

# Elementary STEM Activity 8

**Subject:** Technology (Computational Thinking)

## Topic: Human Coding Adventure

**Grade Level:** 3-5

### Objective:

Students will practice sequencing and debugging by giving step-by-step instructions to a “robot.”

### Learning Outcome:

- Create clear, ordered instructions (algorithms).
- Identify and fix mistakes (debugging).
- Explain how computers follow commands exactly.

### Materials Needed:

- Open space or grid on floor (tape)
- Command cards (Forward, Left, Right, Stop)
- Small object as goal

### Activity Steps:

1. Set up a simple path on the floor using tape squares or classroom tiles.
2. Choose one student as the robot; place an object as the goal.
3. Other students write or say commands to guide the robot to the goal.
4. The robot follows commands exactly—no guessing.
5. If the robot fails, students revise the commands (debug) and try again.
6. Discuss how this relates to real coding and programming.

### Recording Table:

Attempt	Commands Used	Reached Goal?	Fix/Improvement
1			
2			

### Discussion Questions:

- Why must instructions be very clear?
- What happened when we made a mistake?
- How is debugging helpful?
- Where do we see coding in everyday life?

### Extension Activity:

Students design a harder maze and swap with another group to solve.

### Illustration:

