



Debugging with a Maze

By European Parents' Association - EPA



Objective

Explain the concept of debugging (finding and fixing errors) through a maze challenge.



Duration

30 – 45 min

Target group

Children 6+ yrs



Experience

Beginner and Intermediate

Materials

Tape or chalk, open space, markers or signs for "Start," "Finish," and "Obstacles".



Setup

Create a maze with a start, finish, and incorrect paths or dead ends. Label the maze.



Description

- **Introduction:** Introduce debugging as being a detective who finds and fixes "bugs" or problems in programs. Explain the maze as a way to practice debugging.
- **Explain the Maze Challenge:** Explain the rules of the maze, including finding the quickest path and avoiding obstacles or dead ends. Relate hitting a dead end to encountering an error in code that requires backtracking.
- **Activity: Navigate the Maze:** Participants navigate the maze, thinking out loud about their path and decisions. Guide them through the debugging process if they hit a dead end.

Discussion and Reflection

Discuss the feeling of hitting a dead end and how problems were solved. Discuss strategies for finding the correct path and how navigating the maze is similar to debugging a computer program. Discuss why debugging is important.



Extension

Algorithm Challenge: Pairs create step-by-step instructions (an "algorithm") for navigating the maze and debug the algorithm if the follower doesn't reach the finish line.

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