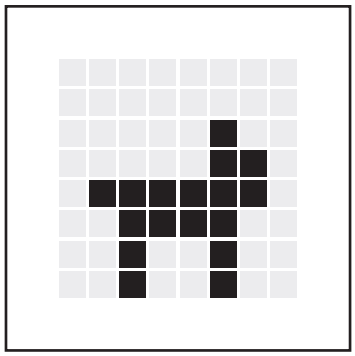
WORKSHEET W003

ANIMATION

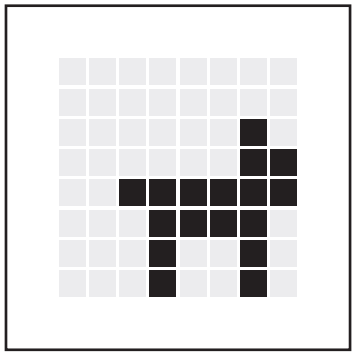
To create an animation means to bring something to life in Latin and is elementary for all video games and movies. That's exactly what you should try to do now!

EXERCISE

Let a dog ‚walk' across the LED matrix from left to right. Draw it on the next picture always a column to the right, until it disappears again.



Here you can see the picture of the dog in the middle of the animation.

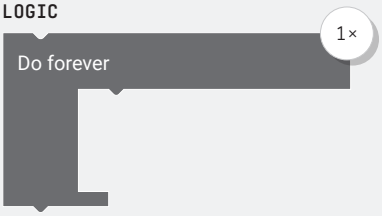


In the next step the dog is shifted one pixel to the right.

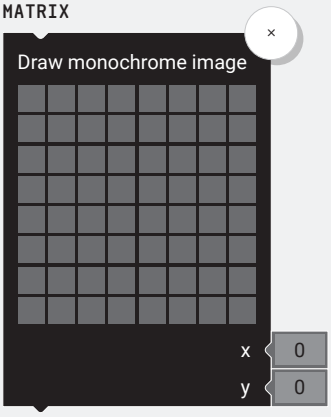
HINT

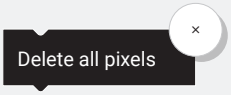
Experiment with the waiting times per image. If the dog shall move very fast, a time of a few milliseconds can be chosen.

LOGIC

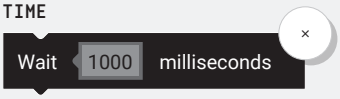


MATRIX





TIME



PARTS LIST

LIST OF BLOCKS TO BE USED

LEVEL EASY

ADDITIONAL TASK:

Draw the dog only once and move it by only changing its drawing position.

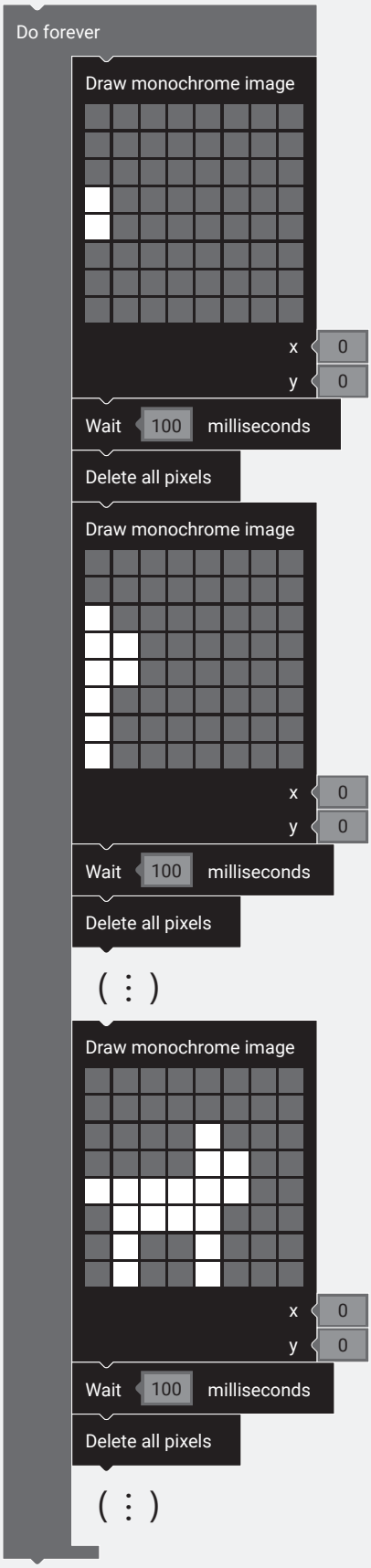
Hint: The x-position must be variable and increased by one in each pass. With an «if/then» block you can let the dog start again from the front as soon as he has reached his final position.

DESIGNED IN LIEBEFELD/BERN

OXON – 2019

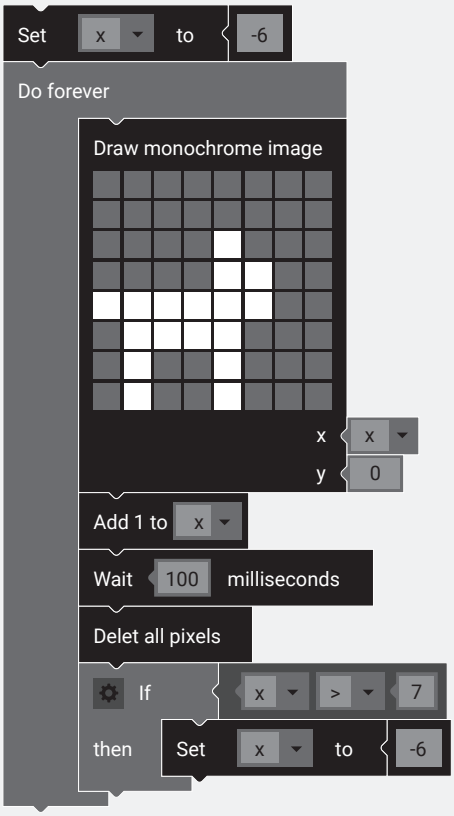
SOLUTION

PROPOSED SOLUTION



ADDITIONAL TASK

PROPOSED SOLUTION



TEACHER COMMENT

WORKSHEET W003

ANIMATION

Learning objective:
Capacity to know how an animation works and how much work is needed to create one. Through experimenting students might be able to realise that approximately 20 fps (frames per second) or to put it in other words 50 milliseconds per image are needed such that the human eye witnesses no single images anymore.

WHAT TO DO

1.
First the «Do forever» loop is needed again. All blocks must be positioned in this loop.

2.
Then any number of images can be drawn and displayed for a certain time.
To prevent the next image from being drawn over the old one, all pixels have to be deleted first.

NO NEW COMMANDS

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