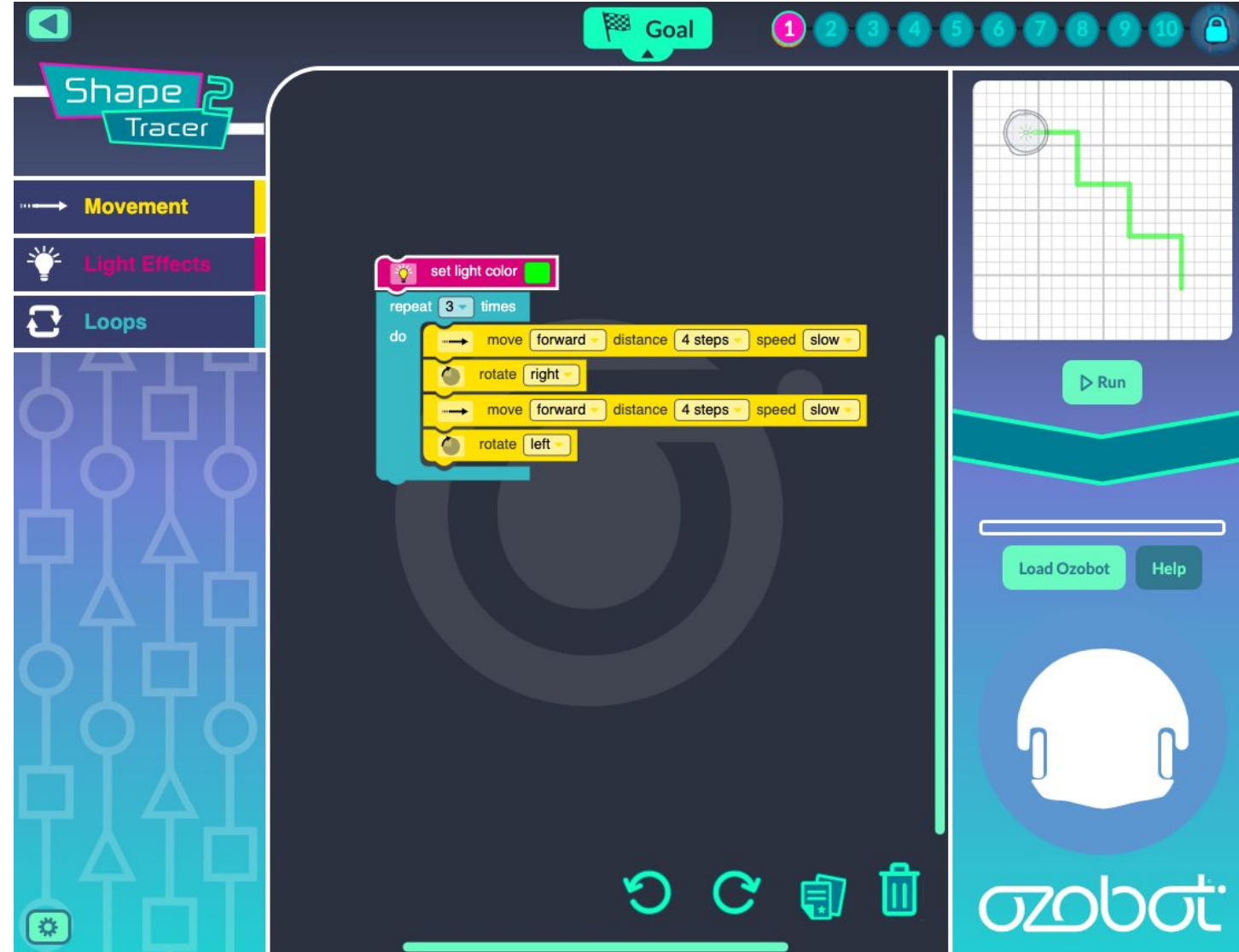


ShapeTracer 2- Level 1

Instructional Tips and Tricks

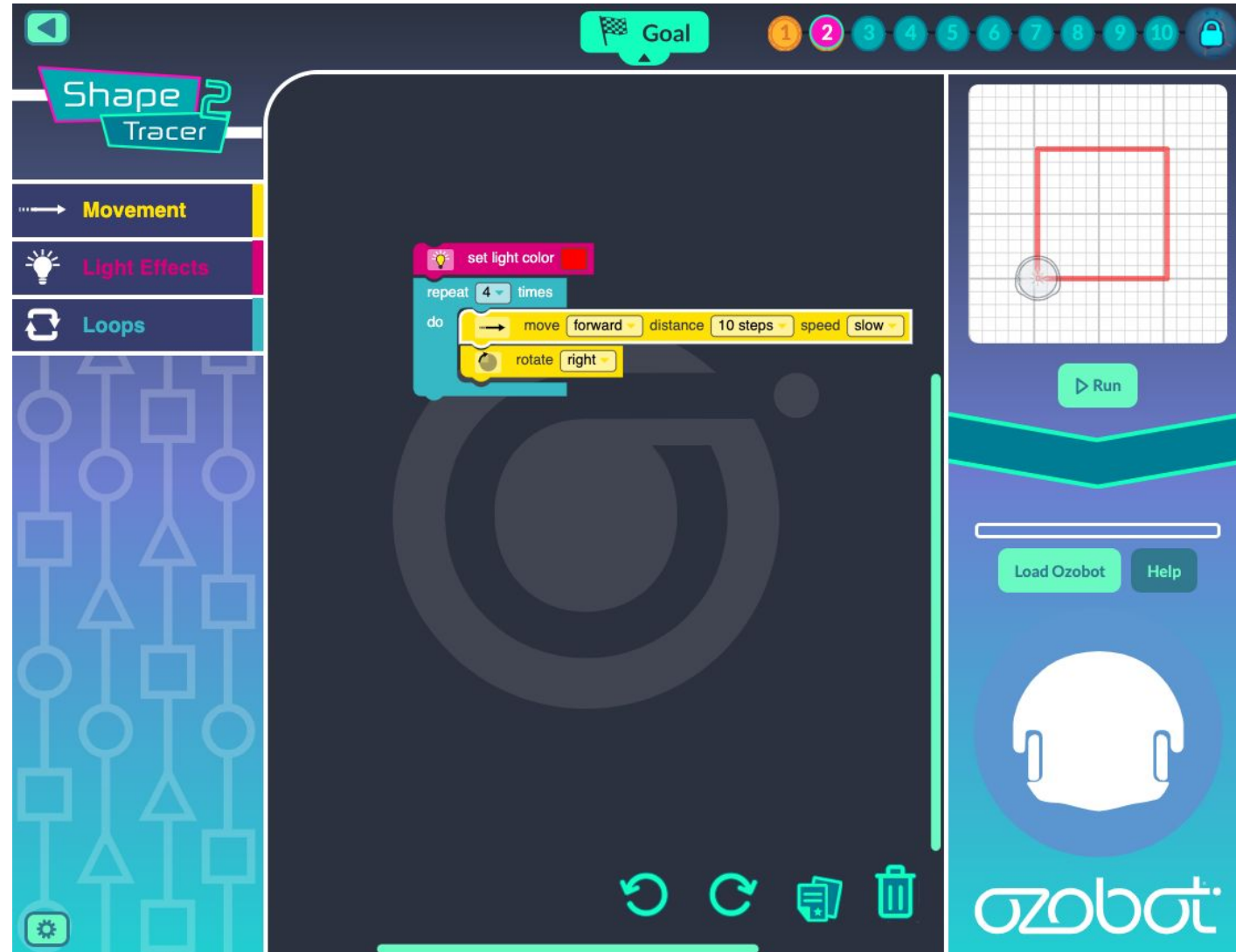
- Introduce the concept of a loop
 - Loops will repeat the code
- Optional: program the whole code, and show students how a loop makes the process more efficient



ShapeTracer 2- Level 2

Instructional Tips and Tricks

- Geometry connection: the code in the loop represents each side of a square.
 - Ask: How many sides does a square have? How many times does our loop need to repeat?



ShapeTracer 2- Level 3

Instructional Tips and Tricks

- Geometry connection: this shape is a slightly-rotated square
- Remind students: set the light color before programming the corresponding movement

The screenshot shows the ShapeTracer 2 Level 3 programming interface. On the left, there is a sidebar with a 'ShapeTracer 2' logo and three categories: 'Movement' (highlighted), 'Light Effects', and 'Loops'. Below these are icons for various shapes and a gear icon. The main area displays a Scratch-style block editor with the following code:

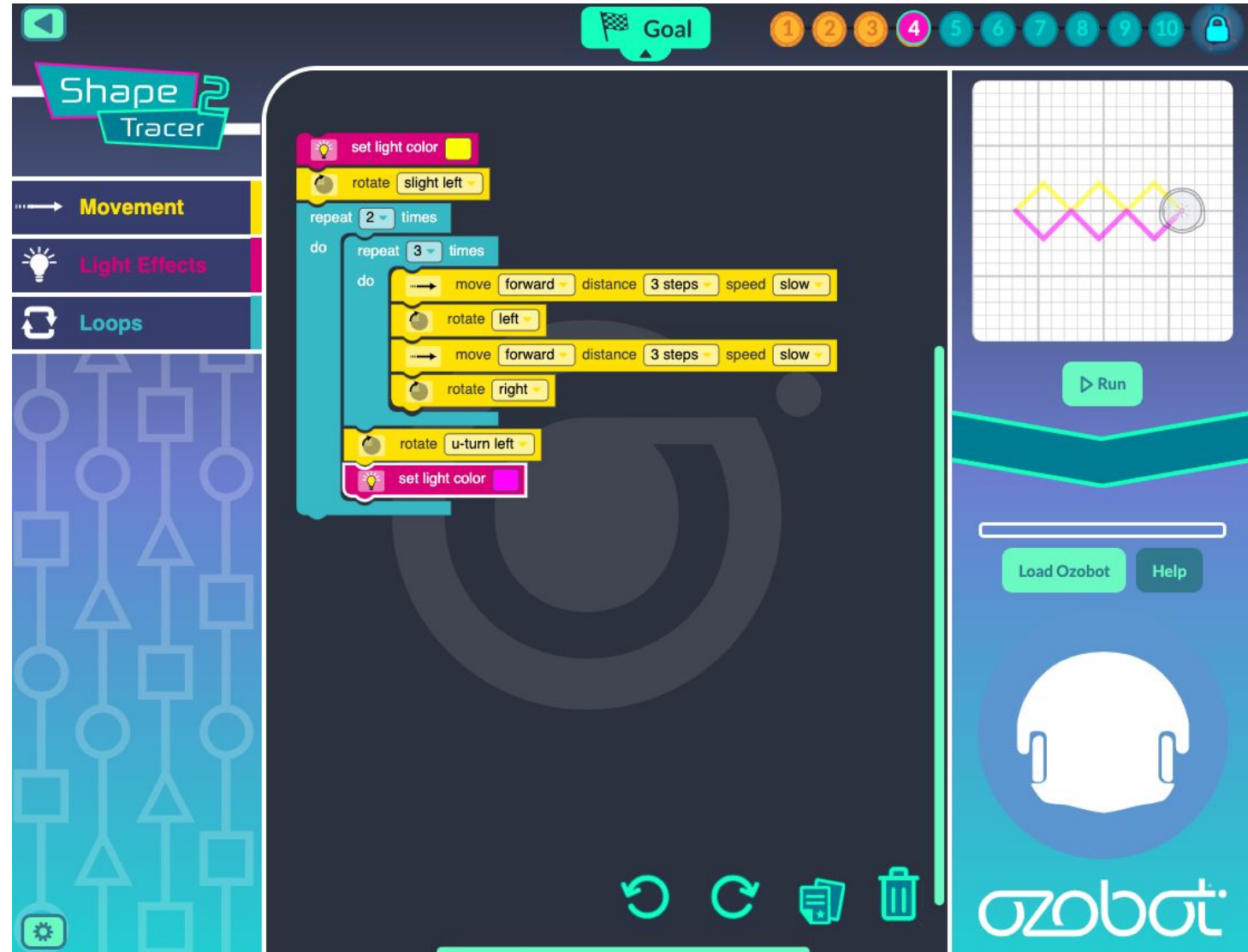
```
rotate slight right
repeat 2 times
do
  set light color blue
  move forward distance 8 steps speed slow
  rotate right
  set light color green
  move forward distance 8 steps speed slow
  rotate right
```

At the top right, there is a 'Goal' icon and a row of numbered circles (1-10) with a lock icon. On the right side, there is a preview window showing a slightly-rotated square on a grid, a 'Run' button, and 'Load Ozobot' and 'Help' buttons. At the bottom right, there is an Ozobot logo and a large white Ozobot icon.

ShapeTracer 2- Level 4

Instructional Tips and Tricks

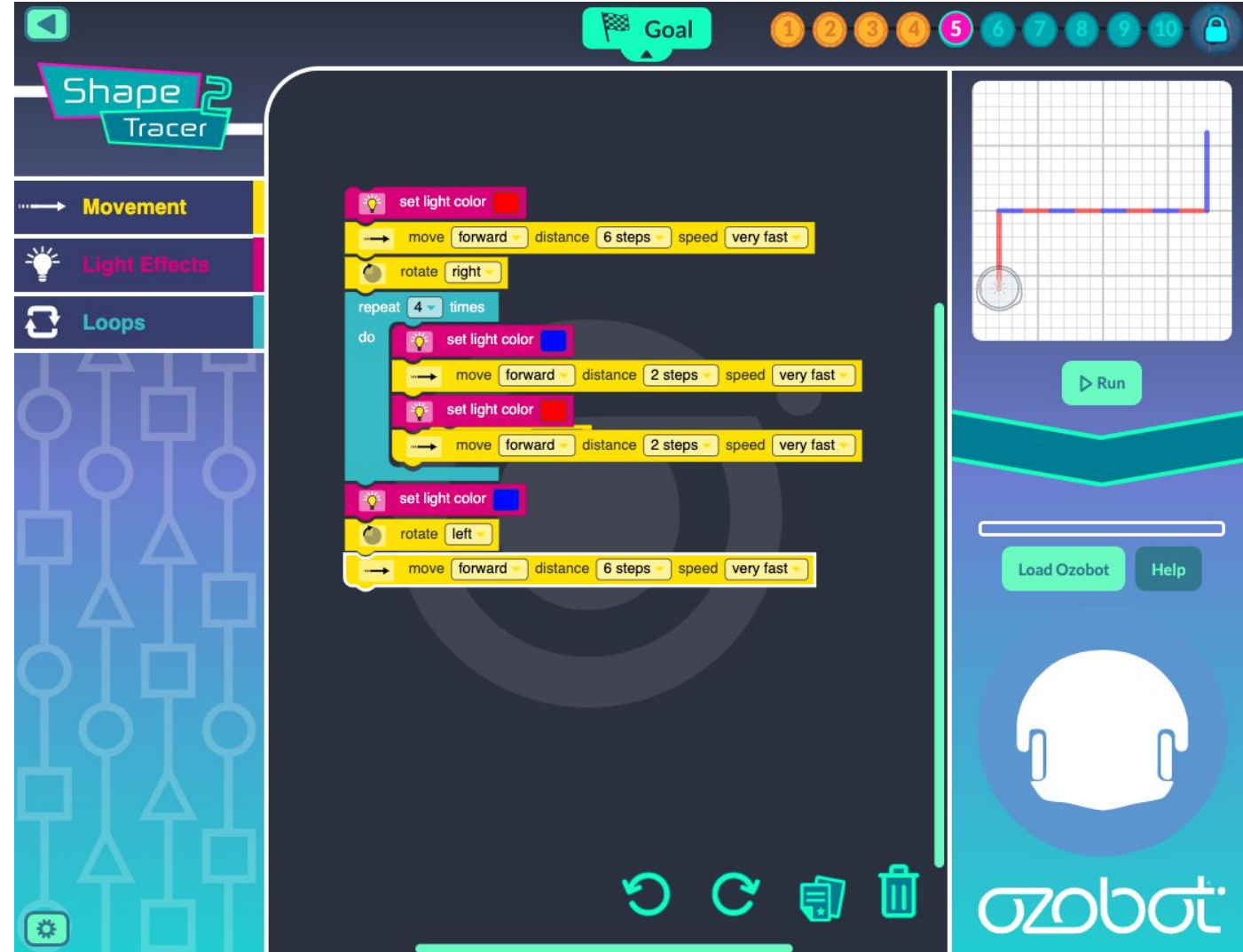
- Coding concept: Nested loops
 - Explain that there is a pattern within a pattern.
 - Ask students to identify the two patterns



ShapeTracer 2- Level 5

Instructional Tips and Tricks

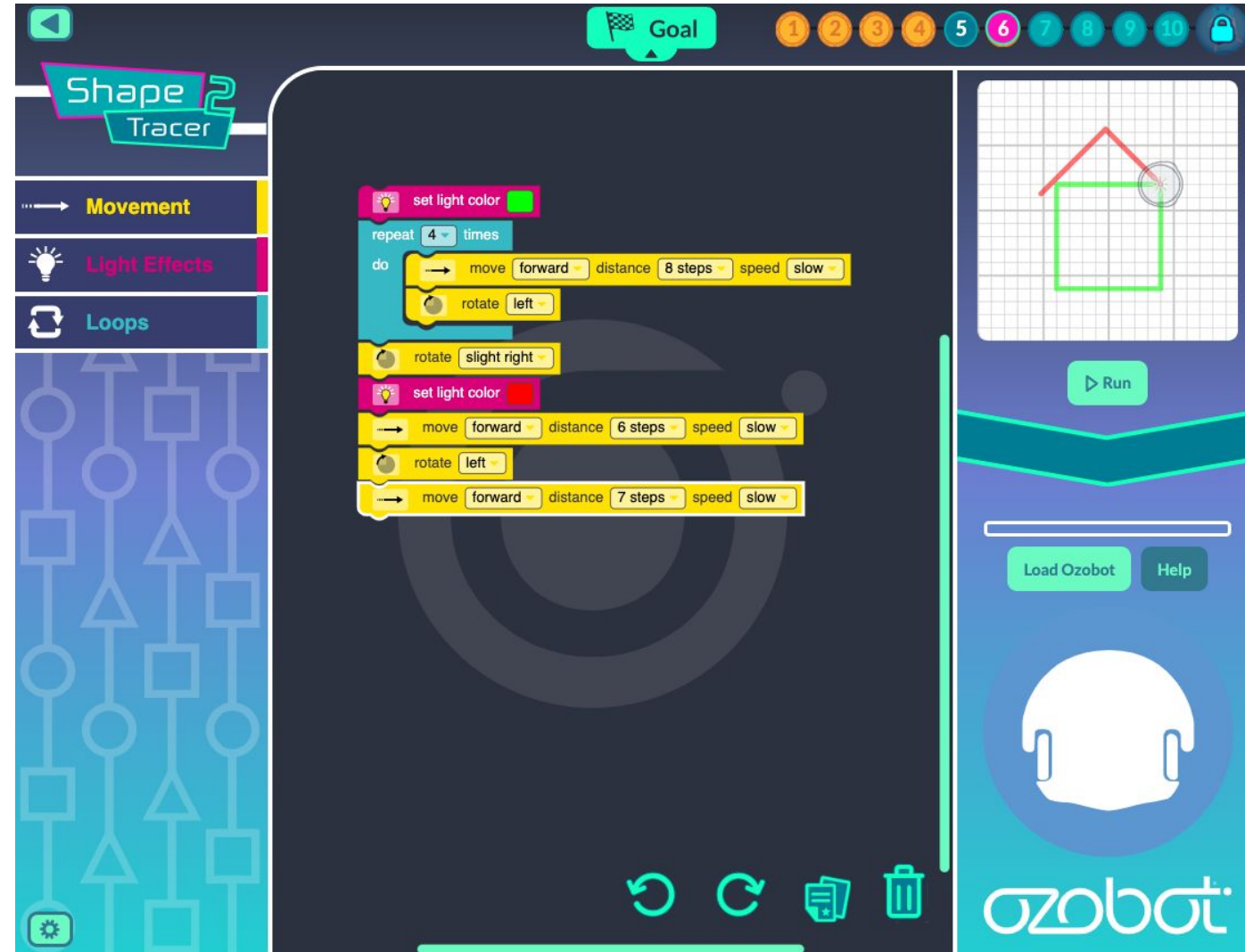
- Encourage students to identify where they can use a loop
 - Probe with: Where do you see a pattern? Can we program that section with a loop?



ShapeTracer 2- Level 6

Instructional Tips and Tricks

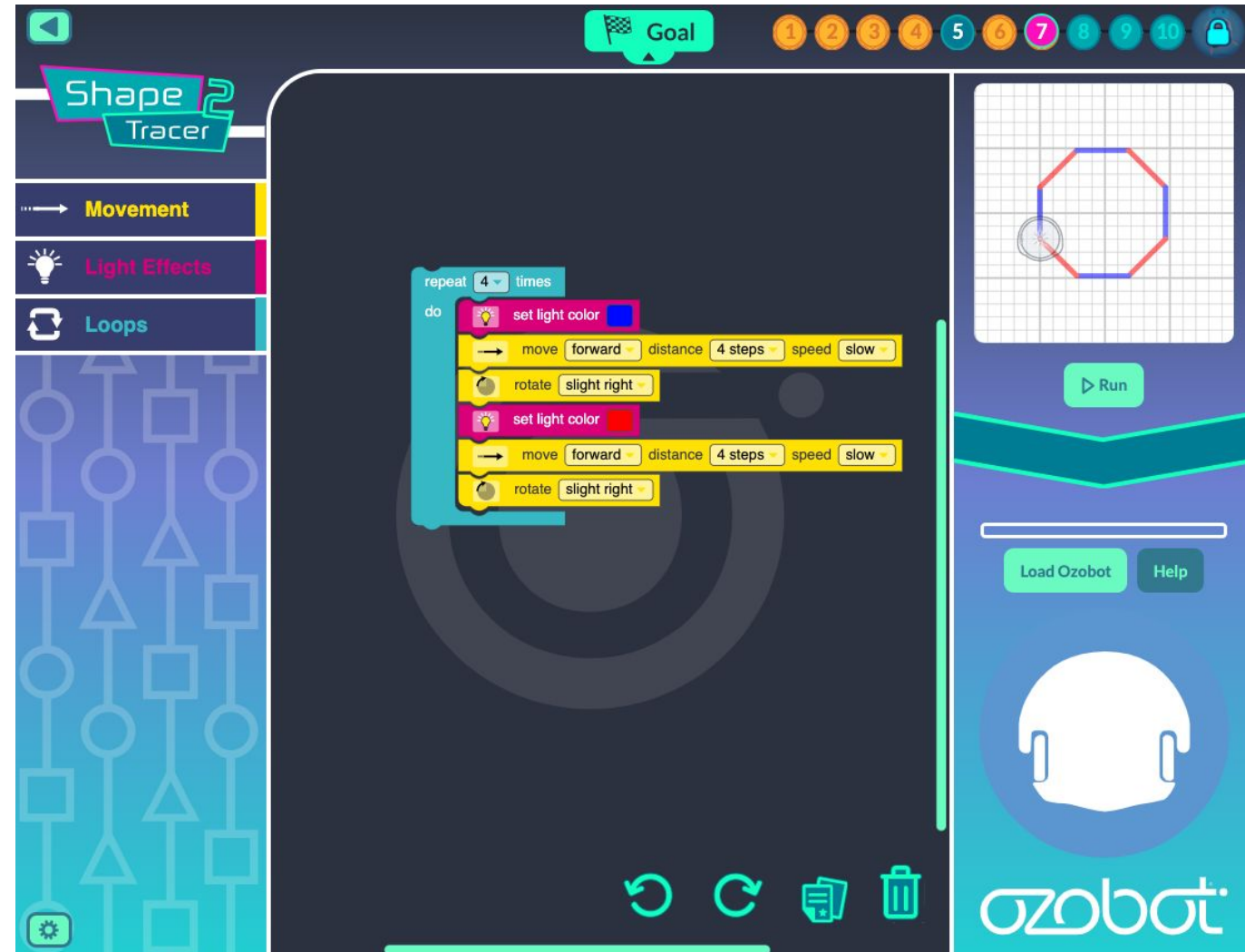
- Logical reasoning + geometry:
 - Ask students, “Why should we trace the green square before the red lines?”



ShapeTracer 2- Level 7

Instructional Tips and Tricks

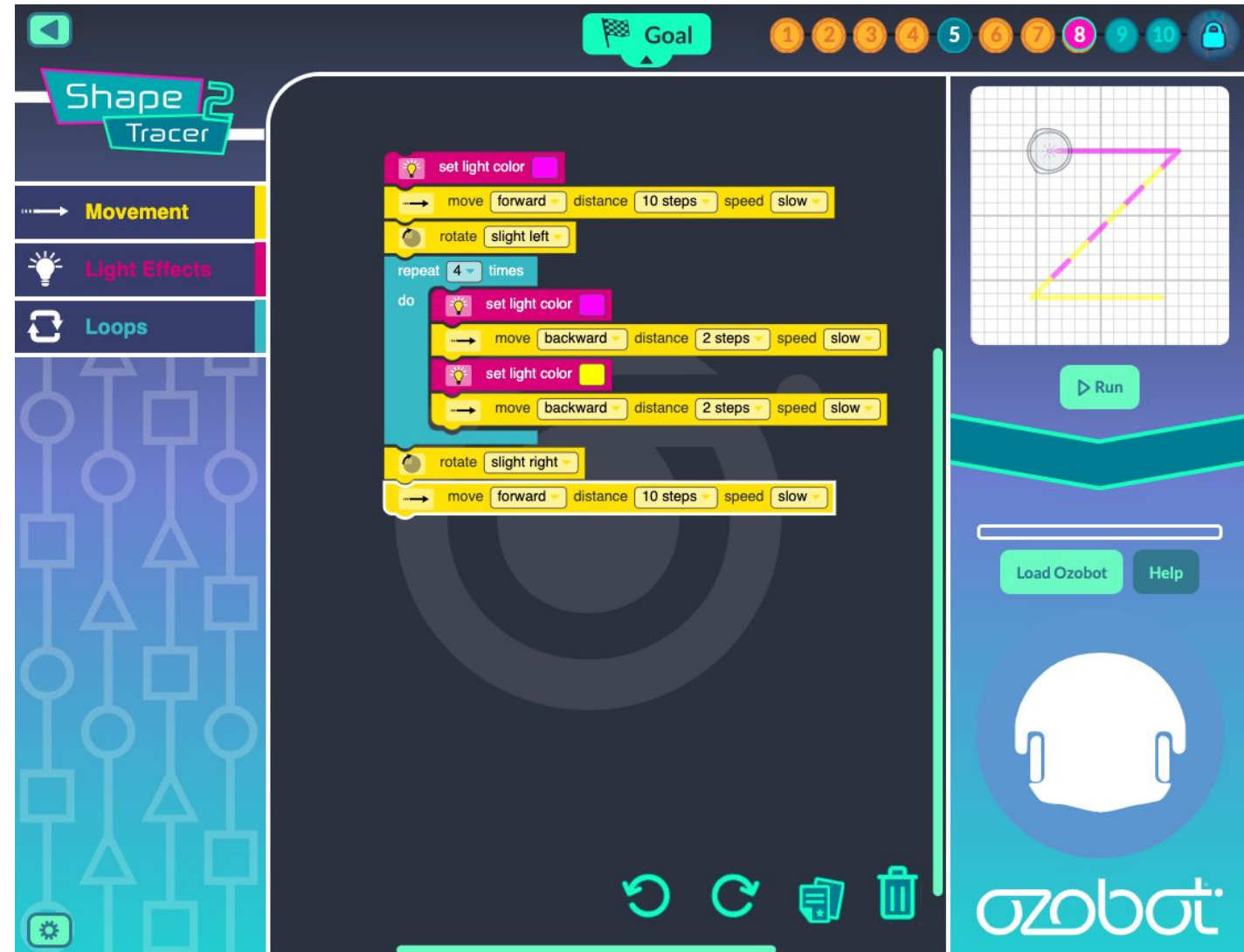
- Geometry Connection:
 - How many sides does this shape have?
 - If this shape has 8 sides, why is the loop only repeating 4 times?



ShapeTracer 2- Level 8

Instructional Tips and Tricks

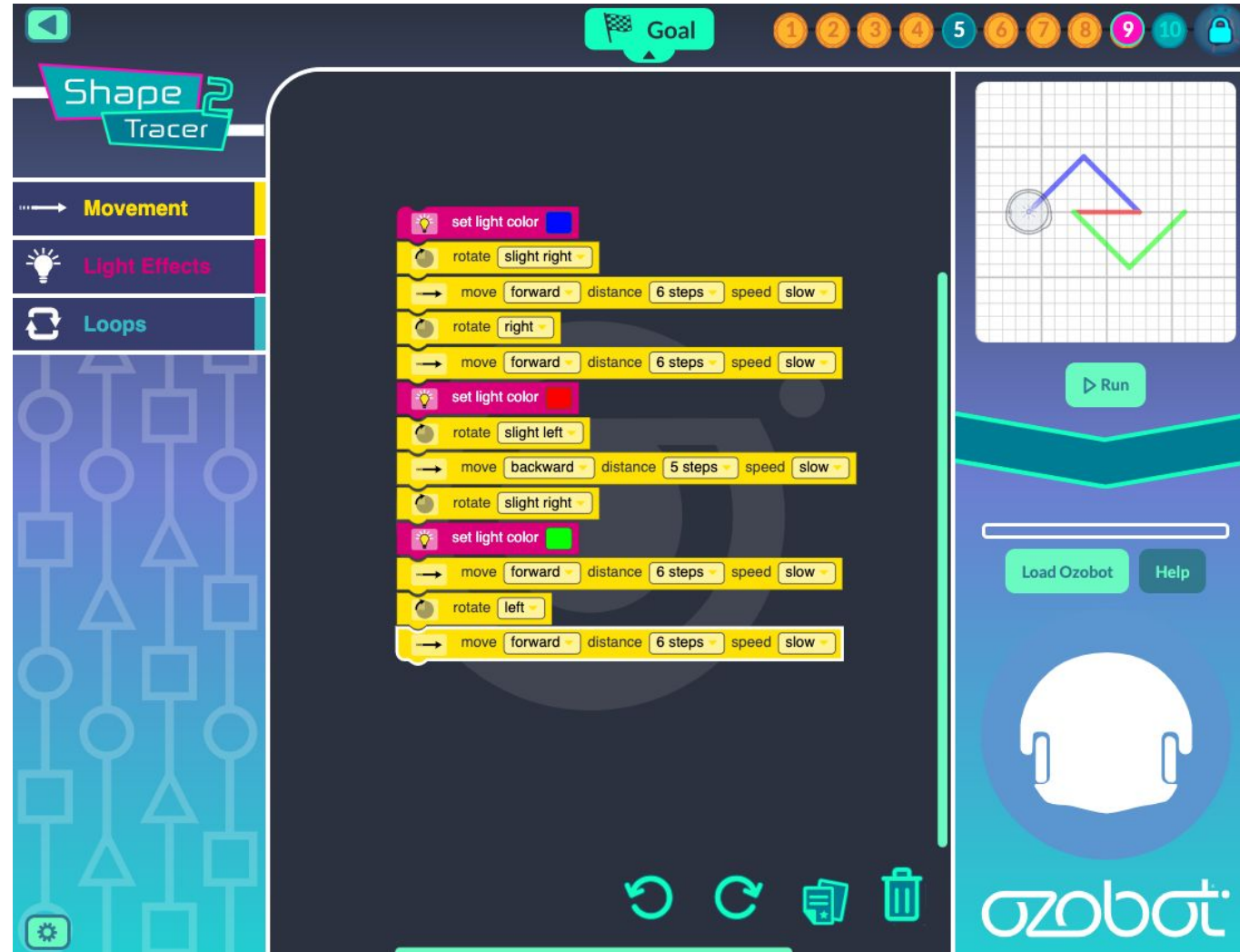
- Directions
 - Ask students, “How can we effectively utilize the ‘backwards’ direction?”



ShapeTracer 2- Level 9

Instructional Tips and Tricks

- Logical reasoning
 - Ask students, “Why would we choose to use “backwards” in this puzzle?”



ShapeTracer 2- Level 10

Instructional Tips and Tricks

- Helpful Hint:
 - To trace black, turn the top light off

