1, 2, 3, code ! - Cycle 1 activities

The activities module for Cycle 1 includes two sequences. The first is entirely unplugged (done without a computer, tablet or robot and using only motor skills development materials) while the second is a plugged activity (using robots).

- The first sequence (entirely unplugged) lets students invent and use a language to program an avatar's movements. Little by little, they enrich this language with new instructions, tests and loops.
- The second sequence (entirely plugged) introduces students to the basics of robotics: understanding that a robot can interact with its surroundings (by manipulating a Thymio robot); for more information).

A **review lesson** is available: it can be taught after Sequence I or Sequence II.

Lesson summary

Sequence I: Playing Robot

	Lesson	Title	Summary
	Lesson 1	Moving an object around a grid	Students learn how to give precise orders to an avatar to control its movements around a grid.
	Lesson 2	Challenge: Programming an avatar's movements along a route	By combining instructions from the previous lesson, students design a program to create a complex route for an avatar.
	Lesson 3	Formative assessment: Other routes, other programs	The students write and interpret programs for other routes.
	Lesson 4	Conditional routes: Treasure hunt	Students enrich their programming language with conditional constructs (if–then statements).
	Lesson 5	(Optional) A route of any length: Loops	When routes become long or complex, students begin to understand the importance of simplifying a program: they discover that loops can be used to avoid repetitions.

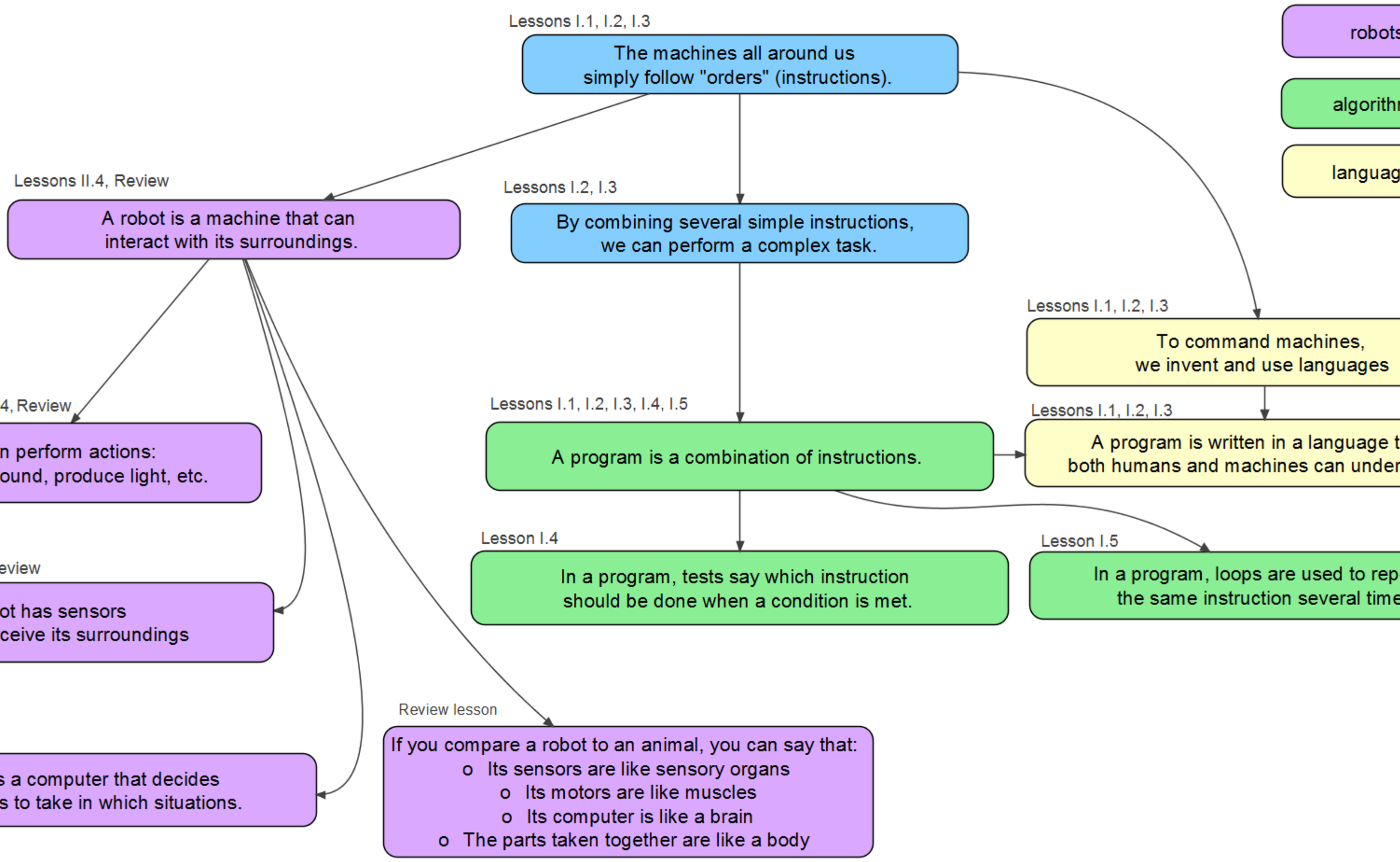
Sequence II: Playing with robots

	Lesson	Title	Summary
	Lesson 1	Introduction to the Thymio robot	Students are introduced to the Thymio robot and learn how to manipulate it.
	Lesson 2	Colors and behaviors	Students learn that Thymio has several modes and can behave differently depending on the chosen mode.
	Lesson 3	Thymio in Investigator mode	Students discover Thymio’s turquoise mode and prepare a route that Thymio can follow alone.
	Lesson 4	Challenge: Get Thymio through a maze	Students build a maze and must find all possible ways to get Thymio through it.

Conceptual scenario: "Cycle 1 computer science"

The key ideas covered during these two sequences for Cycle 1 can be organized as follows. (click to enlarge the image)

"1,2,3... code!"
Conceptual Scenario Cycle 1



Pedagogical module

Cycle 2 activities >>