

Pneumatic Parallel Finger Gripper

① Fingers

- Fingers move in parallel to grip objects
- Customized with various materials to enhance grip or protect the objects being handled

② Actuator

- Actuators provide the motion to move the fingers
- Pneumatic actuators are common, using compressed air to move the fingers

③ Body

- Houses the internal components and provides mounting points for attachment to robotic arms.

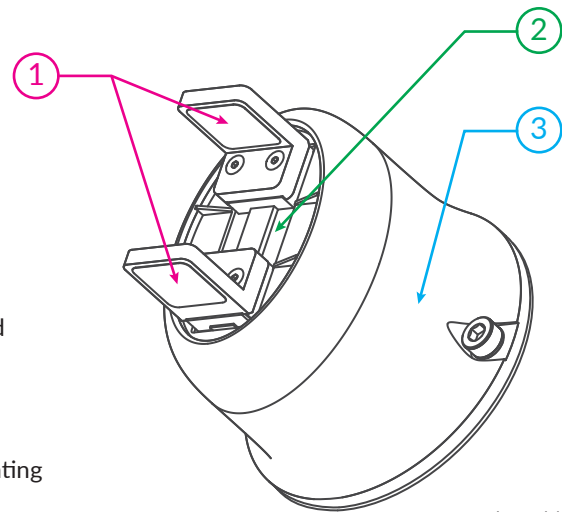


Image 4.1

Pneumatic Gripper Systems

When the control system sends a signal to a pneumatic parallel gripper, the pneumatic actuator either sends compressed air into a piston or draws the compressed air out.

When ORA's gripper actuator sends compressed air into the piston, the two fingers move to the opened position. When the actuator draws compressed air out of the piston, the gripper's fingers move to the closed position.

In some systems, grip strength can be changed by adjusting the air pressure. For instance, a 30% increase in air pressure will lead to a 30% increase in grip strength. Remember that the operational efficiency of pneumatic grippers relies on the availability of a consistent source of compressed air.

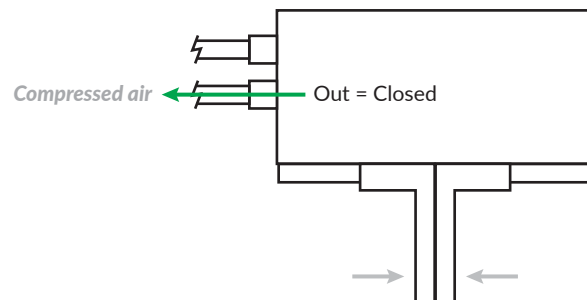
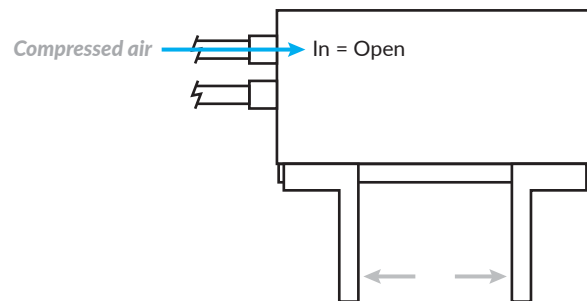
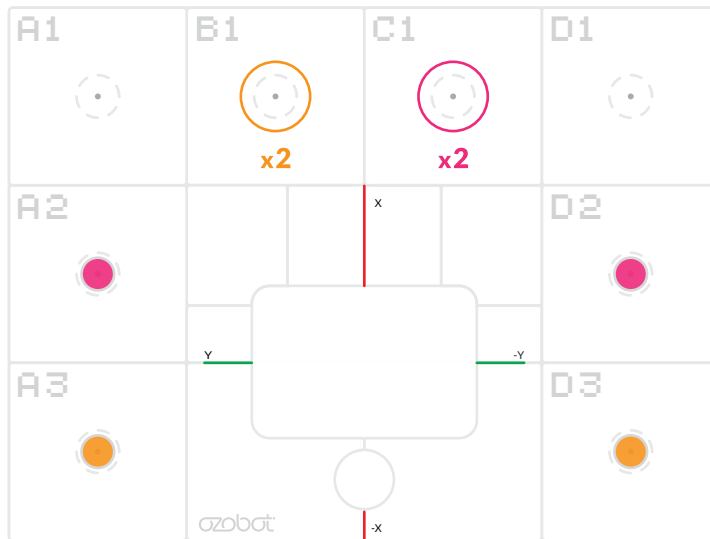


Image 4.2

Challenge - Practice Setup



Practice 1 = **Pink**

Practice 2 = **Pink** + **Orange**

Image 4.3

Challenge - Final Setup

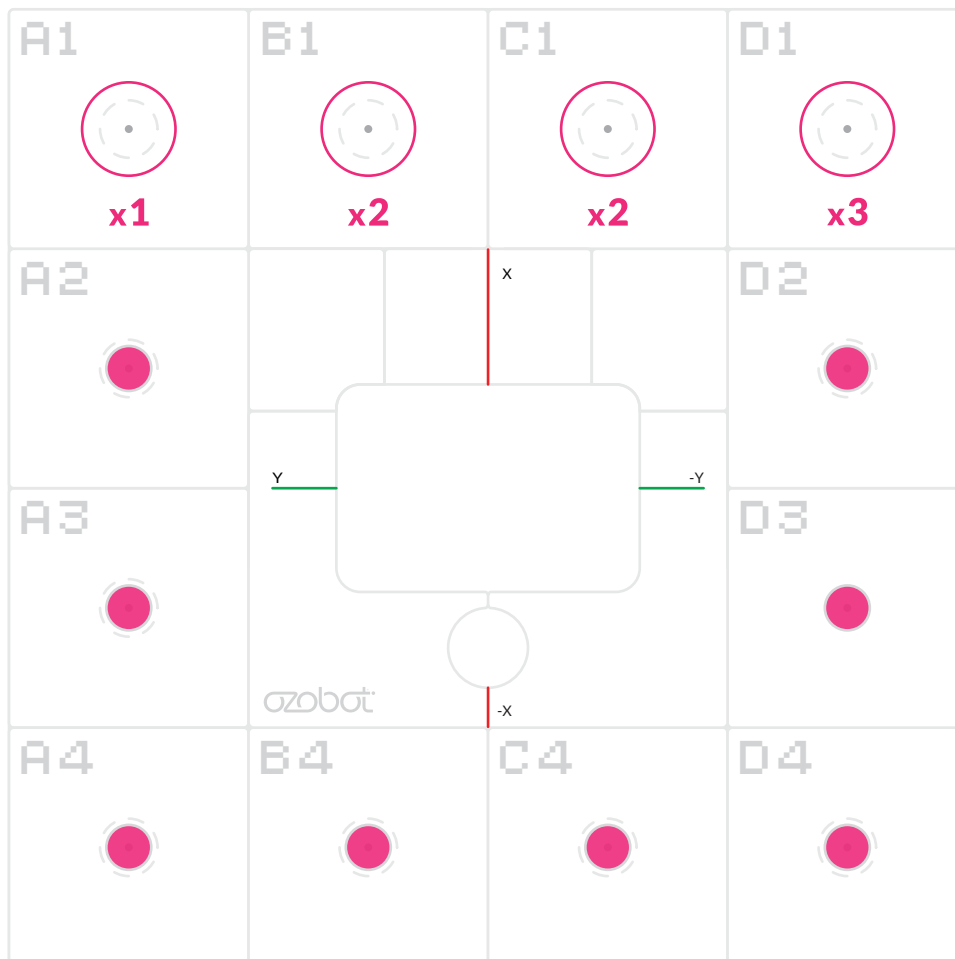


Image 4.4

Practical Scenario

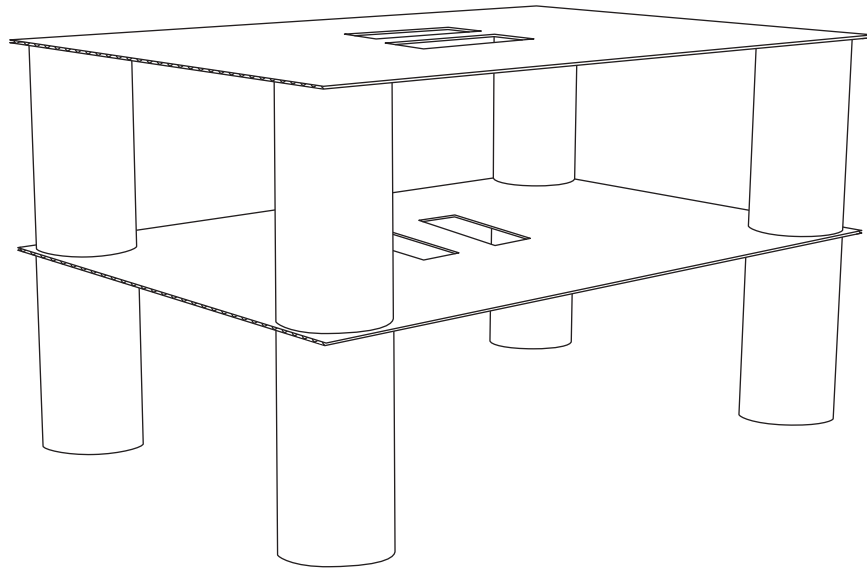


Image 4.5

Practical Scenario

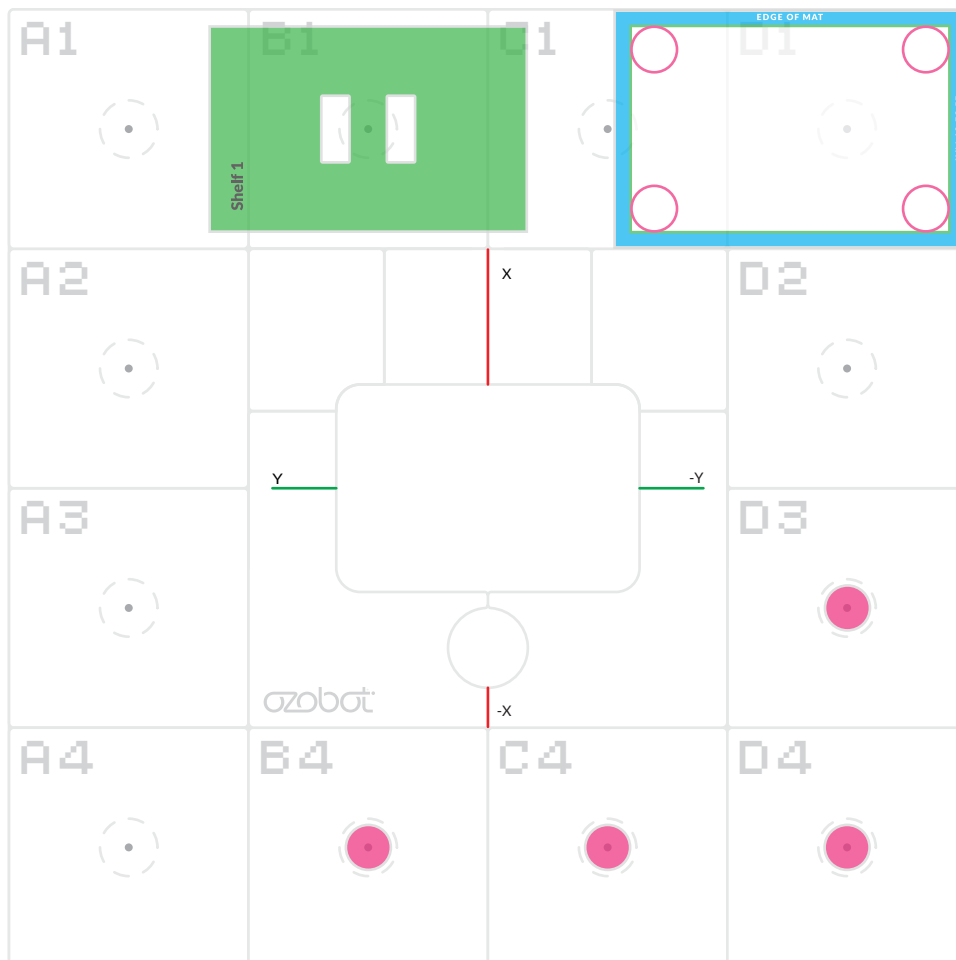


Image 4.6

Practical Scenario

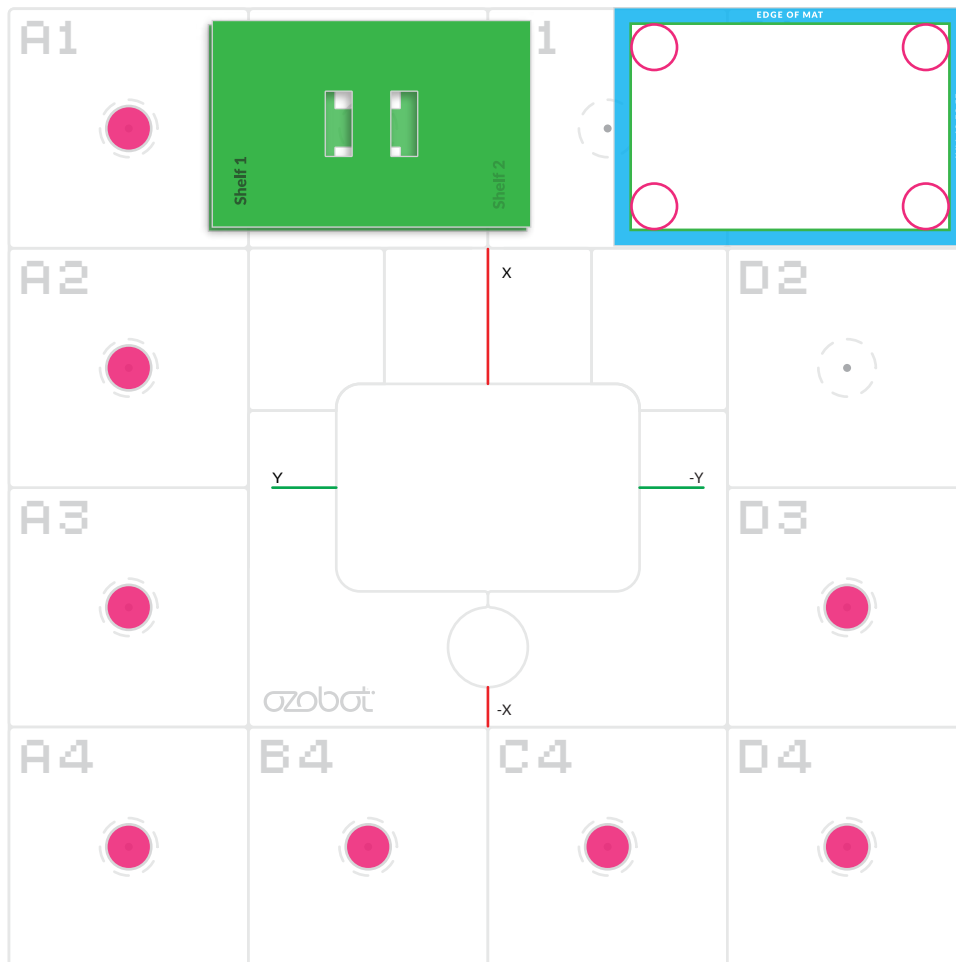
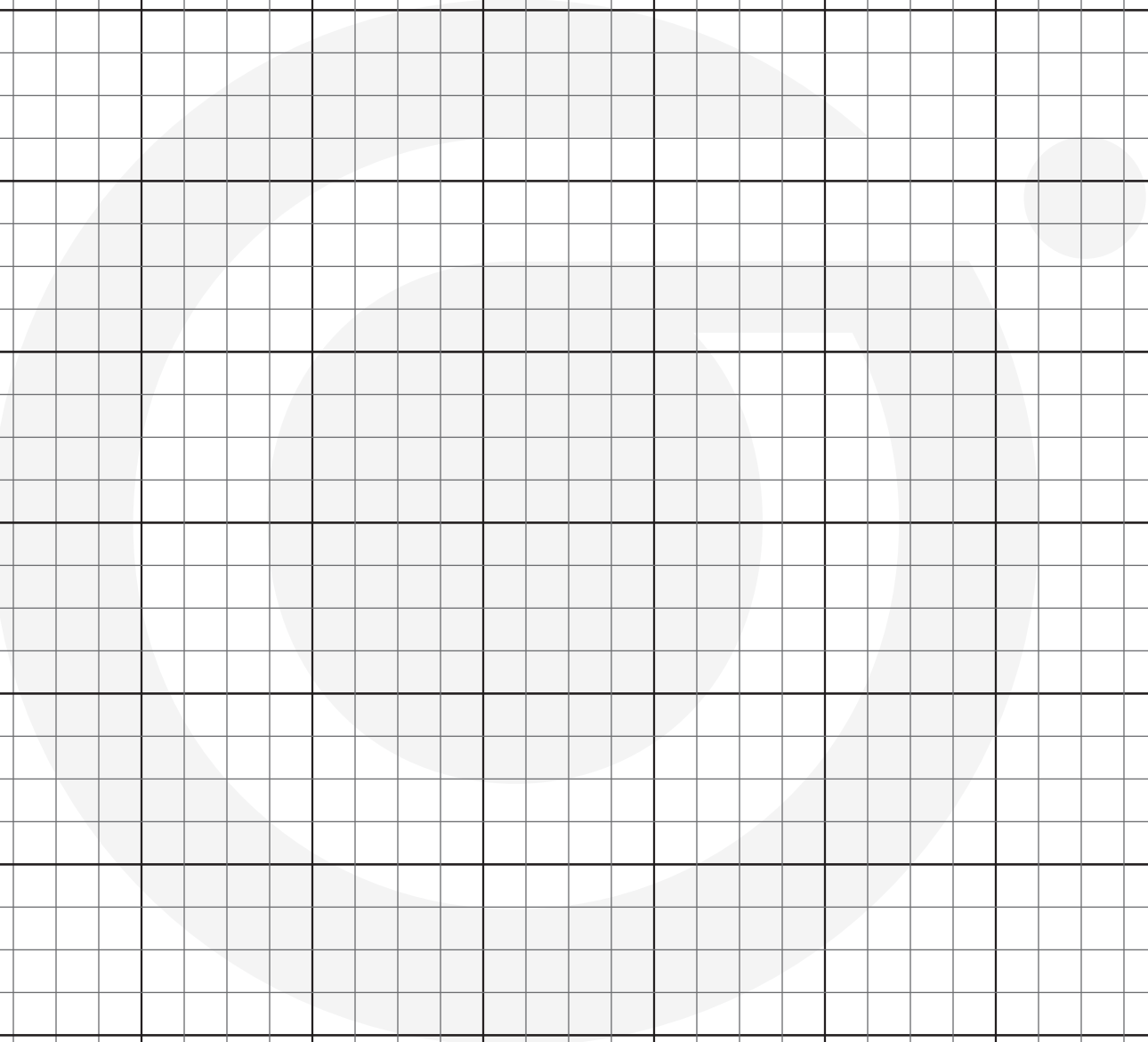


Image 4.7

Members Present:										Members Absent:									
																			
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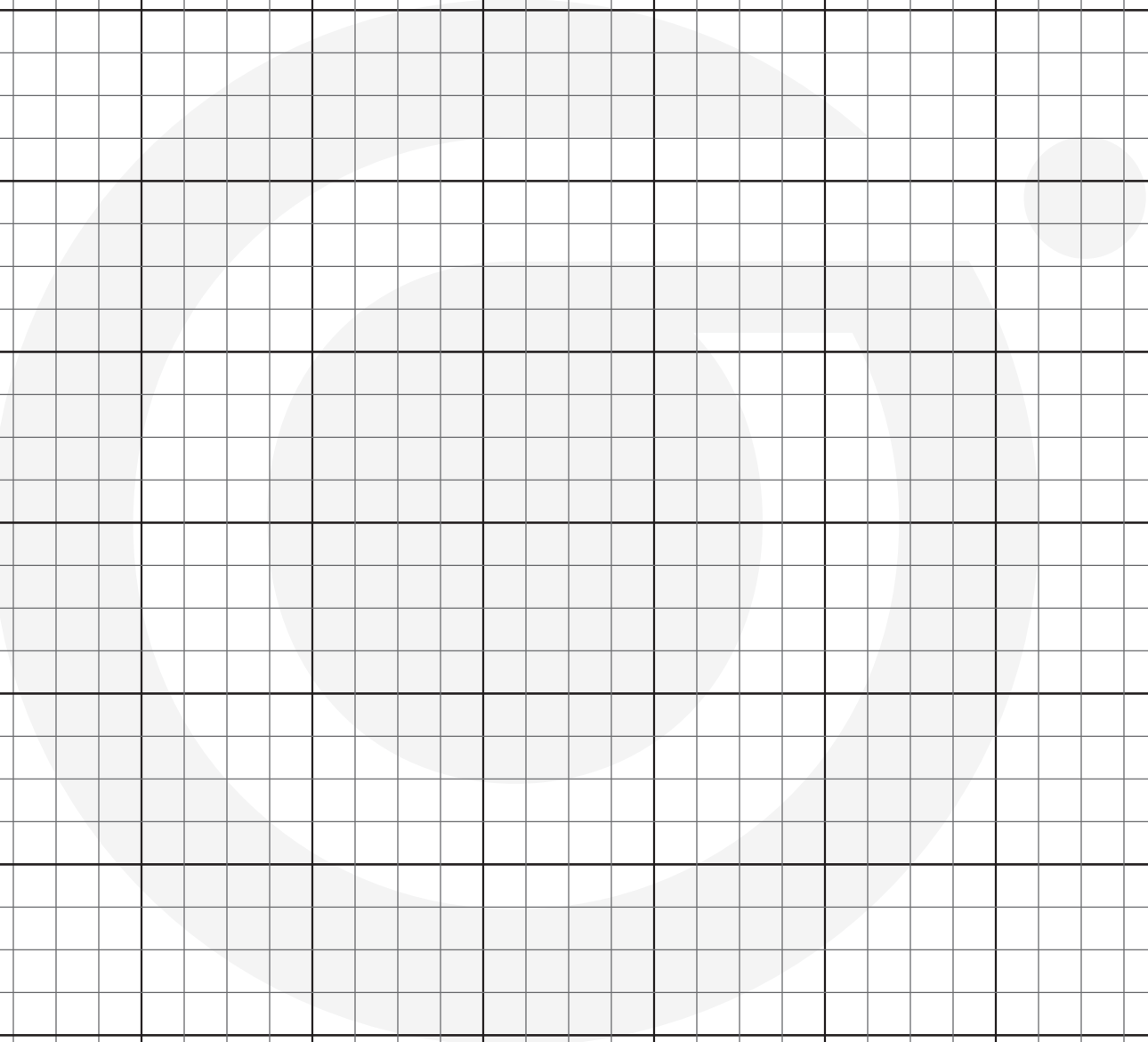
A 20x20 grid with a large, faint, light gray smiley face centered on it. The smiley face is composed of two concentric circles for the eyes and a curved line for the mouth. The grid lines are thin and gray, while the smiley face is a solid, light gray color. The smiley face is centered at (10, 10) with a radius of approximately 8 units. The mouth is a curved line starting at (4, 16), going down to (10, 18), and ending at (16, 16). The eyes are two concentric circles centered at (5, 5) and (15, 5) with radii of approximately 4 and 6 units respectively.

Witnessed & Understood by:

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