IMAGES PIXELS

EXERCICE 1

✔ Answers on paper

05 MIN

How to use the [pixel editor](https://studio.code.org/s/pixelation/lessons/1/levels/1) ?

https://studio.code.org/s/pixelation/lessons/1/levels/1

Image width: 10
Image height: 10
Binary: ● Hexadecimal: ○

Image File Format:
Width: 1 byte
Height: 1 byte
n bits of pixel data

```
0000 1010
0000 1010
0 0 0 1 1 1 1 0 0 0
1 0 1 0 1 0 1 0 1 1
0 1 0 1 0 1 0 1 0 1
0 1 0 1 0 1 0 1 0 1
0 1 0 1 0 1
```
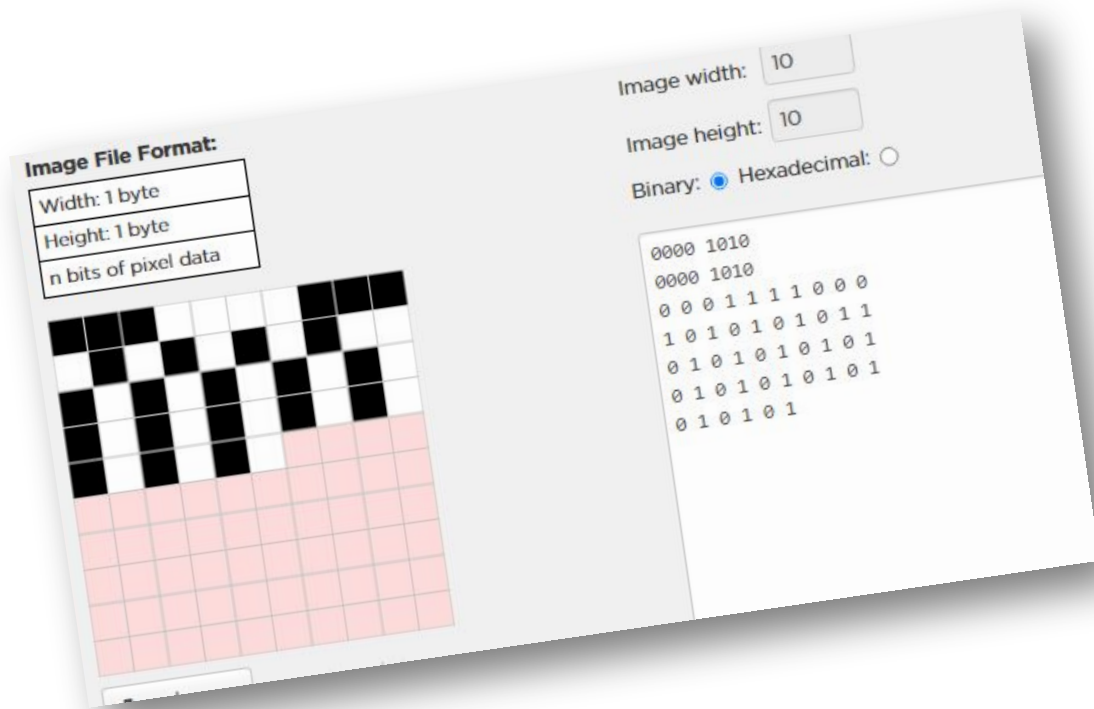
✔ Define the image **size**
✔ Define a **white** pixel
✔ Define a **black** pixel

0 = TURN LIGHT OFF => **BLACK**   1 = TURN LIGHT ON   => **WHITE**

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Let's use the pixel editor !

CHALLENGE 1

https://studio.code.org/s/csp1-2021/lessons/7/levels/2?no_redirect=1

Task 1: Make a 3x5 letter 'A'

Start by trying to recreate the 3x5 letter "A" depicted (at right) using the pixelation widget. You'll need to use the sliders to set the correct dimensions before you start entering the pixel data.
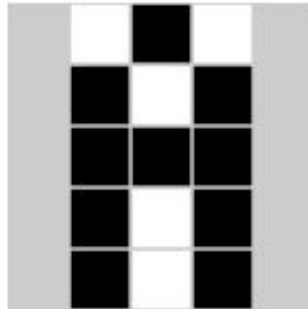
CHALLENGE 2

https://studio.code.org/s/csp1-2021/lessons/7/levels/3?no_redirect=1

Oh no! An image got messed up during transmission!

The problem: A single extra bit was inserted into the stream of bits that make up the C of the Code.org logo. That extra bit bumps all of the other bits down the line which makes the logo look messed up.

Your task: Hunt down the extra bit and remove it to fix the Code.org logo.

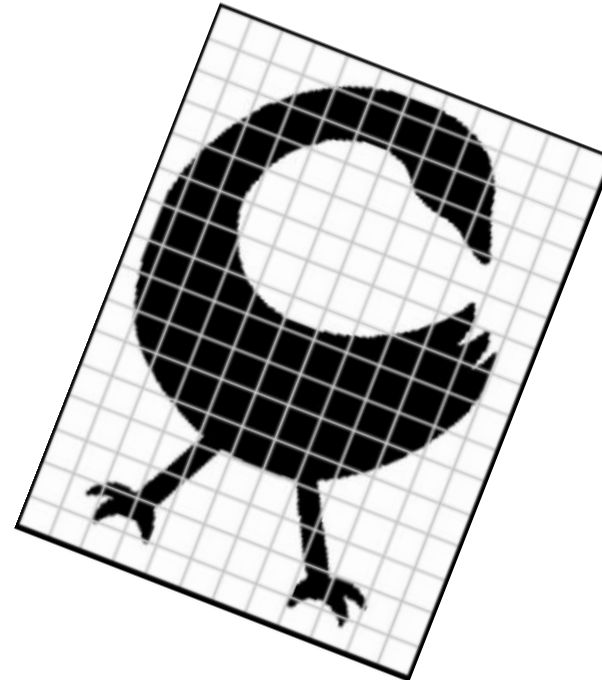**HINT:** One bit early on would make it look like many bits were out of order.
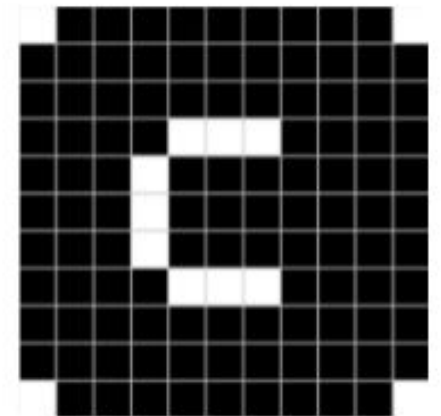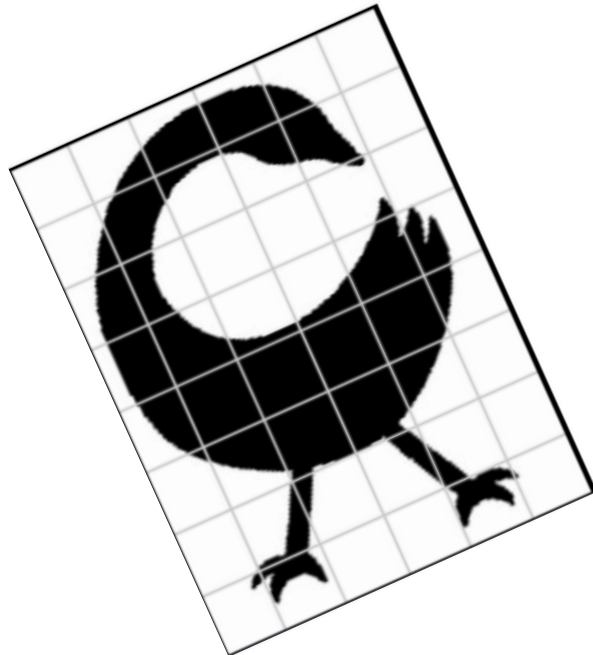
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EXERCICE 2

✔ Answers on paper
✔ Use the pixel editor

EXERCICE 3

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✔ Draw your **favorite logo on paper**

✔ **Decide** how you are going to sample this logo

✔ Draw the logo **in one** **of** the 4 grids

✔ Recreate the logo sing the **pixel editor**

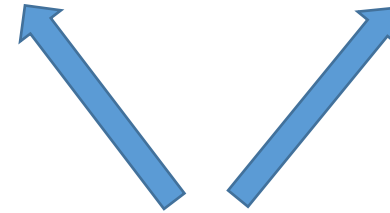✔ Show it to a classmate. Do they recognize the logo? Make adjustments if needed

What are the + and - of **sampling an image** more **frequently**?

= increase the number
of pixels

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Draw contest

✔ Using the pixel editor, draw your <u>best black and white pixel image</u>

✔ Submit it on google classroom

✔ **Jury the next session** to vote !