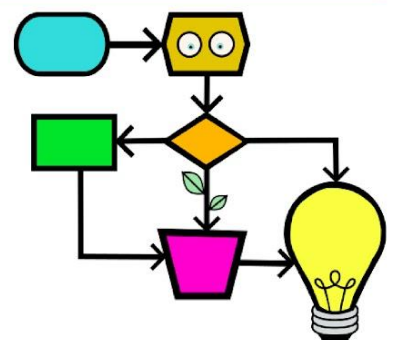
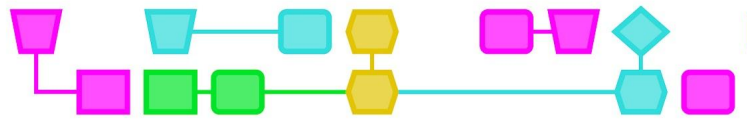


CT Foundations - Introduction to Algorithm





Summary

By using cards with easy commands, this activity helps to engage children to make sounds following the written commands, in other words; algorithm. The written commands can be to clap, stomp, sing “la, la,” etc. After practicing with the existing cards, children are free to create their own cards with commands.

It is always good to start simply and use only six steps of sound, depending on the age of the children taking part. Once they have got the hang of it, the students can proceed to the next level of difficulty, which includes more steps of sound and also combination of sounds.

Target Audience: 7 and older. No prior knowledge is required.

Duration: 50 minutes

Learning goals: By taking part in the exercise students will learn to:

- Follow precise commands (as a computer would do)
- Make their own cards (programming)

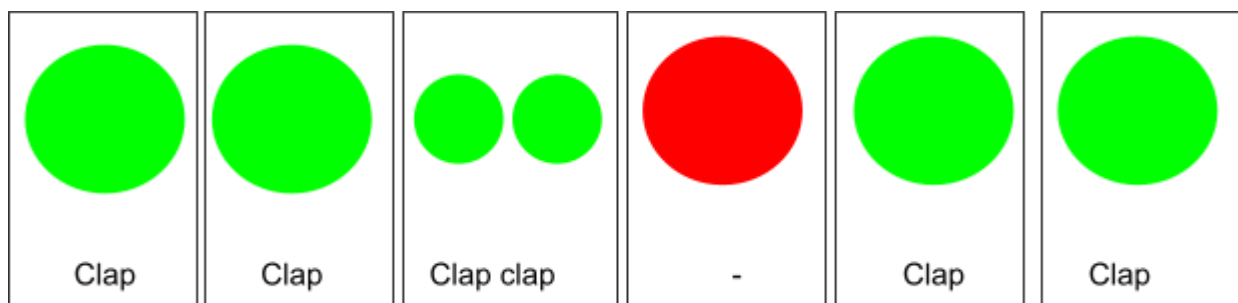
Online or offline: offline

Computational Thinking:

- **General skills:** collaboration, creativity
- **CT foundations:** Algorithm, Pattern Recognition, Decomposition, Abstraction

Materials

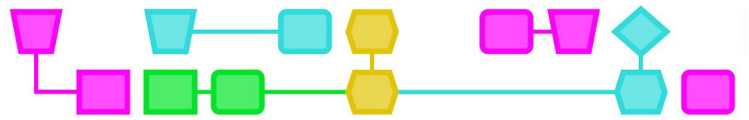
Strips of white cardboard, red and green markers, both large and small circle shapes (in order to make perfect circles), and pencils to write the commands.



Preparation

Divide the classroom into groups of 4 students. Begin with the test exercise. Give the basic card to each group. The teacher should then show the children how the sequence is carried out. Let every group practice by themselves. After 10 minutes, the teacher should then ask the whole group to follow the commands of clapping together. The group must try to clap the sequence in a flawless way on the dot as a group. Keep practicing until they have done this.

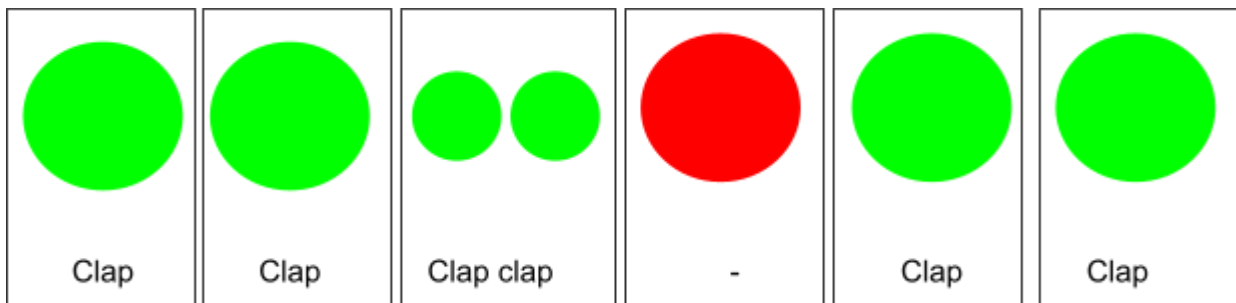
When the students have successfully done this, then they can proceed to the next step of creating their own cards with commands.



Make your own sequence cards

Introduction (10 min)

Show the image below to the students. Explain what the symbols mean and clap the rhythm together with the students. Tell the students that they have executed a program, or algorithm. An algorithm is a set of rules you can use to solve a problem, often used by a computer. They can also be used for other things, such as tying your laces, following a recipe or choreography. After following the algorithm below, students will create their own algorithm.



Write your own algorithm (15 min)

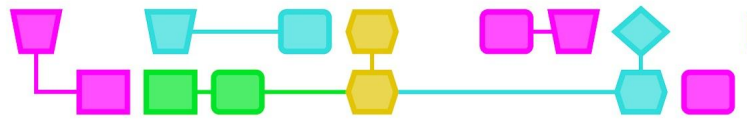
Distribute the materials needed for each group of four: strips of white cardboard, colored markers, pencil or pen to write down the different tasks. Each group creates their own algorithm. Together they choose which sound they link to the circles and in what order they put them. They may use up to ten pictograms.

After they have drawn the algorithm, they are going to perform each other's algorithms.

Tip: To make it a little more challenging for students, you can also have them create a "loop" (this involves repeating a number of icons) or add an "if ... then ..." line.

Conclusion (10 min)

Conclude the activity by asking what it feels like to follow algorithms. Also discuss what students ran into while testing their algorithm. Talk about the importance of giving clear commands in an algorithm, and that this is also important with computers.



Colophon

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