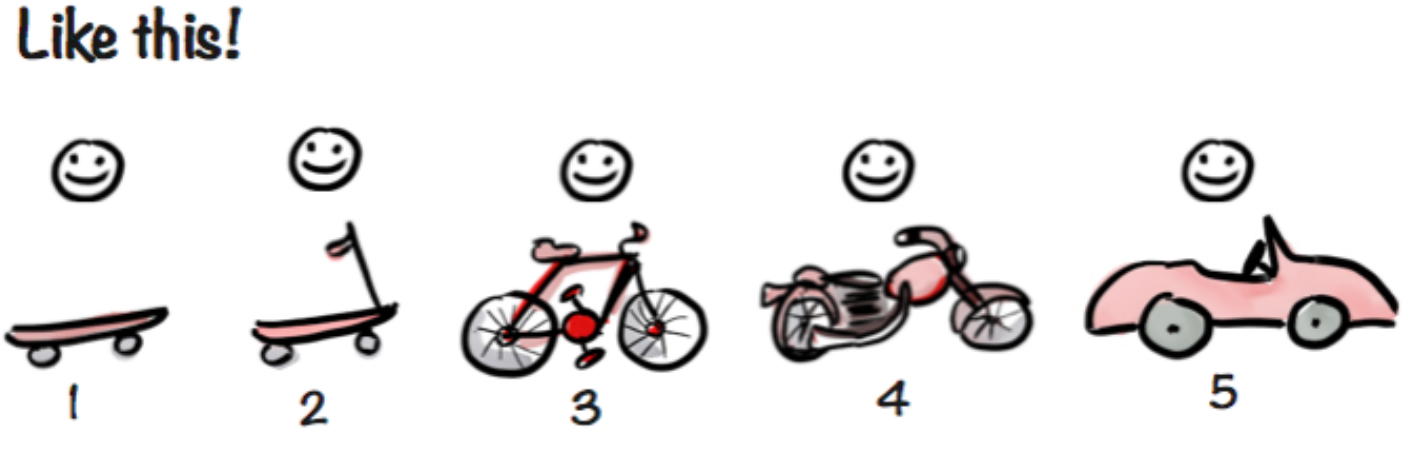
Dagens tidsplan

1.Slot: Start	2.Slot: Recap	3.Slot:	4.Slot:	5.slot:	6.slot:	7.slot:	8.slot: Afrunding
9:00 - 9:15	9:15 - 9:30	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:	3.Slot:	4.Slot:	5.slot:	6.slot:
13:00 - 13:15	13:15 - 13:30	13:30 - 13:50	14:00-14:20	14:20 - 14:30	14:30 - 15:00

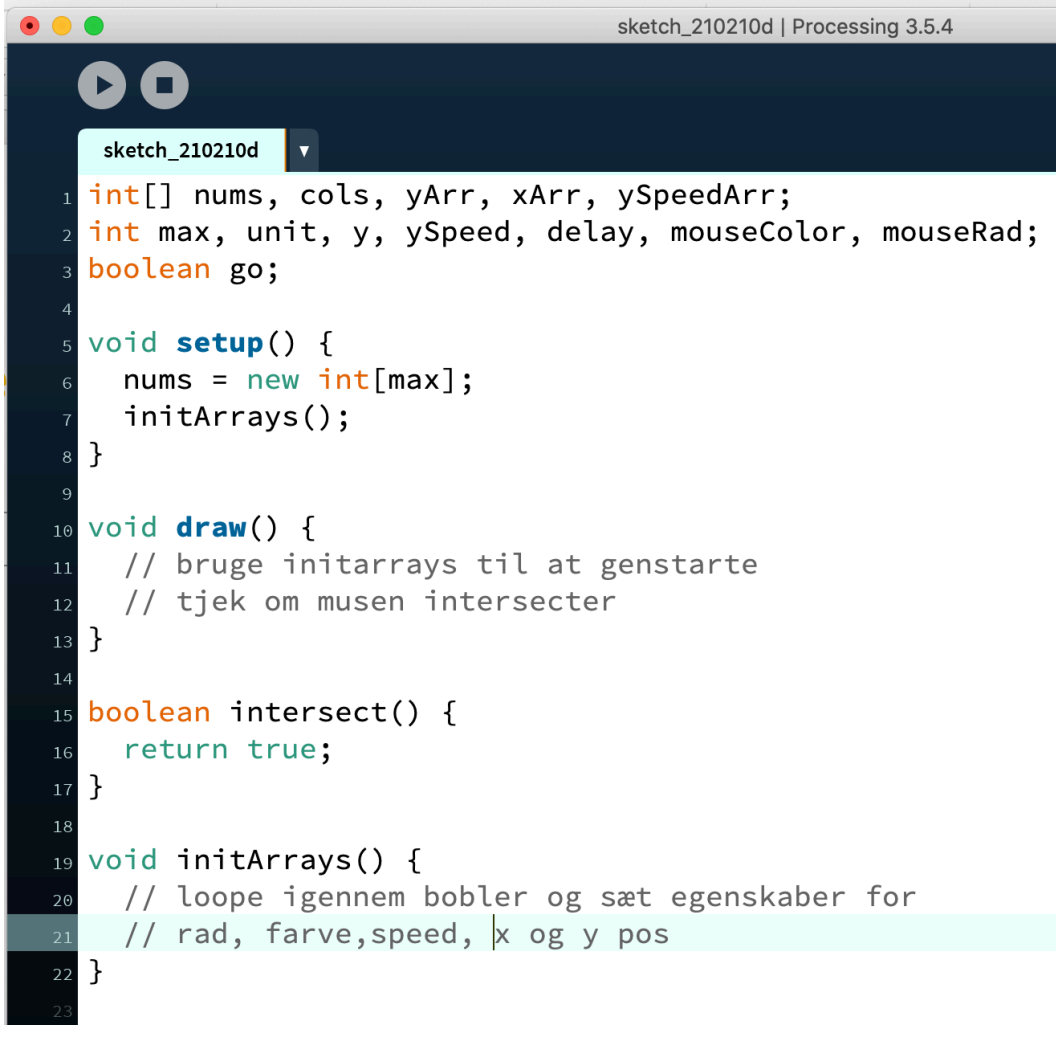
Processing – Et skateboard ..





Processing – Hvor vi slap sidst ..

- Datatyper (variabler)
  - primitives
    - Boolean, int, float
  - Non-primitive
    - Arrays
- Kontrol
  - Conditionals
    - If, else-if og else
    - relational
  - Iterationer
    - For
- Struktur
  - Metoder
- Processing-stuff
  - Grafik, interaction, ”system-var”, ”system-metoder”

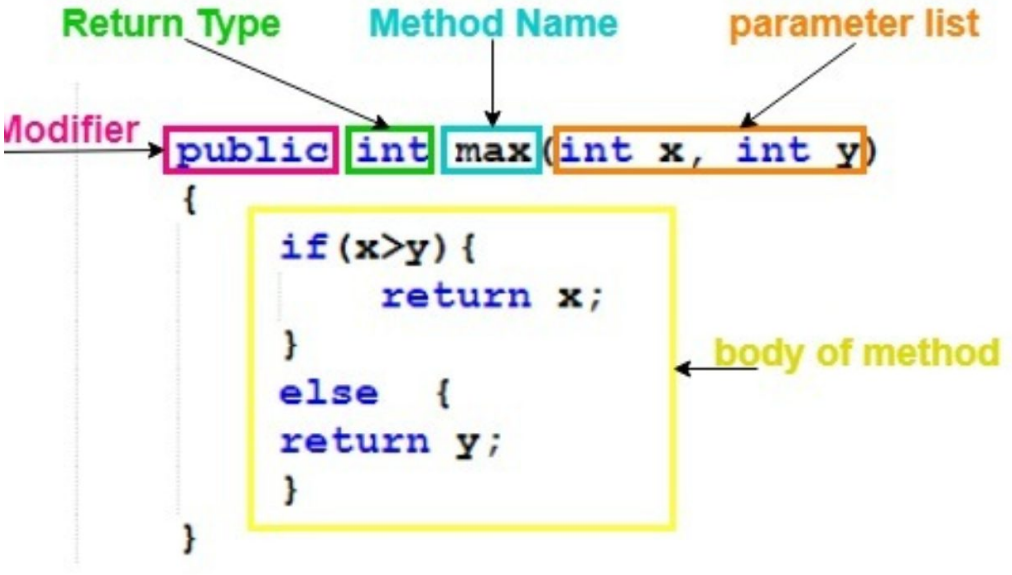


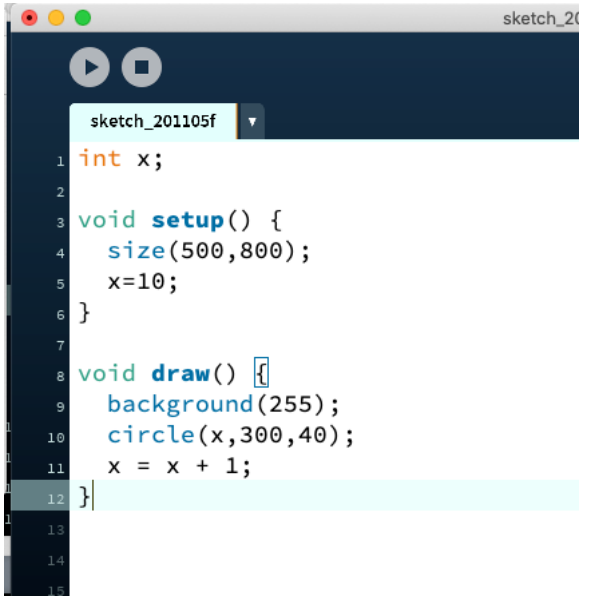
Processing – Fremad ..

- Datatyper (variabler)
  - primitives
  - Non-primitive
    - Arrays, Objects, Strings
- Kontrol
  - Conditionals
  - Iterationer
- Struktur
  - Metoder, Objects
- Processing-stuff /Java-stuff
  - Millis()


```
int[] cols, rads, xpos, ypos, speeds;
int unit, nums, delay, push, min;
boolean go;
PImage bg;

Circle[] circles;
Circle circle;
Catcher catcher;
Timer timer;

void setup() {
  size(600, 400);
  nums=200;
  delay=10;
  push=10;
  unit=width/nums;
  cols = new int[nums];
  rads = new int[nums];
  xpos = new int[nums];
  ypos = new int[nums];
  speeds = new int[nums];
  circles = new Circle[nums];
  catcher = new Catcher(min+8);
  timer = new Timer(100);
  min=3;
  go=true;
  bg = loadImage("cliff.jpeg");
  bg.resize(width,height);

  initArray();
  colorMode(HSB);
}
```

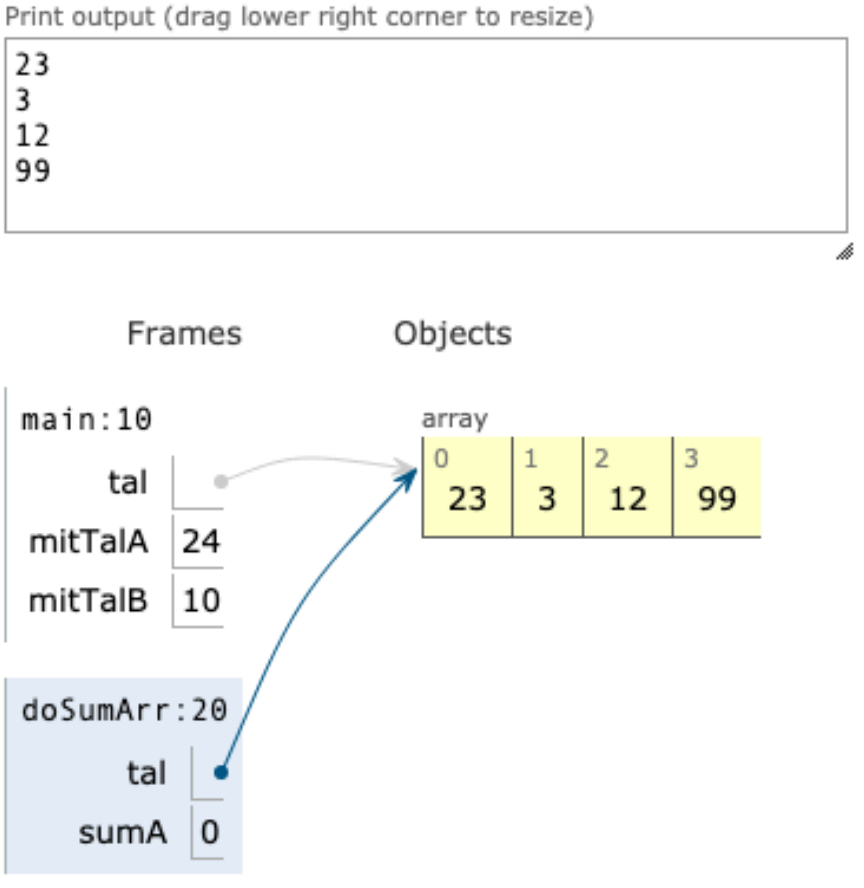
Kap 7 - Metoder



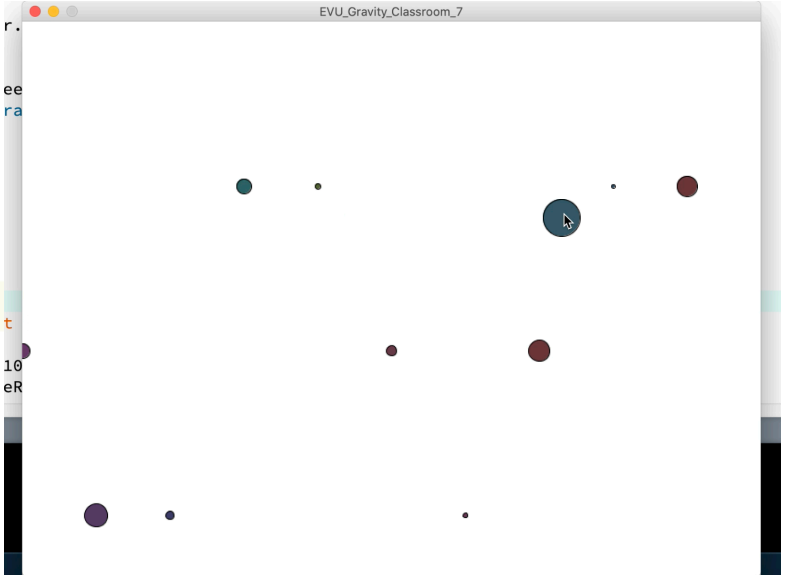


Kap 9 – Arrays - referencer

- pythontutor.com/java.html



Et mindre simpelt program II

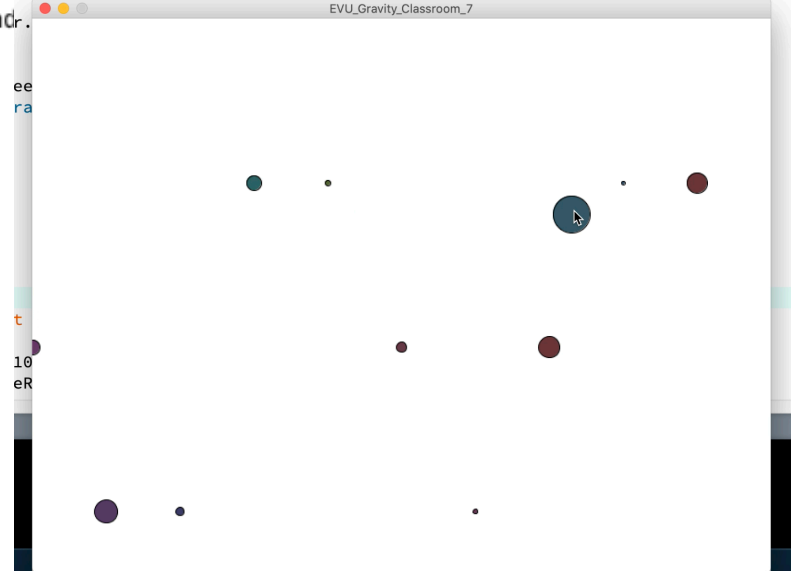



```
public class EVU_Gravity_Classroom_7 extends PApplet {

    int[] nums, cols, yArr, xArr,ySpeedArr;
    int max, unit, y, ySpeed, delay, mouseColor, mouseRad;

    public void setup() {...}

    public void draw() {...}

    public boolean intersect(float x, float y, float m, float n, float rad) {...}

    public void initArrays() {...}

    public void drawMouse(float x, float y) {...}
    public void settings() {  size( width: 800,  height: 600); }
```

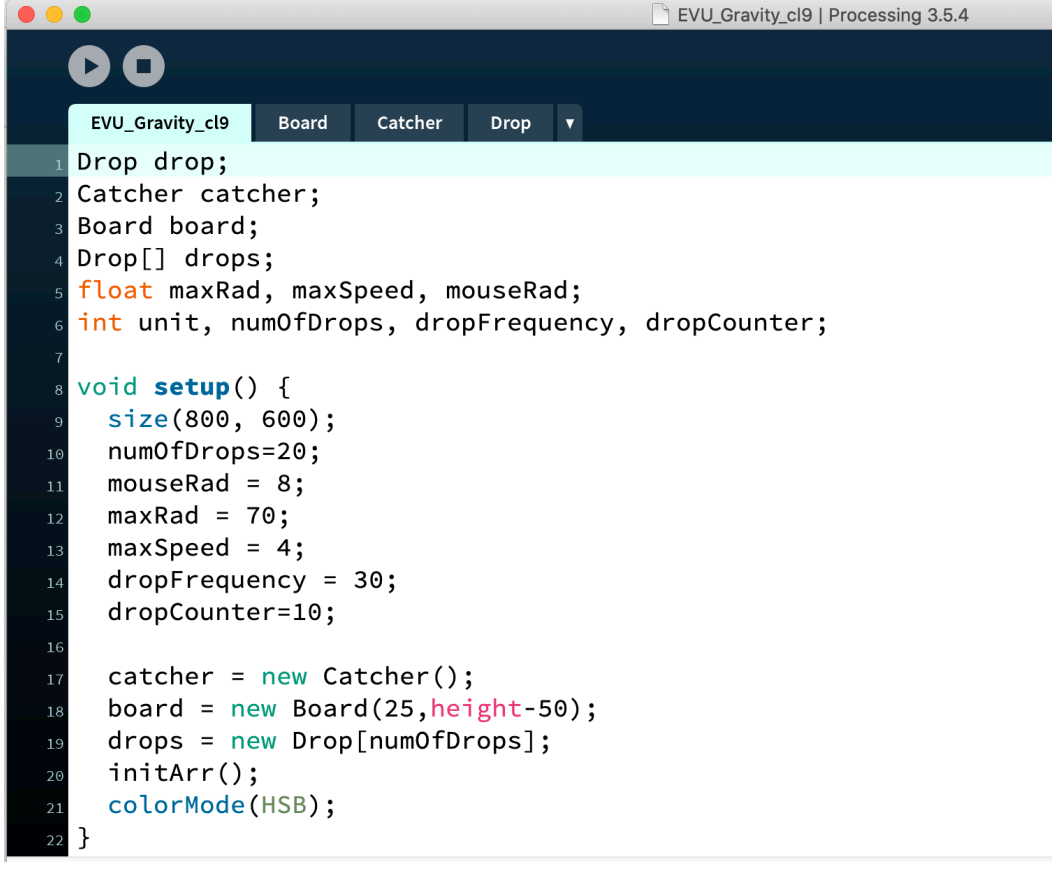
Et mindre simpelt program IV

For mange arrays …

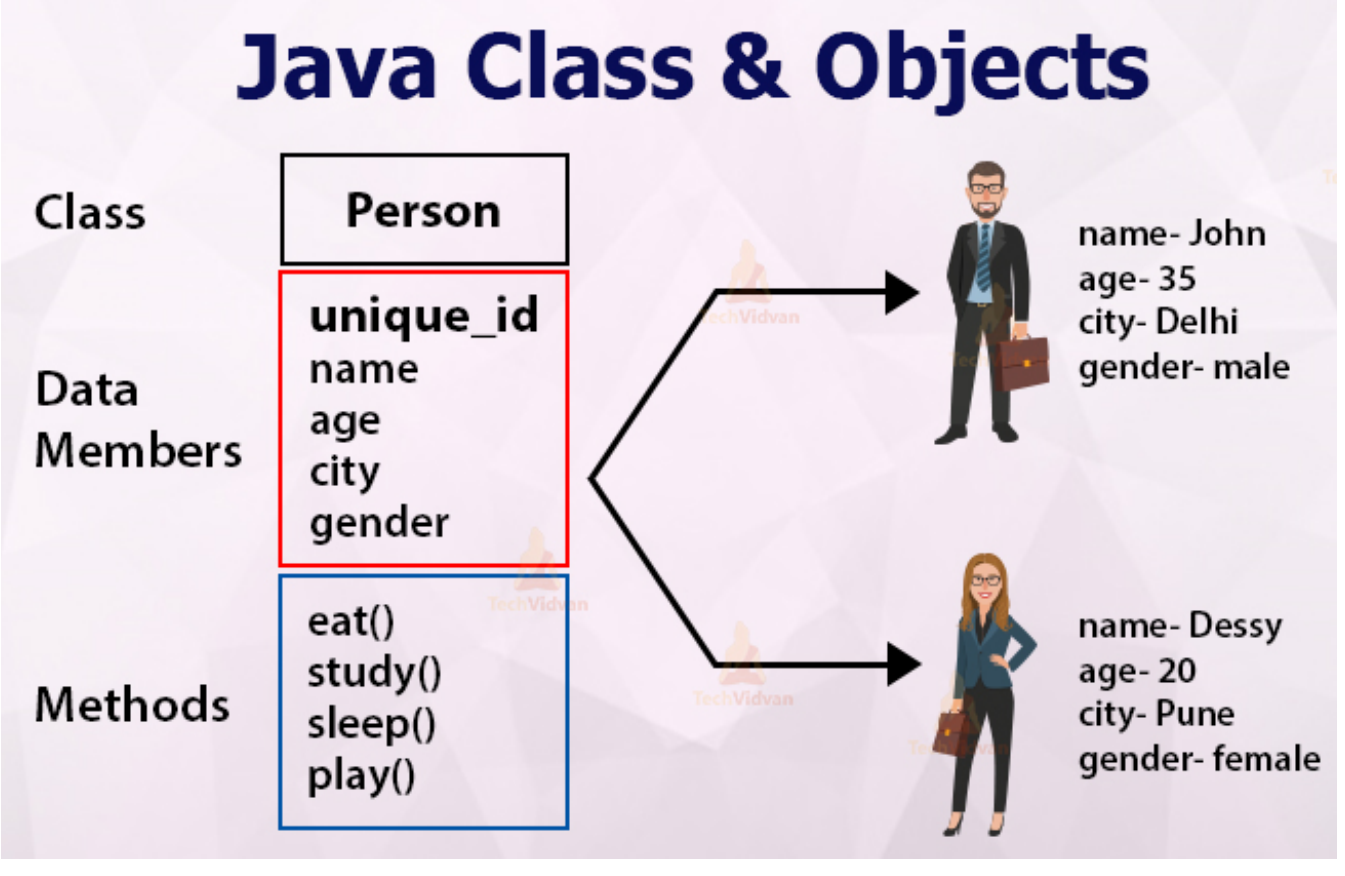
```
public class EVU_Gravity_Classroom_7 extends PApplet {

    int[] nums, cols, yArr, xArr,ySpeedArr;
    int max, unit, y, ySpeed, delay, mouseColor, mouseRad;

    public void setup() {...}

    public void draw() {...}

    public boolean intersect(float x, float y, float m, float n, float rad

    public void initArrays() {
        for (int i=0; i<nums.length; i++) {
            nums[i]=PApplet.parseInt(random( low: 1,  high: 30));
        }
        for (int i=0; i<cols.length; i++) {
            cols[i]=PApplet.parseInt(random( low: 1,  high: 360));
        }
        for (int i=0; i<yArr.length; i++) {
            yArr[i]=0;
        }
        for (int i=0; i<xArr.length; i++) {
            xArr[i]=(i*unit);
        }
        for (int i=0; i<ySpeedArr.length; i++) {
            ySpeedArr[i]=PApplet.parseInt(random( low: 1,  high: 4));
        }
    }
```



Et nyt design - OO



Java OO


Java Class & Objects
Class
Person
Data Members
unique_id
name
age
city
gender
Methods
eat()
study()
sleep()
play()
name- John
age- 35
city- Delhi
gender- male
name- Dessy
age- 20
city- Pune
gender- female

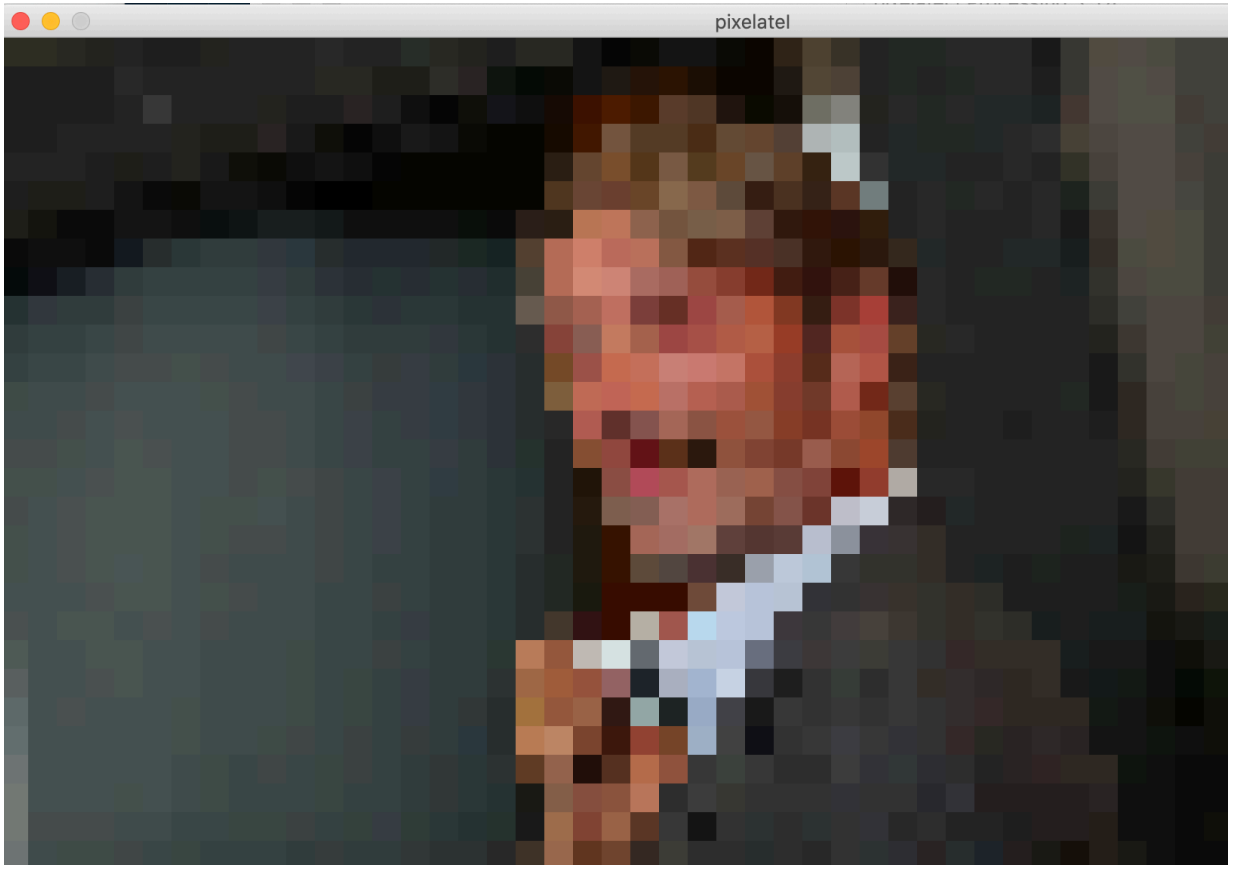
Processing OOP-øvelser

- Et par bouncing circles
- Masser af firkanter
  - Start med arrays
  - Lav til objekter
- Masser af biler
  - I en garage
- Processing og Strenge

Eksamen - Disposition

- Indledning
  - Præsentation af opgaven og Processing
- Teoretiske nedslag
  - Variabler – scopes
    - Strings -> udfordring
  - Metoder – forskellige signaturer (referencer vs primitive)
  - Data-strukturer
    - Arrays af primitiver -> udfordring (mange data)
    - Arrays af objekter -> udfordring (abstraktionen)
  - Kontrol strukturer
    - If og modulus -> udfordring (Processings frameCount)
- Afrunding
  - Visning af konkret produkt

Pixel Quiz



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);
```