

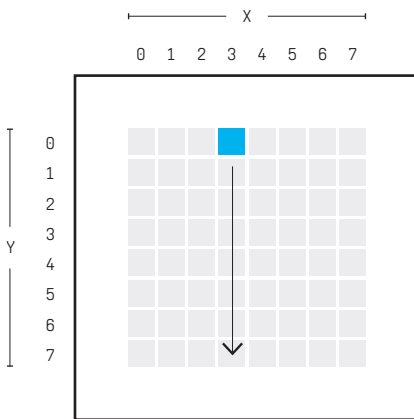
WORKSHEET W008

CONDITIONS

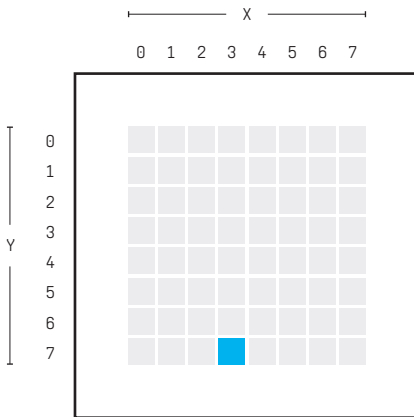
You can also program animations with algorithms, saving a lot of blocks and creating great effects.

EXERCISE

The goal of this task is to program a falling pixel.



Draw the pixel with the help of a «y» variable. Is the variable smaller than seven? If this condition is met, it can be increased by one.

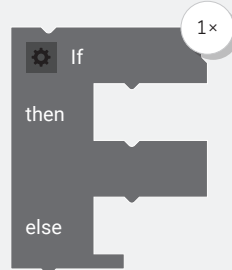
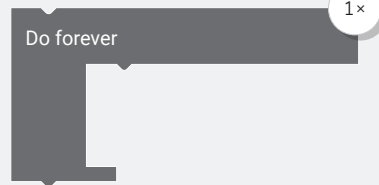


The pixel has now arrived at the bottom and is not smaller than seven. Now the variable has to be reset to the initial value, so that the pixel is drawn on top again.

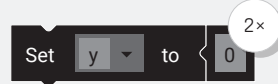
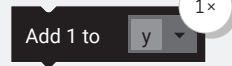
HINT

Draw the pixel only once per loop pass. In the «if/else» block, the «y» variable is adjusted. See the illustration above.

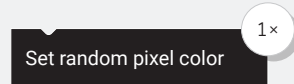
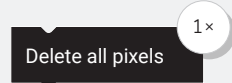
LOGIC



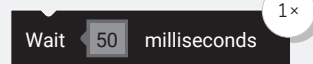
VARIABLES



MATRIX



TIME



PARTS LIST

LIST OF BLOCKS TO BE USED



LEVEL INTERMEDIATE

ADDITIONAL TASK:

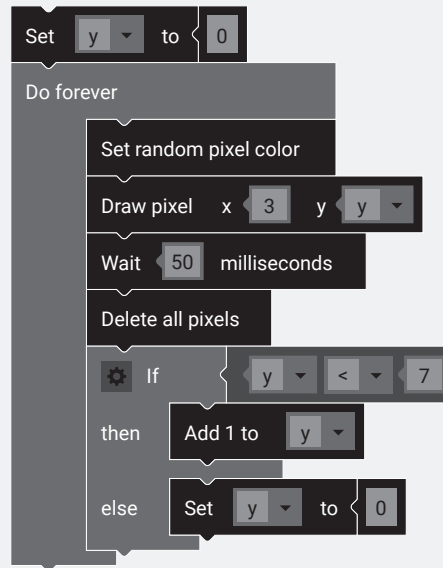
Let the pixel move not only from top to bottom, but also from left to right. Increase the x-position of the pixel after each loop pass.

WORKSHEET W008

CONDITIONS

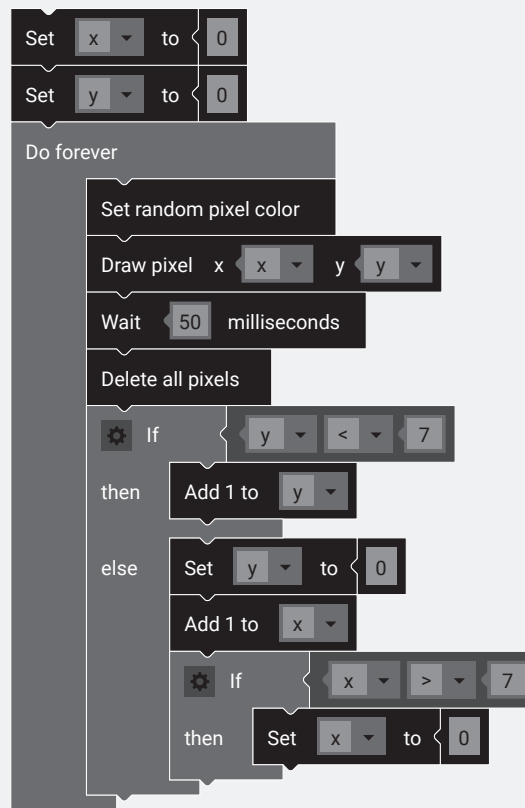
SOLUTION

PROPOSED SOLUTION



ADDITIONAL TASK

PROPOSED SOLUTION



WORKSHEET W008

CONDITIONS

Learning objective:

Capacity to program with complex conditions.

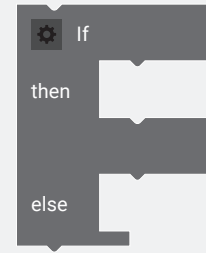
WHAT TO DO

1. First the «y» variable is defined and initialized with zero. Then comes the «Do forever» loop. All other blocks must be positioned in this loop.
2. Next a random pixel color is set and the pixel is drawn with a constant «x» and a variable «y». The «Wait» block and the «Delete all pixels» block also belong to the drawing.
3. Now you have to set a condition to check if the pixel should still move or have to be reset.
4. As long as the pixel has not yet reached the bottom, the variable must be increased by one. As soon as the target position is reached or exceeded, the variable is reset to the initial value. Since the pixel is redrawn at each loop pass, it now falls line by line.

NEW COMMANDS

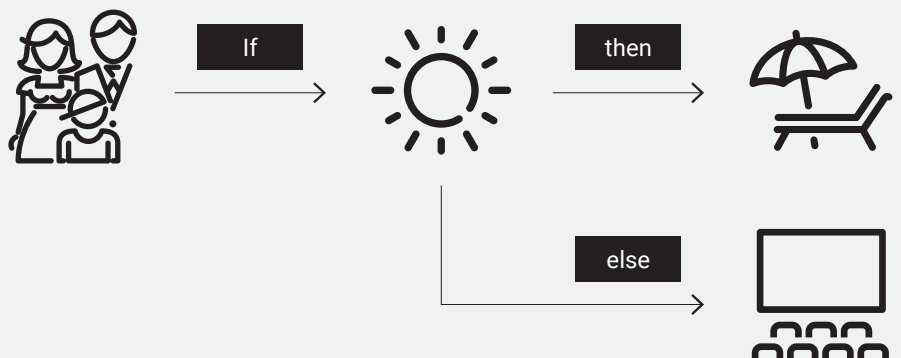


Here you can compare variables, numbers and calculations with each other to create a condition.



Conditions can be set in this block. The «then» section is executed if the condition is true and otherwise the «else» section.

ADDITIONAL INFORMATION: IF/ ELSE-STATEMENT



Here is the family excursion example again: When the sun shines they go swimming, else they go to the cinema.