

SCENARIO		
Title	Programming the robot Lego Mindstorms EV3	
summary	Students are to write a robot program that will perform a specific task.	
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Didactic objectives	
<p>General objectives:</p> <ul style="list-style-type: none"> - the student knows the concepts: algorithm, instruction, - turning activities into instructions, - reminding and consolidation of the LEGO MINDSTORMS EV3 Home Edition program, - developing the solution project and its implementation using the program. <p>Specific objectives:</p> <ul style="list-style-type: none"> - how to start the program and what the LEGO MINDSTORMS EV3 Home Edition window looks like, - basic blocks for building algorithms in the program, - they know how to create simple algorithms in the program, - can write instructions to individual blocks, - how to run an algorithm built in the program, - the student can move the robot through the maze, - the student can build simple scripts, - student understands and knows how to apply loop instructions to repetitive activities. 	
Physics <input type="checkbox"/> Mathematics <input type="checkbox"/> Computer science <input type="checkbox"/> Robotics <input checked="" type="checkbox"/> Programming <input checked="" type="checkbox"/>	
Educational level:	10-12 years old <input type="checkbox"/> 12-14 years old <input checked="" type="checkbox"/>

„InnoExperiment – Innovative Approach to Teaching through Experiment”
Project Leader: Zespół Szkolno – Przedszkolny w Goniądzu (ZSP)



Problem Statement

Arrange the program with which the robot will move forward and backward. When it encounters an obstacle, it has to stop and make a sound.

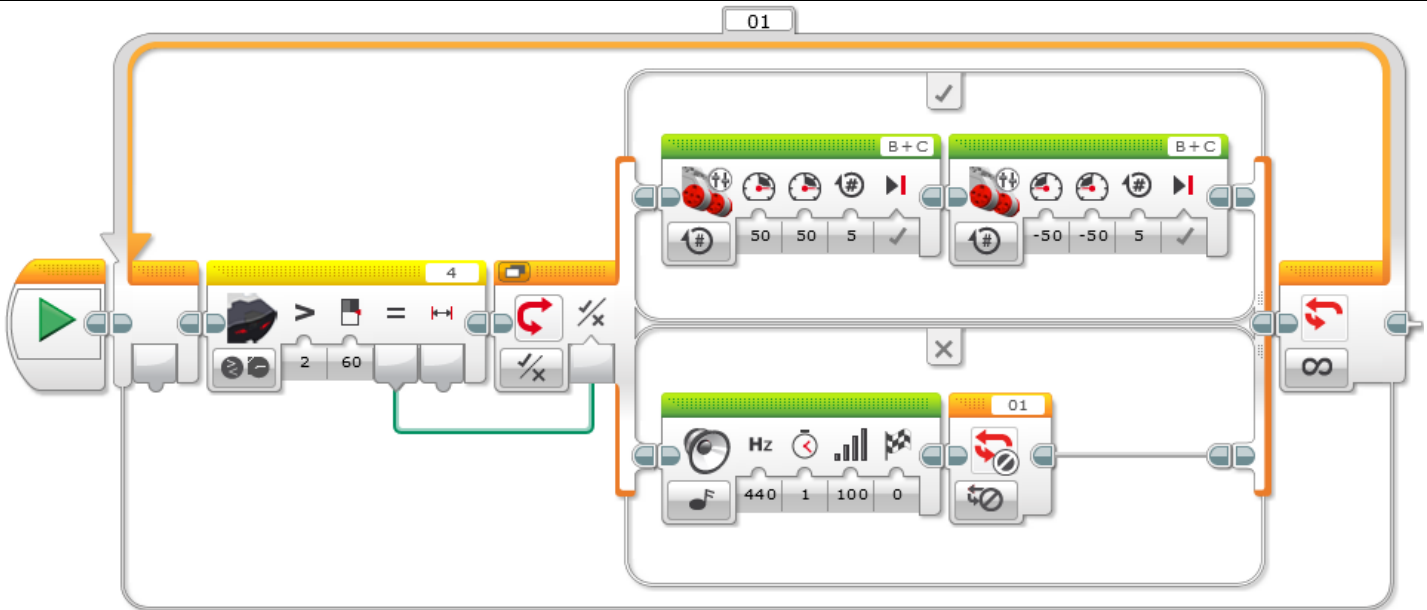
BOM (Bill Of Materials needed)

- computer station
- LEGO MINDSTORMS EV3 robot

Activity description

1. Organizational and organizational activities
2. Group work (groups of 4) - voluntary selection of the group composition
3. Choosing the team's captain who will present the group
4. Introduction to the topic - discussion of ways to overcome the maze
5. Reminder of conditional instructions
6. Robot control using conditional expressions.
7. Task specification: writing a program for the robot that will perform specific activities.
8. Detailed discussion of the selected problem and division into smaller sub-problems
9. Exchange of experiences and ideas
10. Practical exercises - writing the program and working with the LEGO MINDSTORMS EV3 robot.
11. Presentation of programs
12. Summary and end of the lesson.

Resources



Students' Evaluation

The student will be assessed for commitment and proper performance of experiments.

Bibliography

I like this! - Computer science textbook for the seventh grade of primary school Authors: Grażyna Koba
<https://www.robocamp.pl/pl/lego-mindstorms-ev3-wersja-domowa-edukacyjna/>

Scalability

Script modification and improvement.

Moreinformation

Solving tasks using the program.