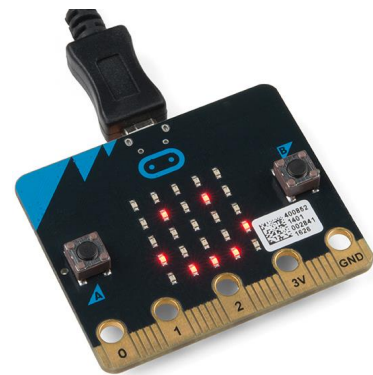




Welkom in het Stadslab

HBO-i: Kijkje in de keuken



Meten - Sensorlab met Arduino, Raspberry Pi, Microbit, LittleBits, MakeyMakey etc.



Weten - Datalab Open Data, Big data, Data visualization, Ethics, Privacy etc.

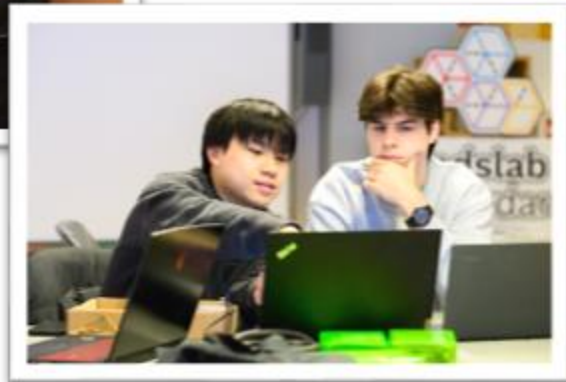
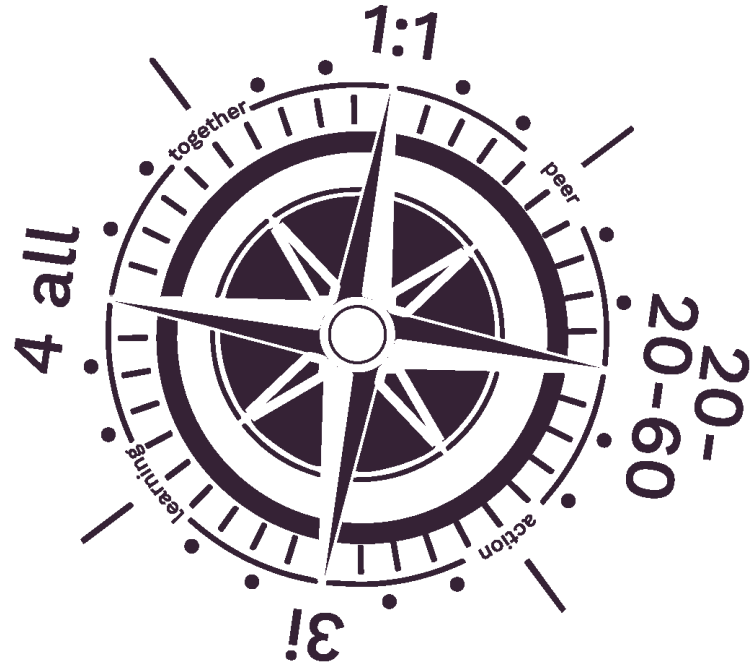


Doen - Fablab met 3D printers, heatpress, lasercutters, vinylsnijder etc.

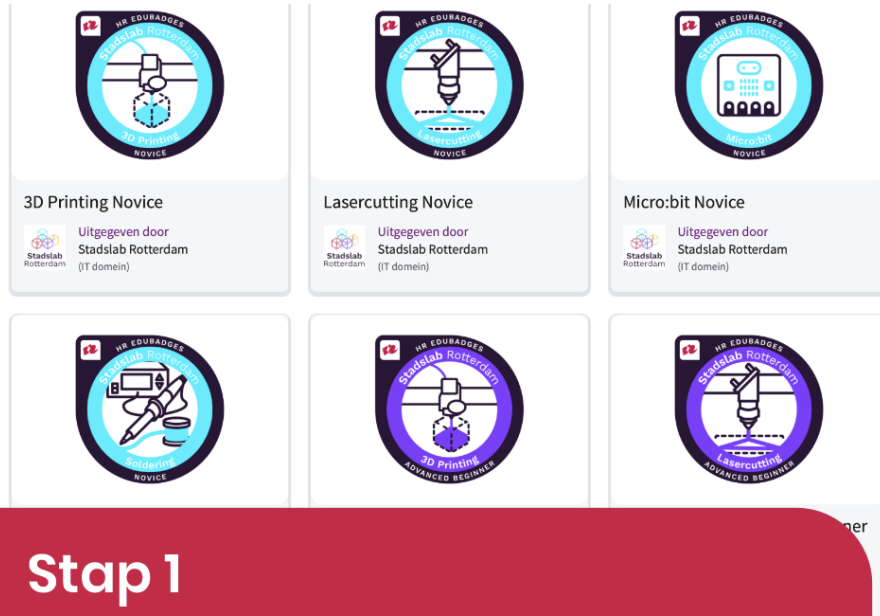


Ervaren - VR-lab met middelen voor AR en VR, games en kennis van software.





Verdien een Edubadge voor je kennis en vaardigheden



Stap 1

Maak op www.edubadges.nl een EduID aan, bekijk het aanbod in de catalogus en vraag de Edubadge meteen aan!

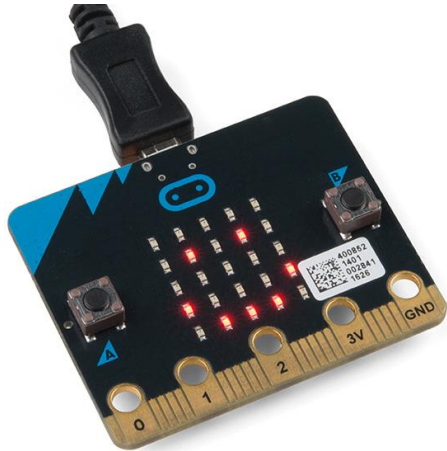


Let op! Maak een EduID aan met een e-mailadres waar je na je studie ook nog toegang toe hebt.

Stap 2

Volg een workshop of ga aan de slag in het Stadslab. Oefen met de techniek en maak foto's van je resultaten!

Microbit



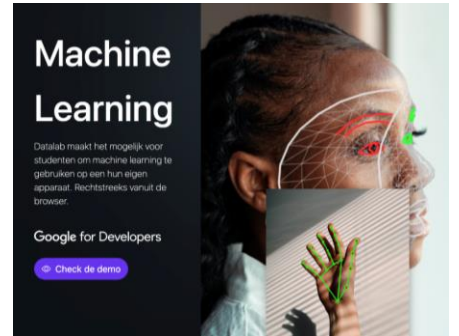
Hack de borduurmachine



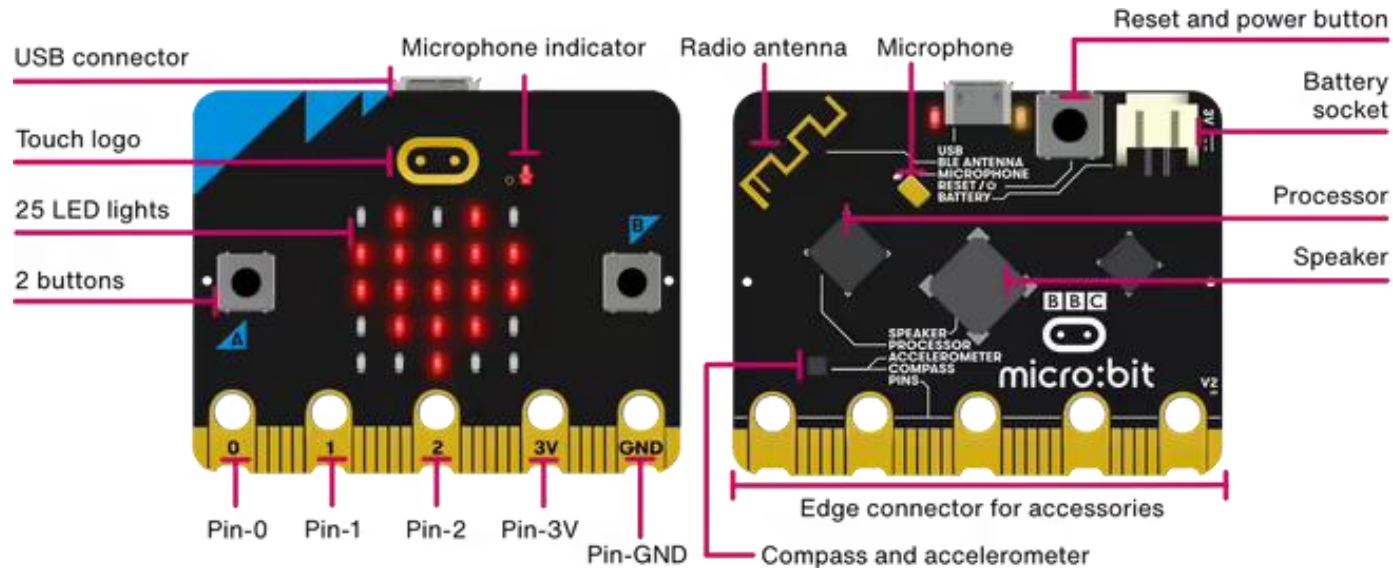
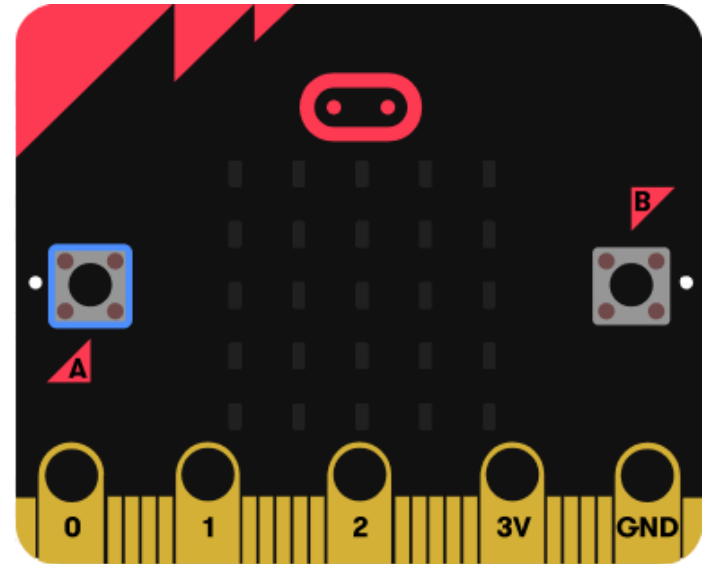
VR-lab



Datalab



Introductie Microbit



Microsoft | micro:bit

Bladen Janscript

Aanmelden

Hier kun je de code uittesten in een simulatie

Hier kun je de micro:bit verbinden via USB en de code downloaden

Hier vind je verschillende codeblokken

Hier kun je de codeblokken programmeren

Downloaden

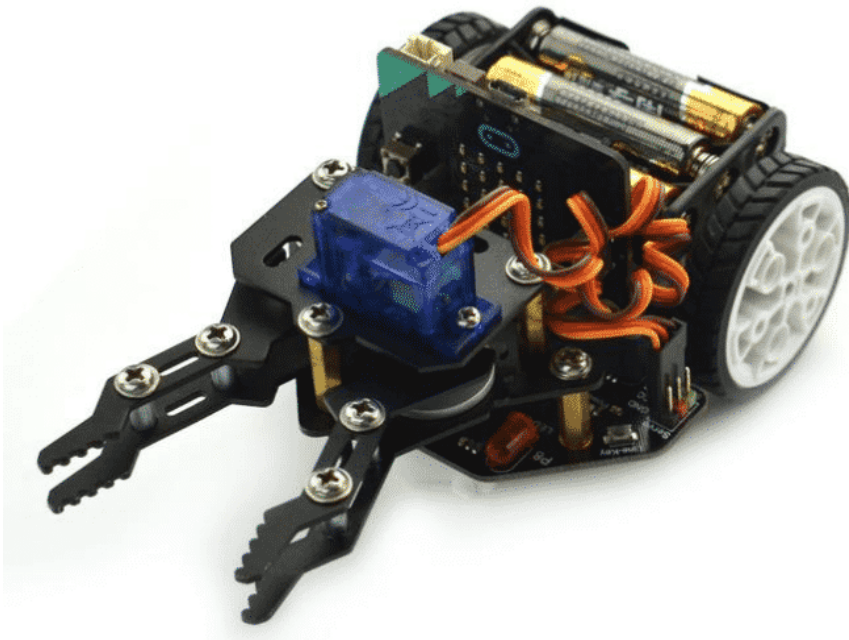
Project

Programma voor de lijnvolger

Importeer het .hex bestand en download naar de microbit



edu.nl/hx8ea



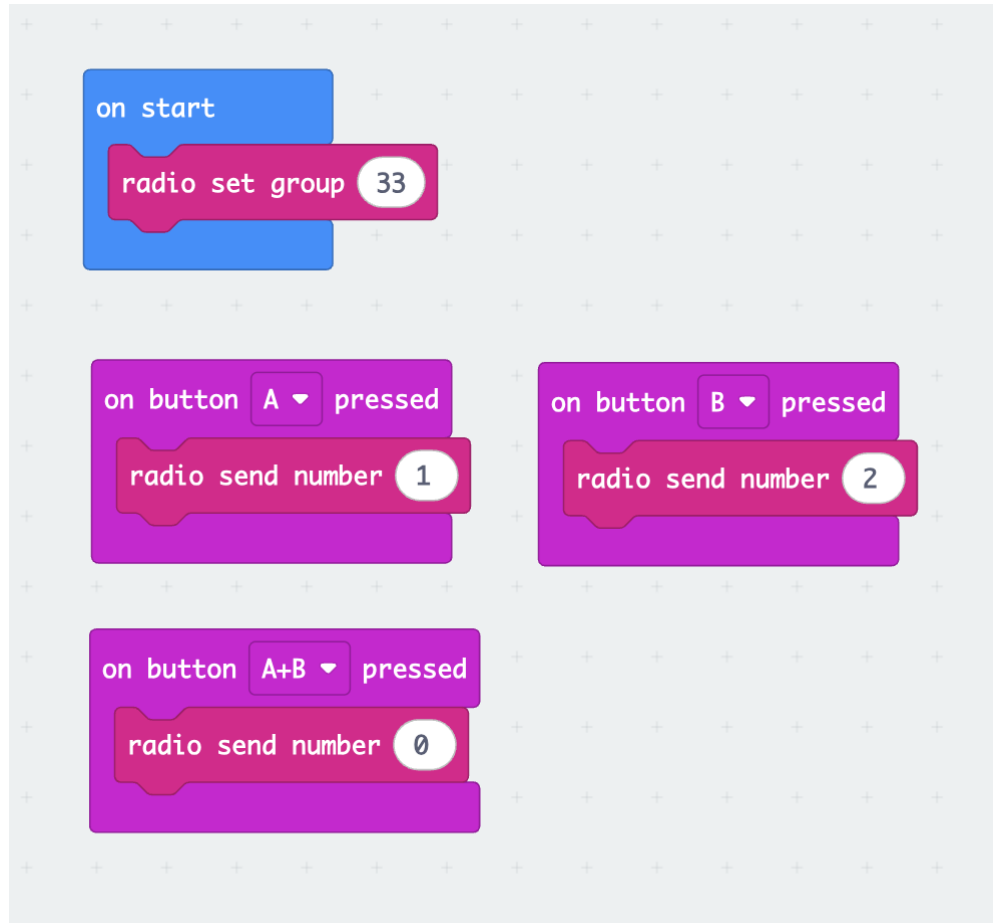
```
on start
  initialize via I2C until success
  RGB show color blue

forever
  if read line sensor L2 state == 1 and read line sensor R2 state == 0 then
    set left motor direction rotate forward speed 0
    set right motor direction rotate forward speed 60
  if read line sensor L1 state == 1 or read line sensor M state == 1 or read line sensor R1 state == 1 then
    call Line patrol
  if read line sensor L2 state == 0 and read line sensor R2 state == 1 then
    set left motor direction rotate forward speed 60
    set right motor direction rotate forward speed 0
  if read line sensor L1 state == 1 or read line sensor M state == 1 or read line sensor R1 state == 1 then
    call Line patrol
  call Line patrol

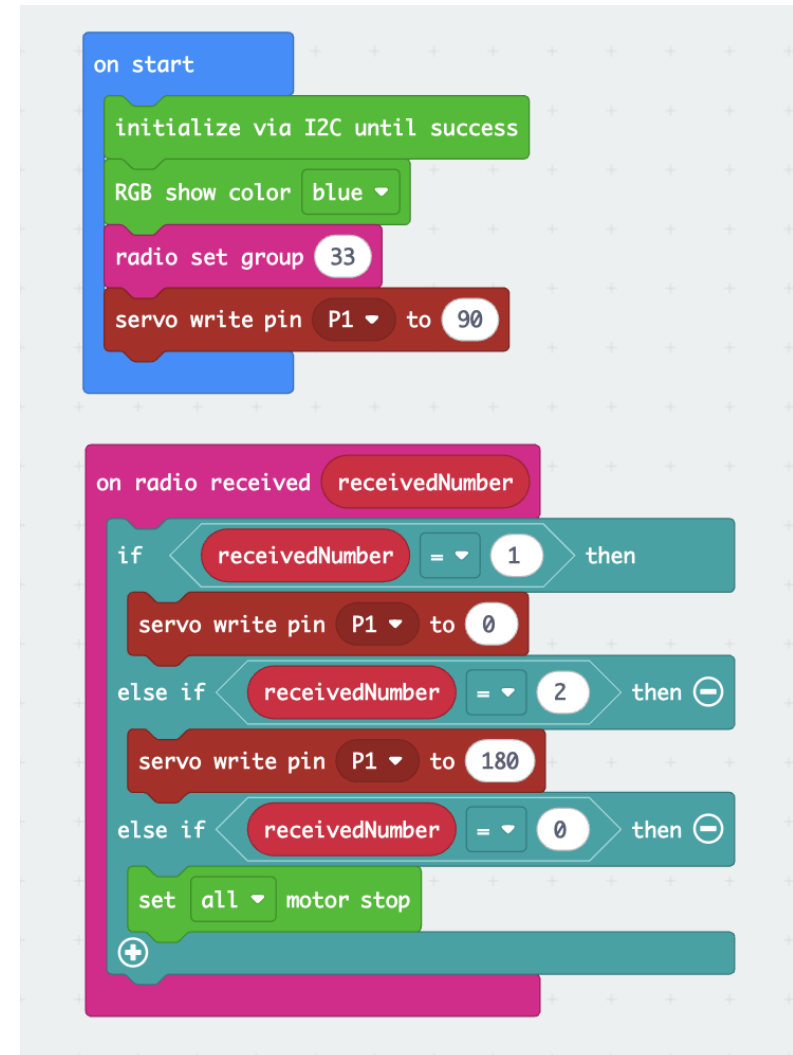
function Line patrol contr...
  ...
```

Zie documentatie: Dfrobot Maqueen Plus V3

Maak een afstandsbediening om de grijper aan te sturen



En voeg code toe aan het lijnvolger programma

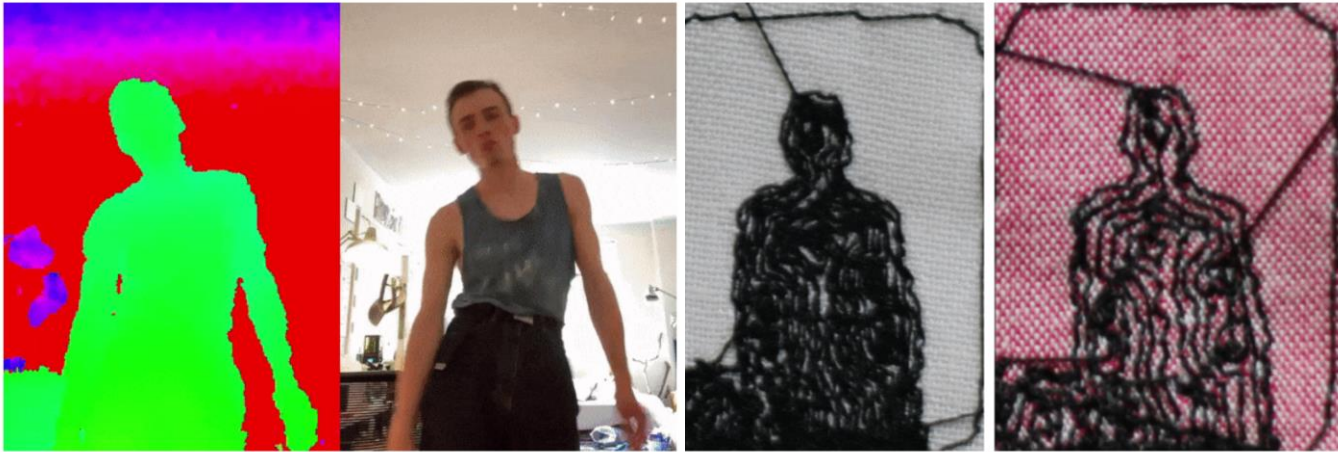




***Hack de
borduurmachine***

Computational Embroidery?

Make your own embroidery pattern!



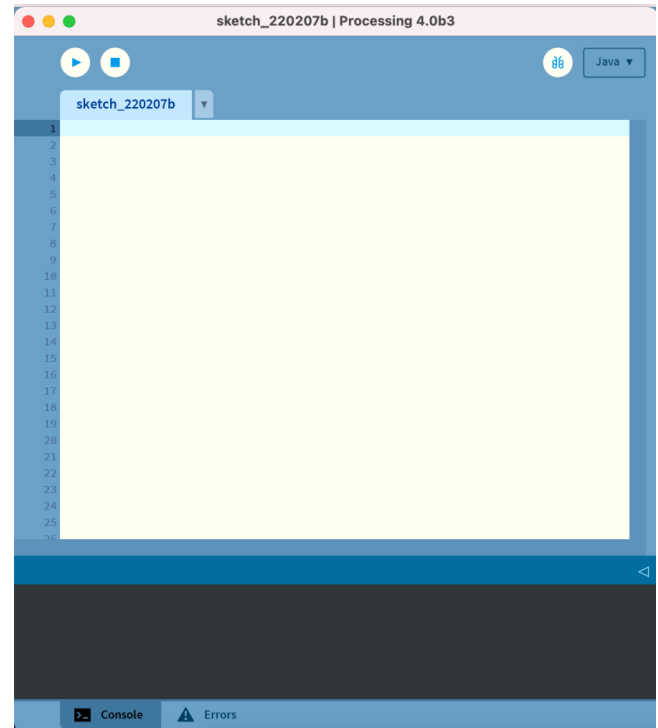
www.davidbperry.com

Wat is Processing? www.processing.org

Een *elektronisch schetsboek* voor ontwikkelaars

Open source = gratis!

Design, animation, motion graphics, data visualisation, and many other creative applications.



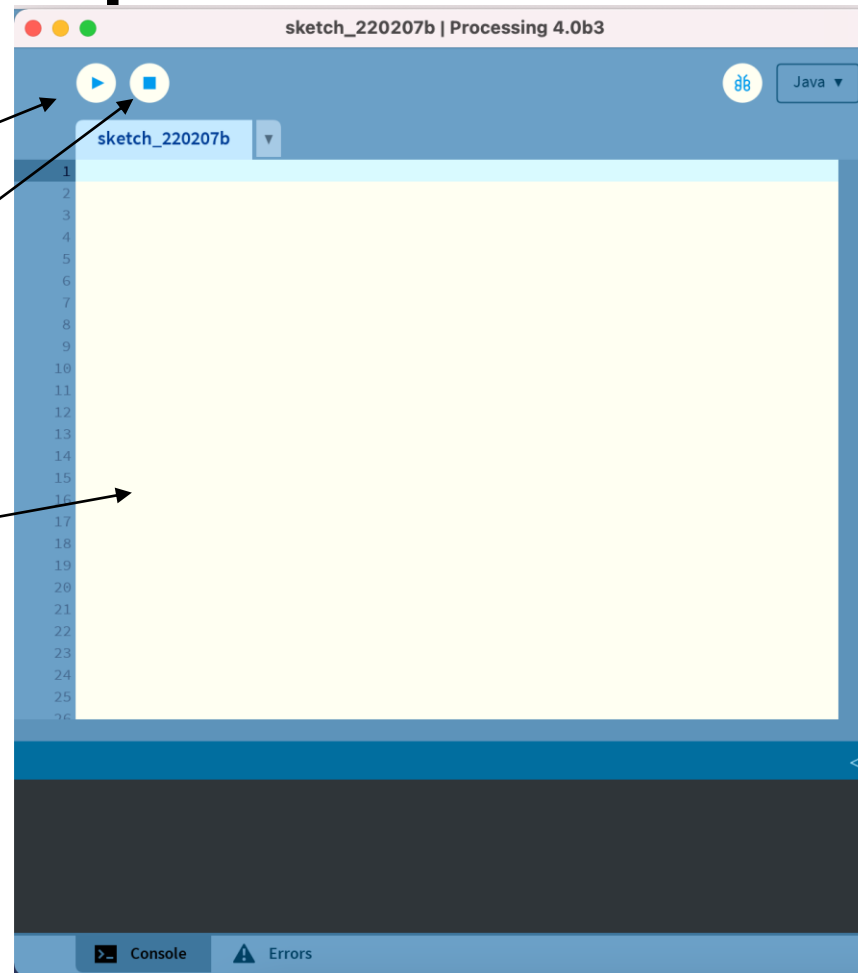
Processing Development Environment (PDE)

Run program

Stop program

Type hier code

Errors staan hier




void setup

Wordt 1 keer uitgevoerd

void draw

Herhaalt (loop)



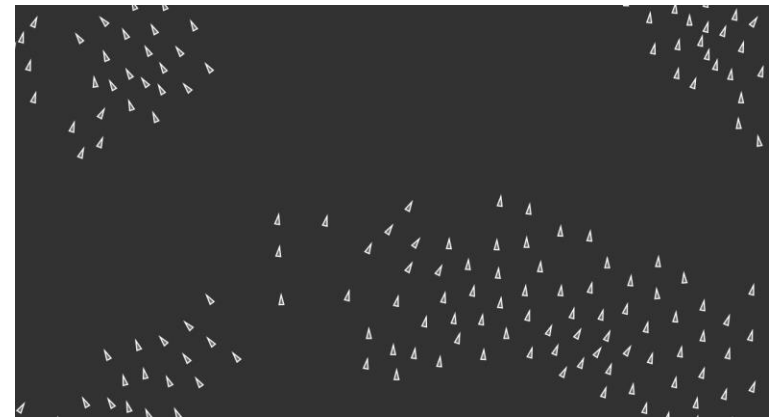
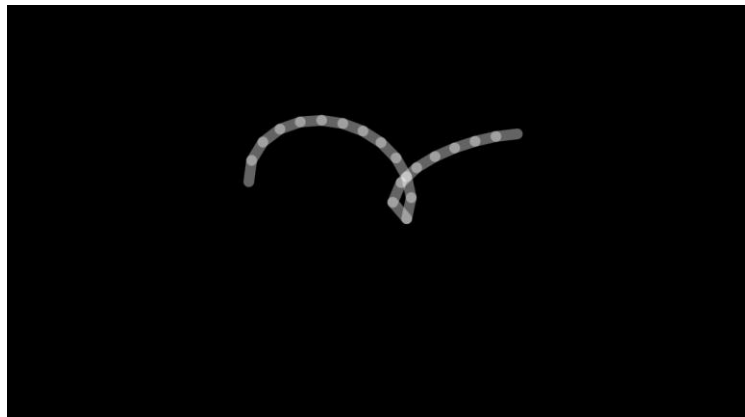
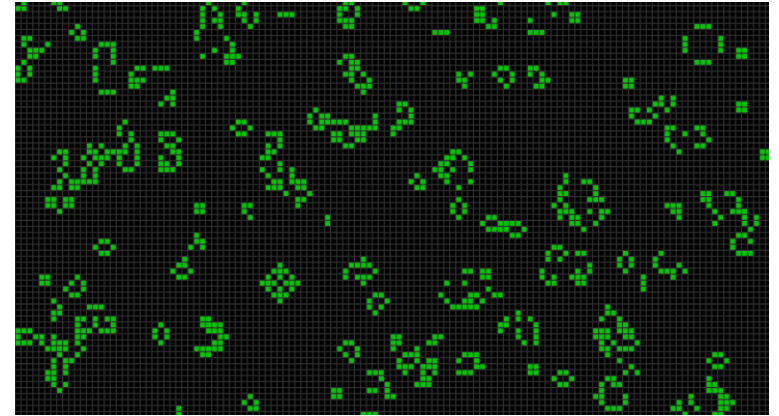
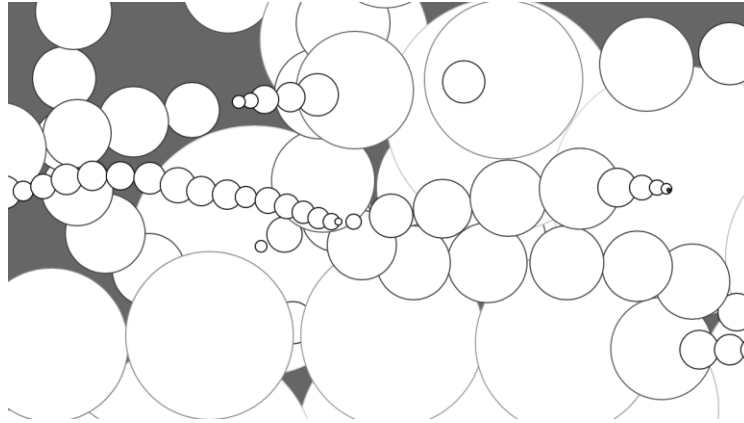
The screenshot shows the Processing IDE interface. The title bar reads "static_code | Processing 4.0b3". The code editor contains the following Java code:

```
1
2 void setup() {
3   size(500, 500);
4 }
5
6 void draw() {
7   background(0);
8
9   //rood balletje
10  fill(255,0,0); //kleur
11  ellipse(100,100,50,50); // positie , grootte
12
13  //groen balletje
14  fill(0,255,0);
15  ellipse(200,200,50,50);
16
17  //blauw balletje
18  fill(0, 0, 255);
19  ellipse(300,300,50,50);
20 }
21
```

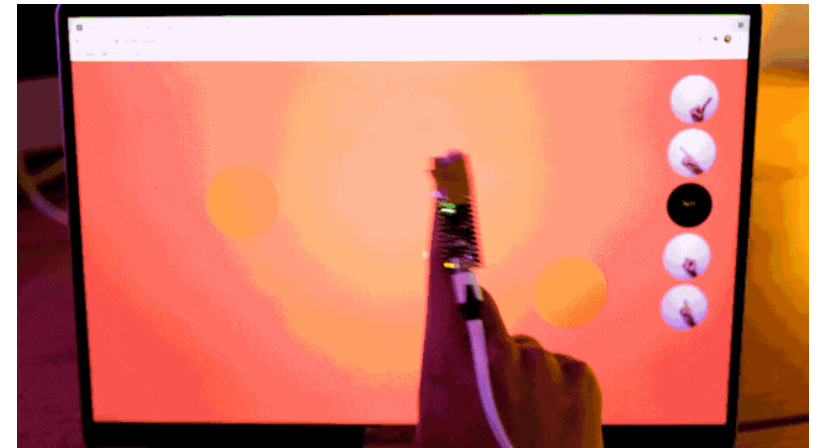
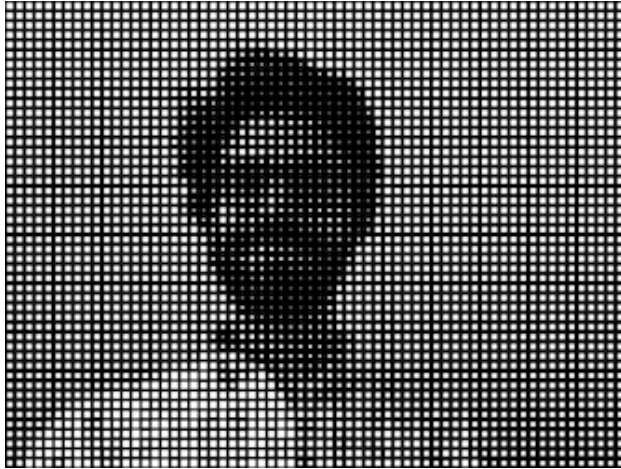
Processing

www.processing.org

File ->
Examples ->
Topics



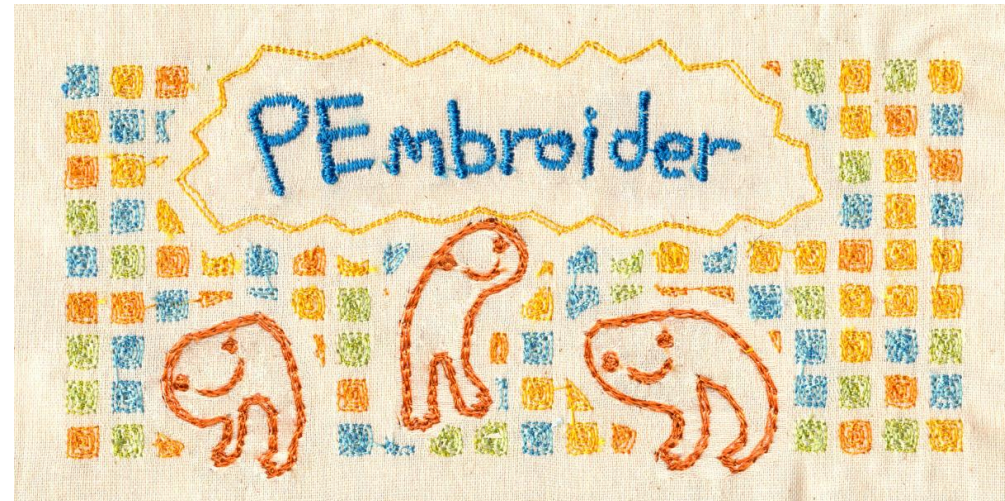
Processing koppelen aan hardware



PEmbroider <https://github.com/CreativeInquiry/PEmbroider>

PEmbroider is een borduur library voor [Processing](#) creative coding software voor het generering van borduurpaden.

Pembroider is gratis, werkt voor meerdere platforms, open-source, vraagt weinig geheugen en heeft ontelbaar mogelijkheden.

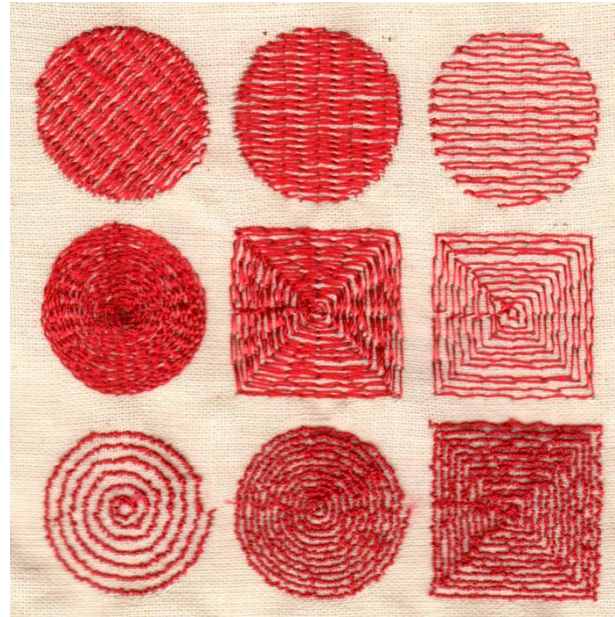
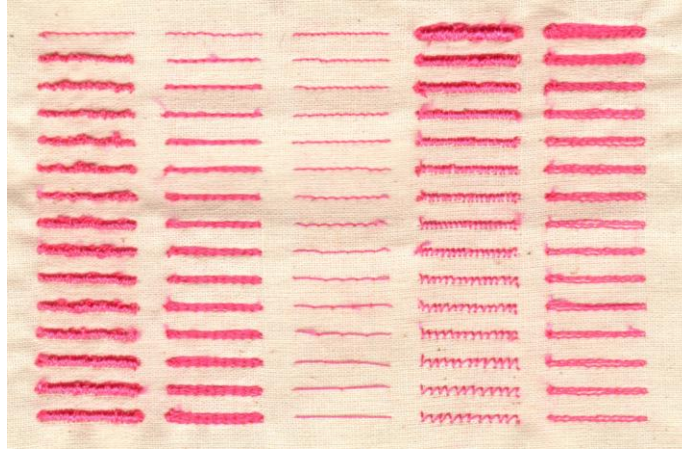


PEmbroider

Kan borduur paden in .DST, .EXP, .JEF, .PEC, .PES, .VP3, en .XXX bestandstypen genereren

Kan ook vectorbestanden zoals .PDF, .SVG, .TSV, .GCODE genereren voor plotters of CNC-frezen





Aan de slag <https://github.com/CreativeInquiry/PEmbroider>

1. Download het .ZIP voor P3 of voor P4
2. Plaats de uitgekakte map in de libraries van Processing
3. Open Processing!
4. Schets -> Bibliotheek Importeren -> PEmbroider
5. Bestand -> Examples -> Contributed Libraries
6. Play!

TL;DR

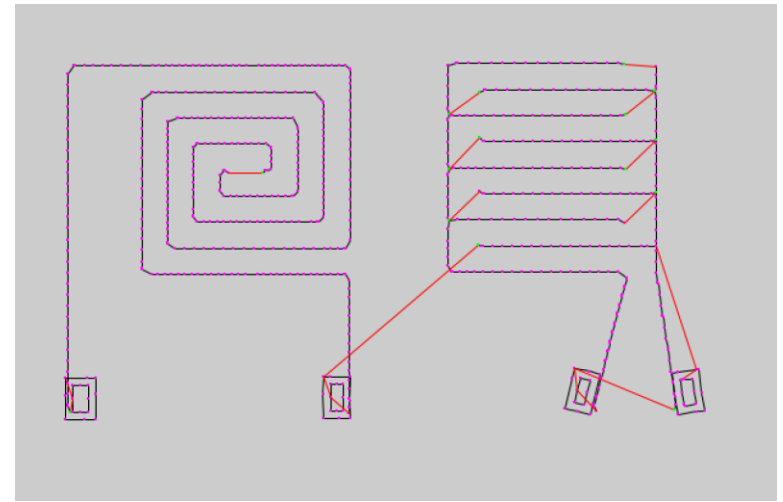
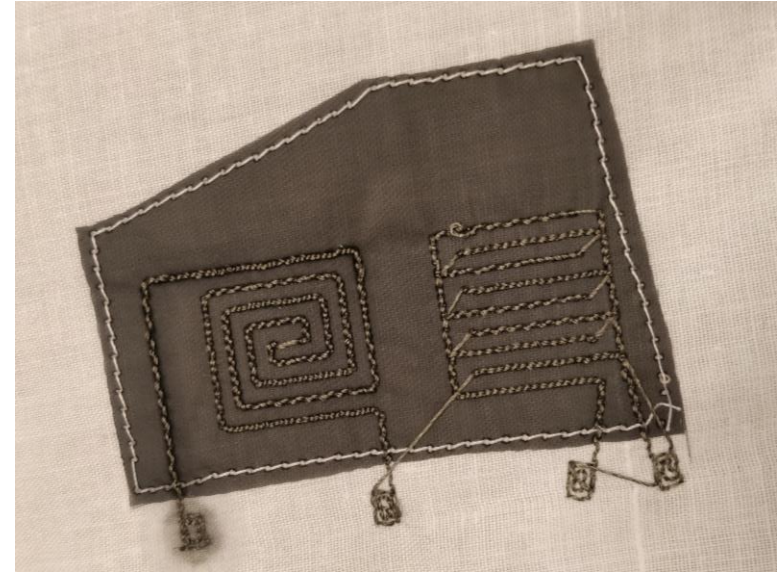
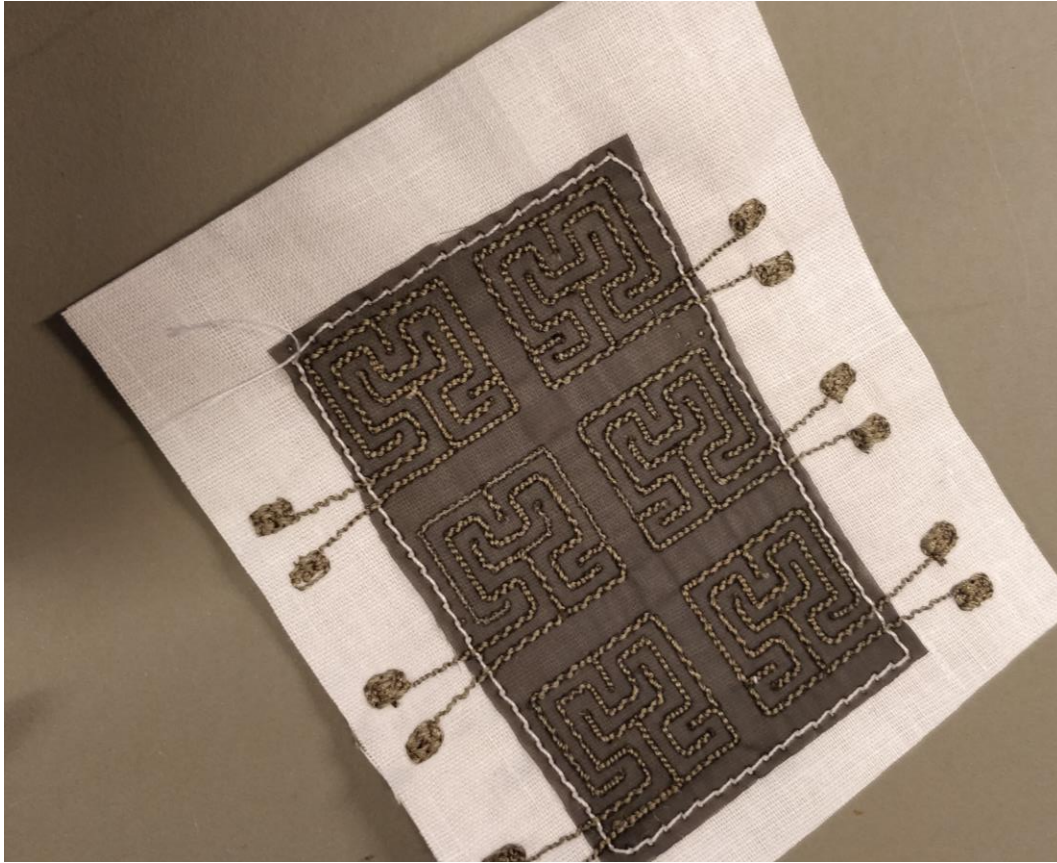
- Download the PEmbroider library [.ZIP file for processing 3](#) or [for processing 4](#)
- Instructions for [Getting Started](#)
- Here's a [Cheat Sheet](#)
- Browse the [Examples](#)
- Read the [Full API](#)



PEmbroider_shapes



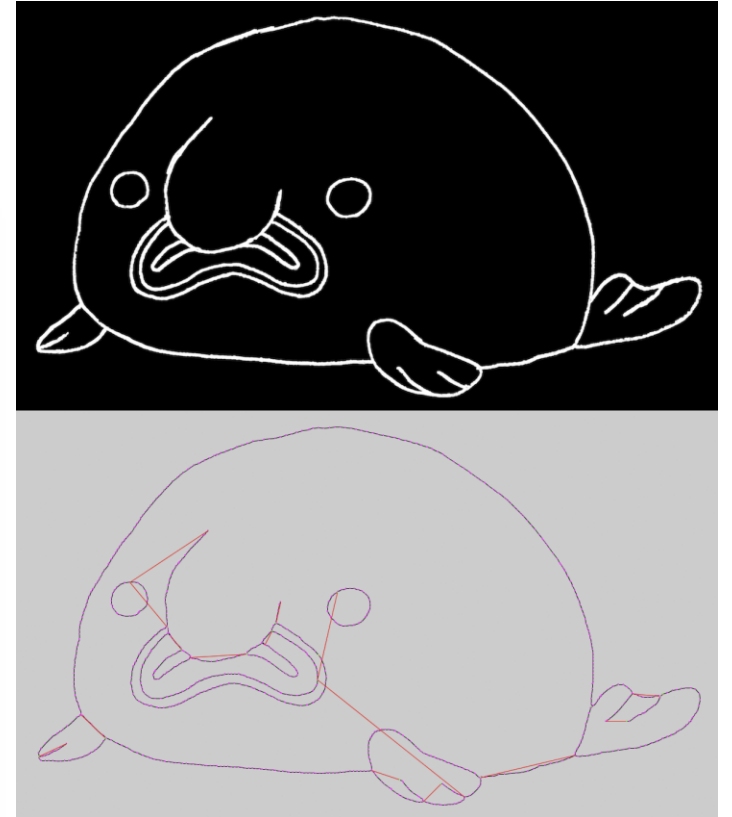
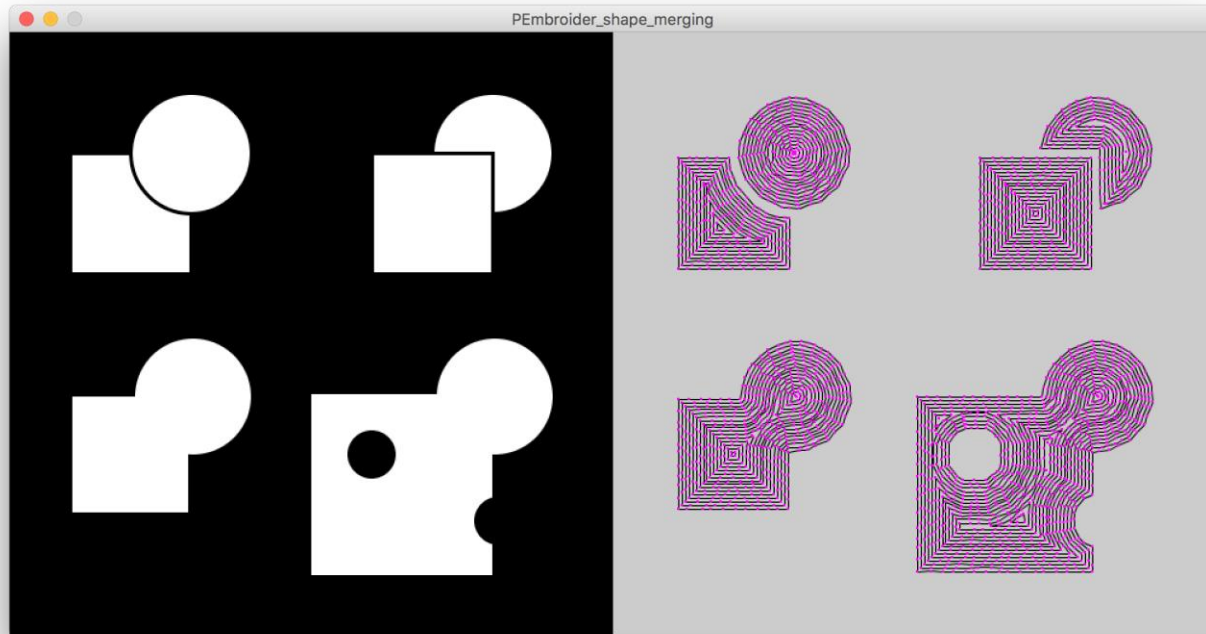
Lijnen borduren

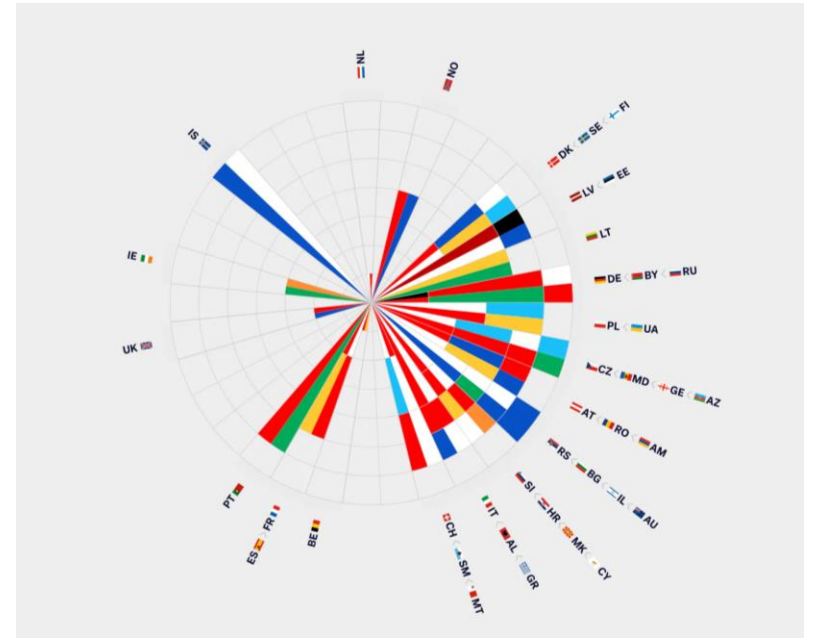


Afbeelding met zwarte achtergrond

PEmbroider_trace_skeleton

beuec@hr.nl





Each segment of the symbol is made up of two colors from the flags of the participating countries. The country's segment position is determined by the angle and distance from its capital in relation to Rotterdam.

www.cleverfranke.com

Student nummer borduren

