Unit 6 Lesson 1

Programming: My Robotic Friends

Resources

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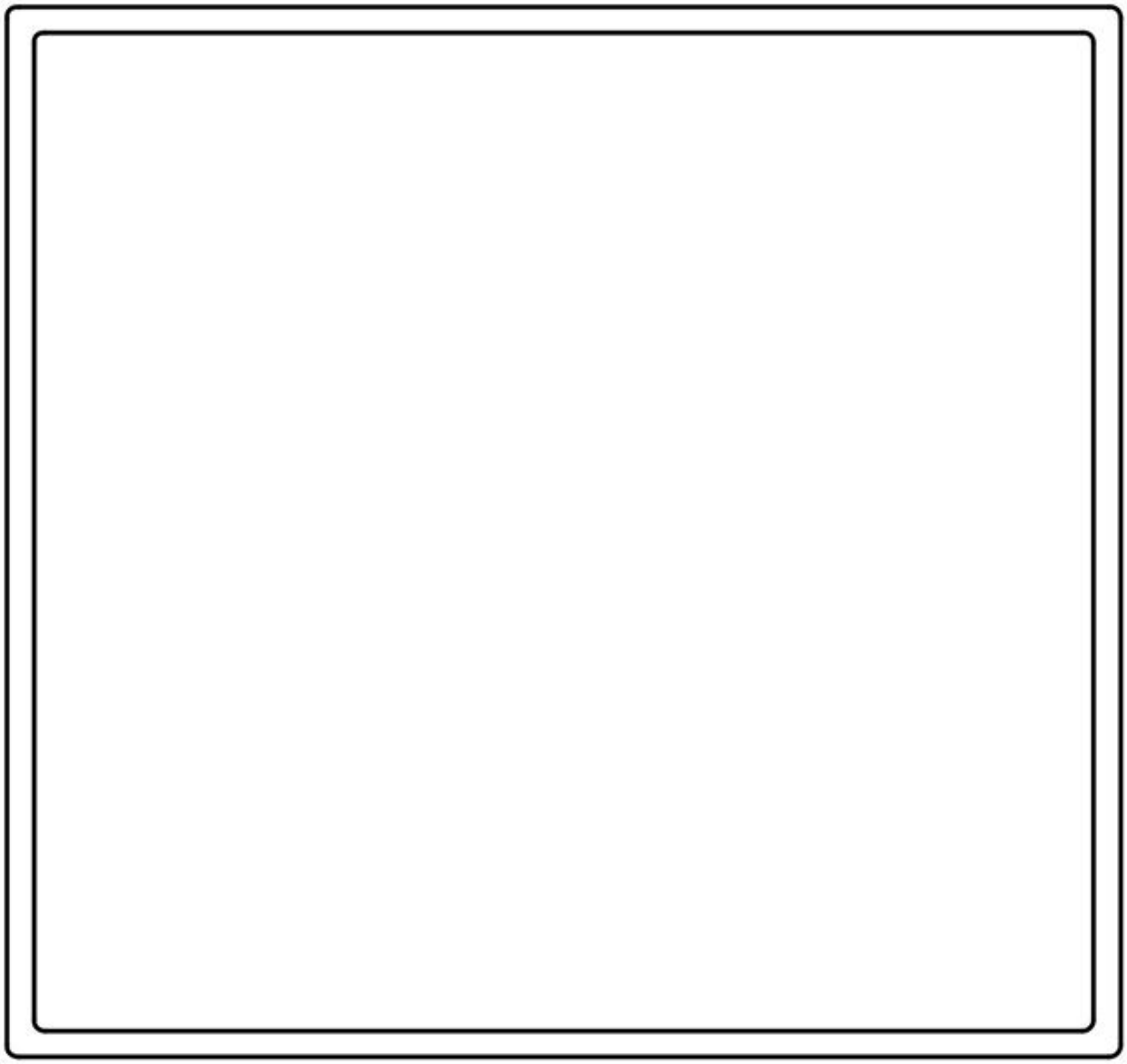

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My Think Spot Journal

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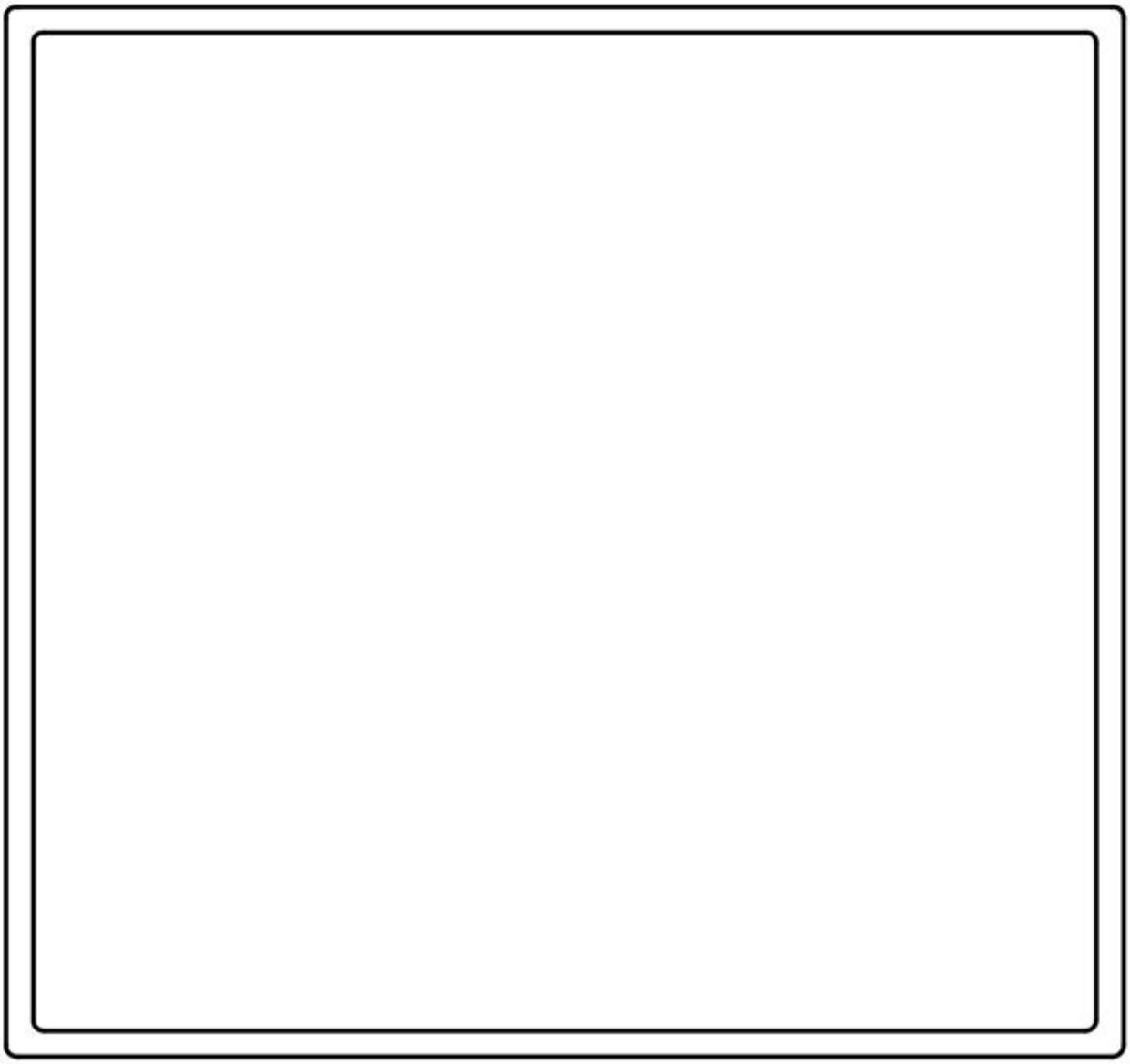

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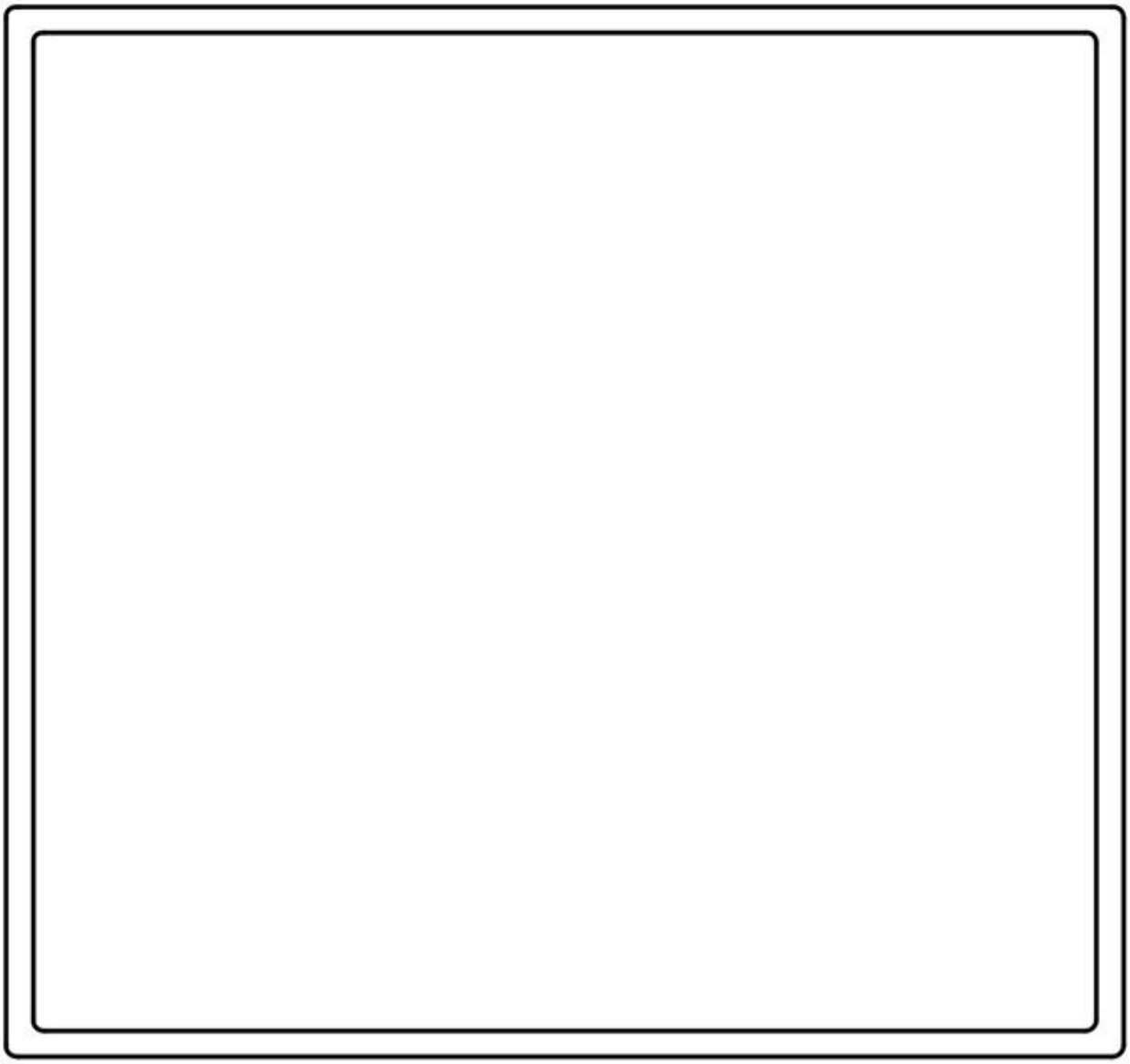

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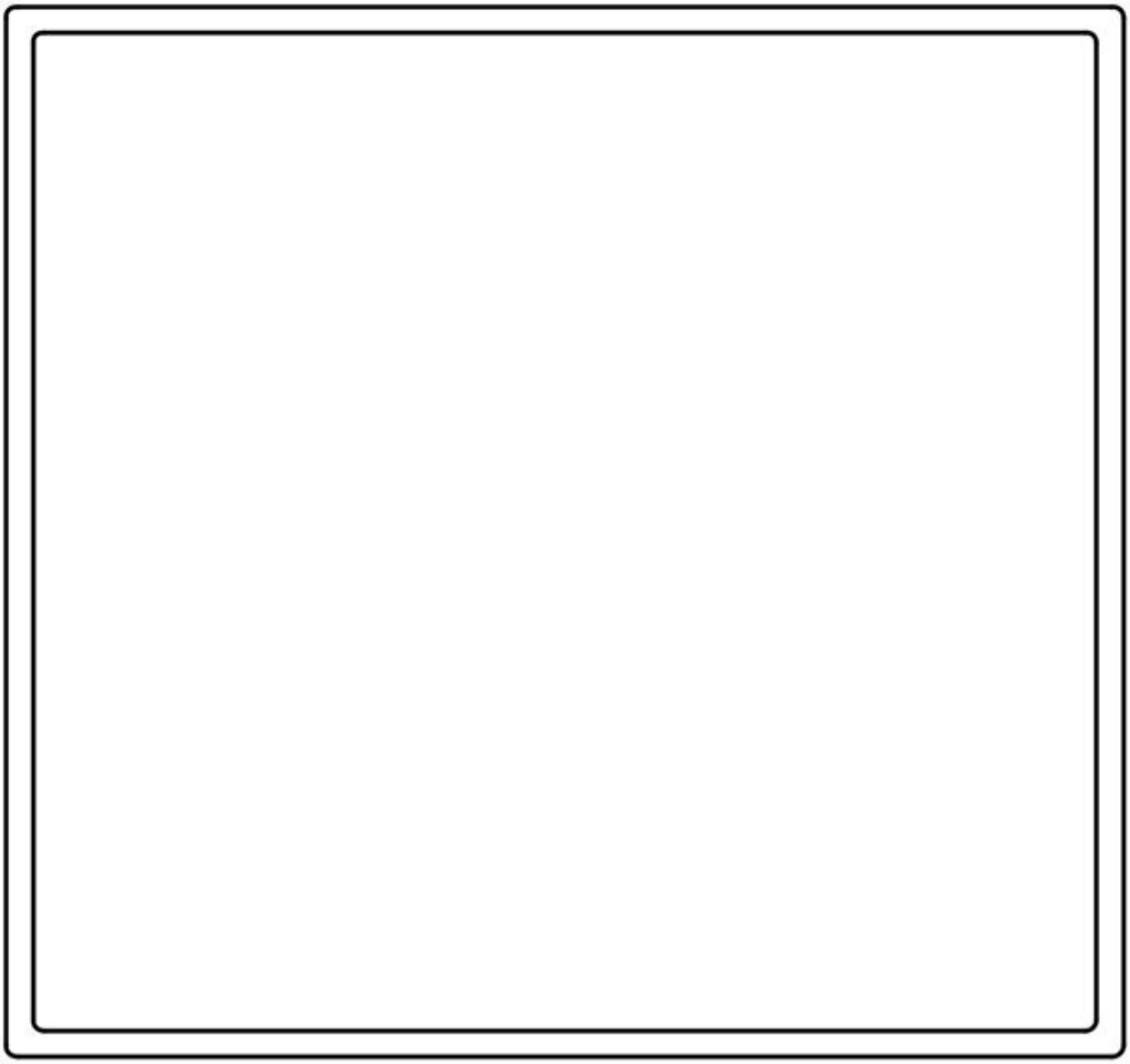

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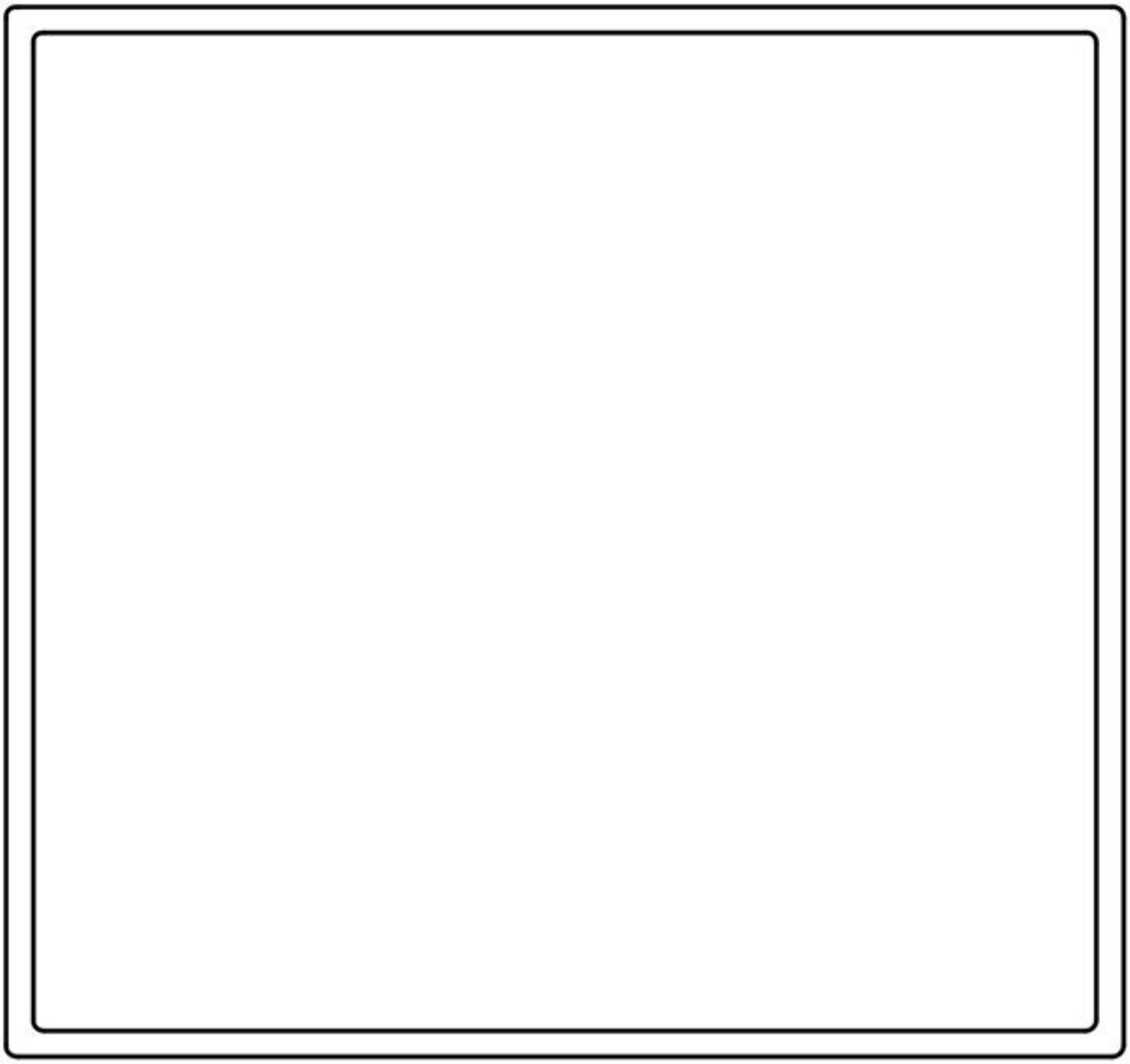

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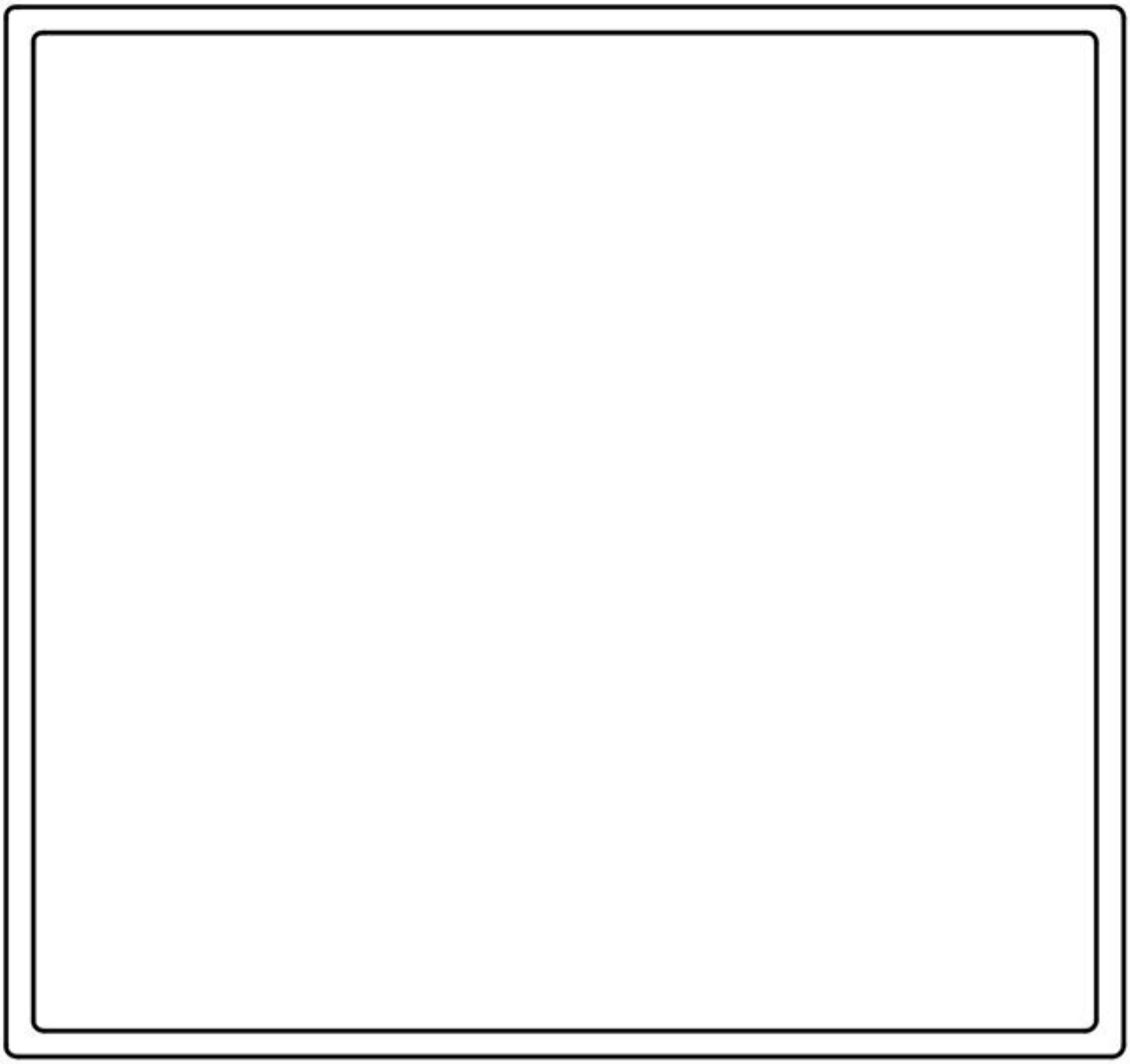

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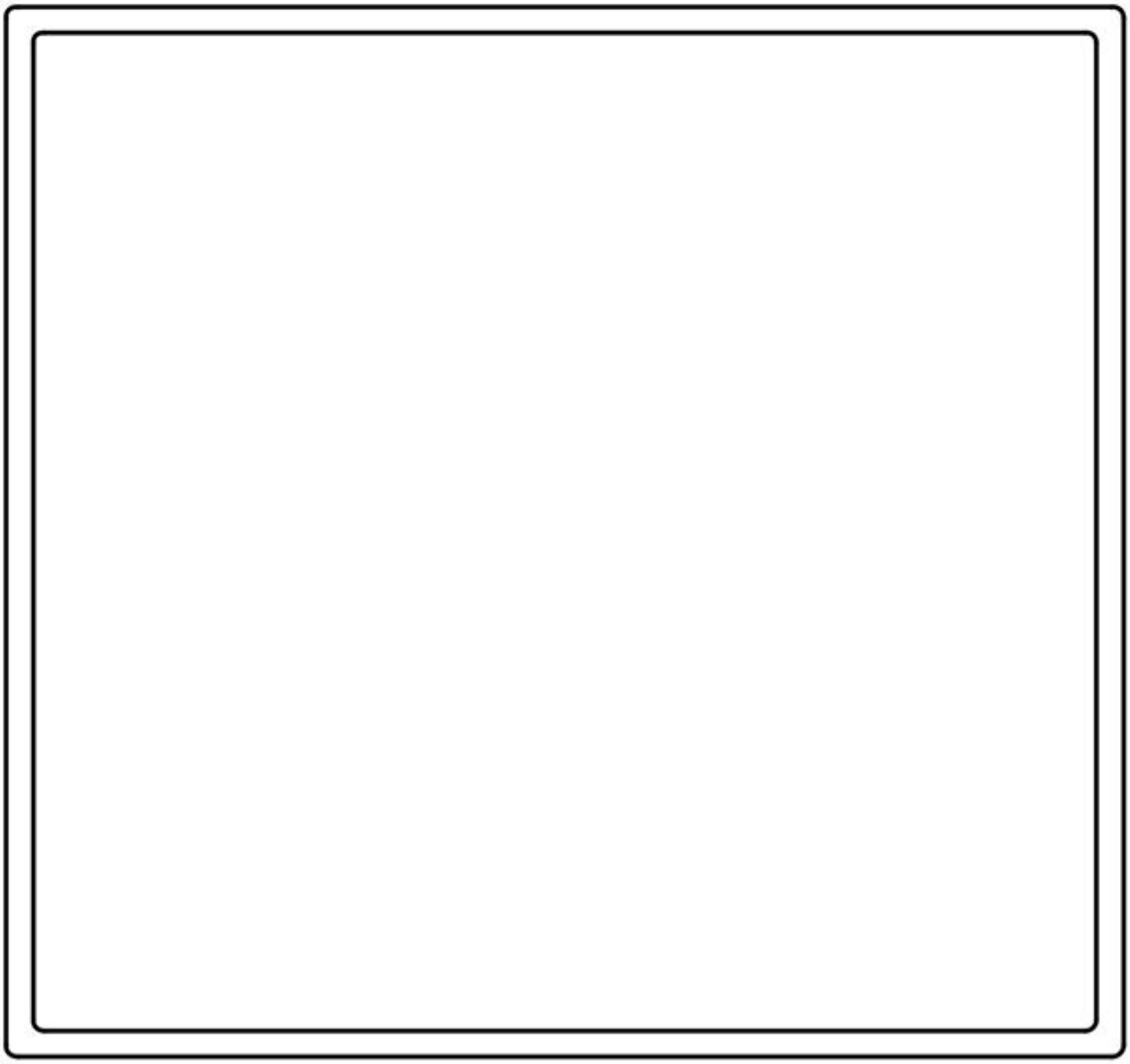

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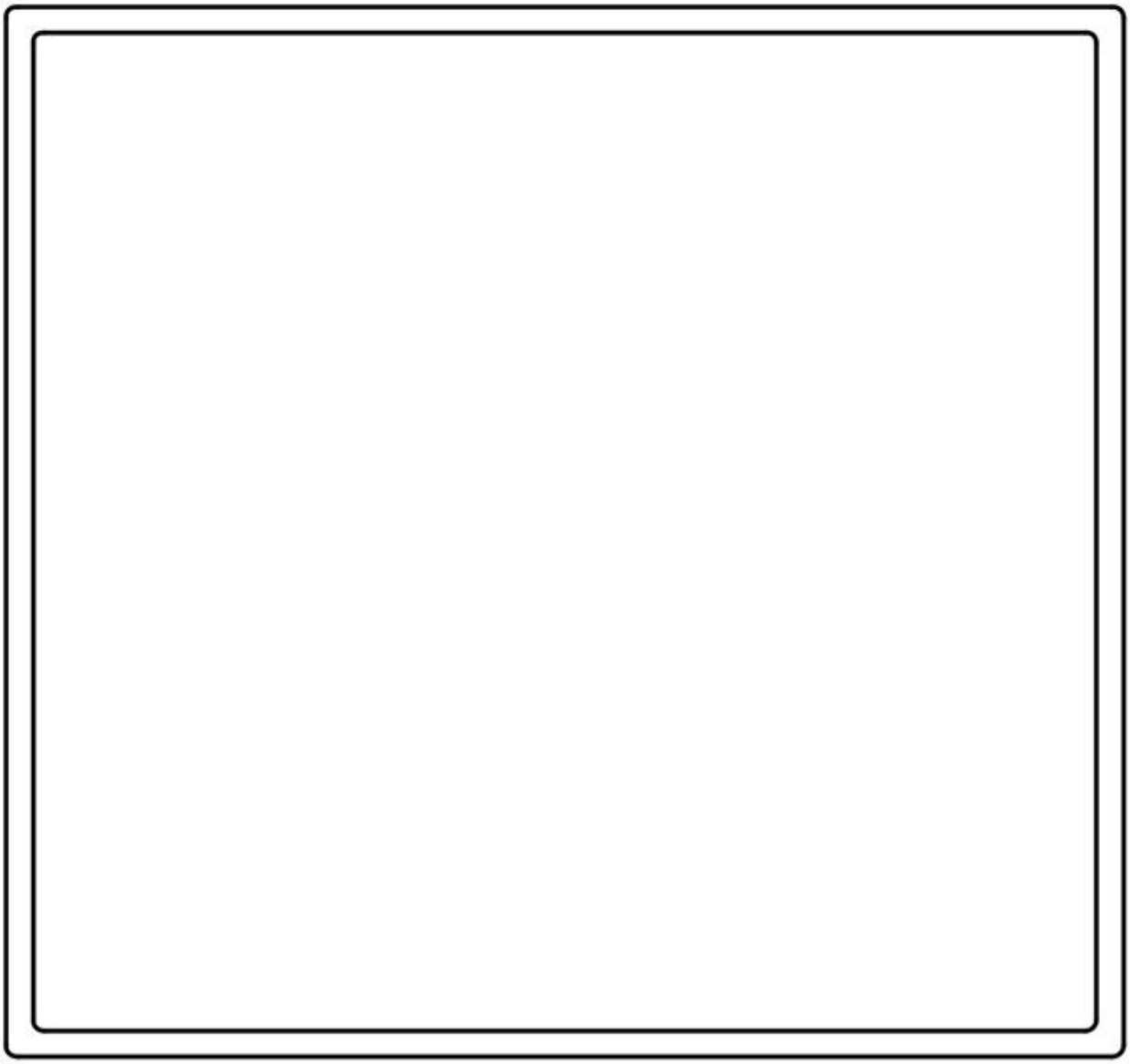

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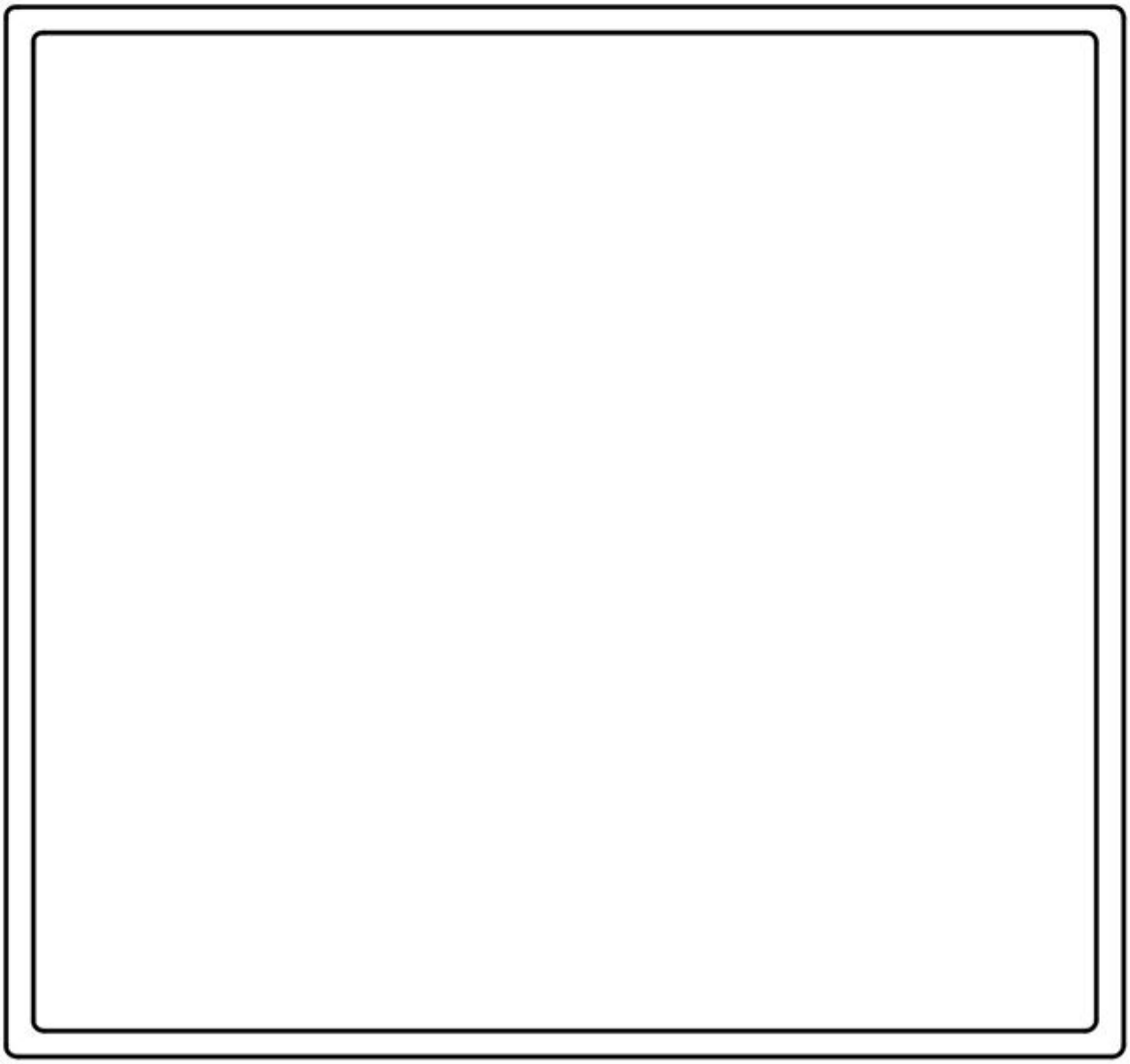

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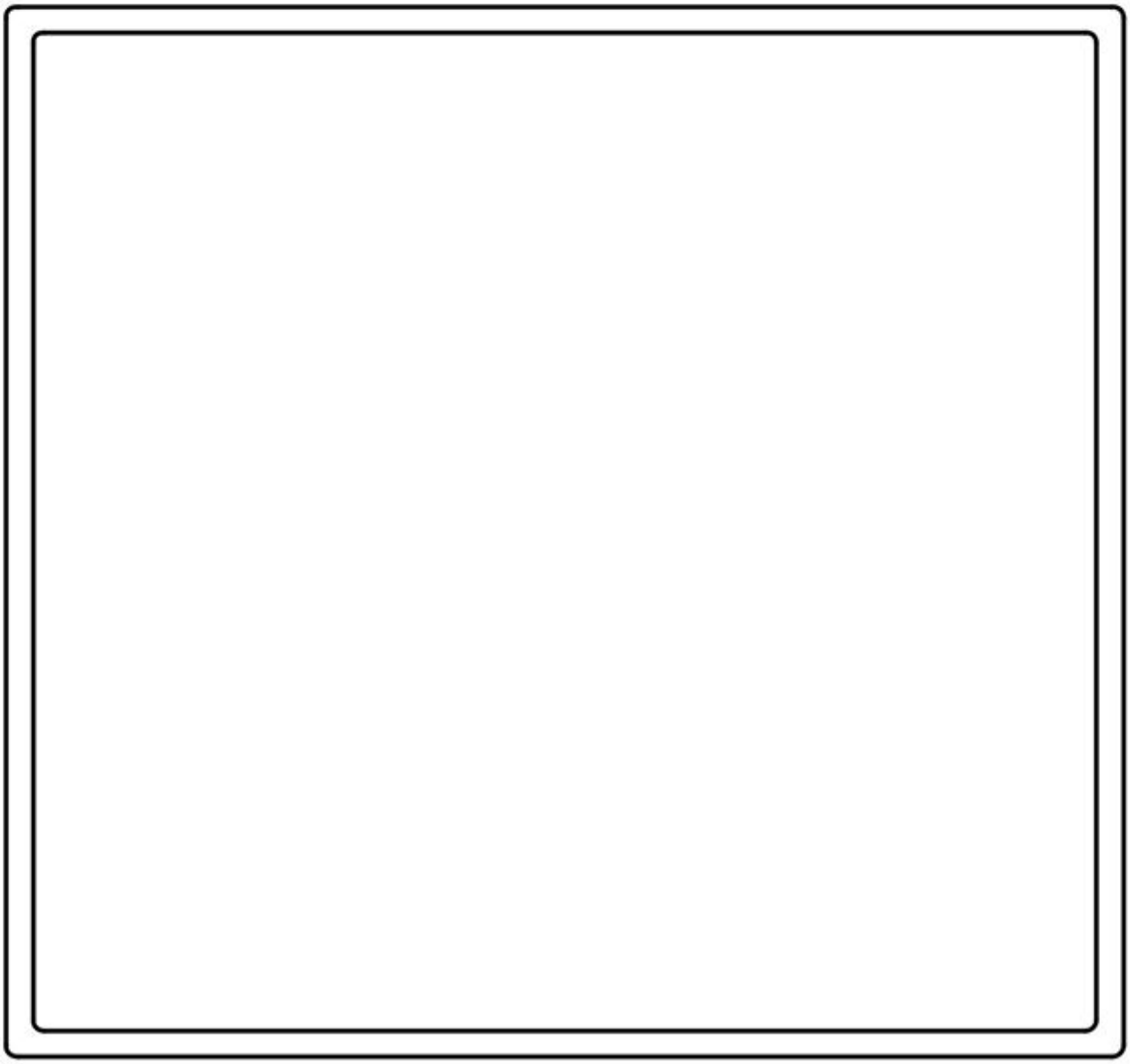
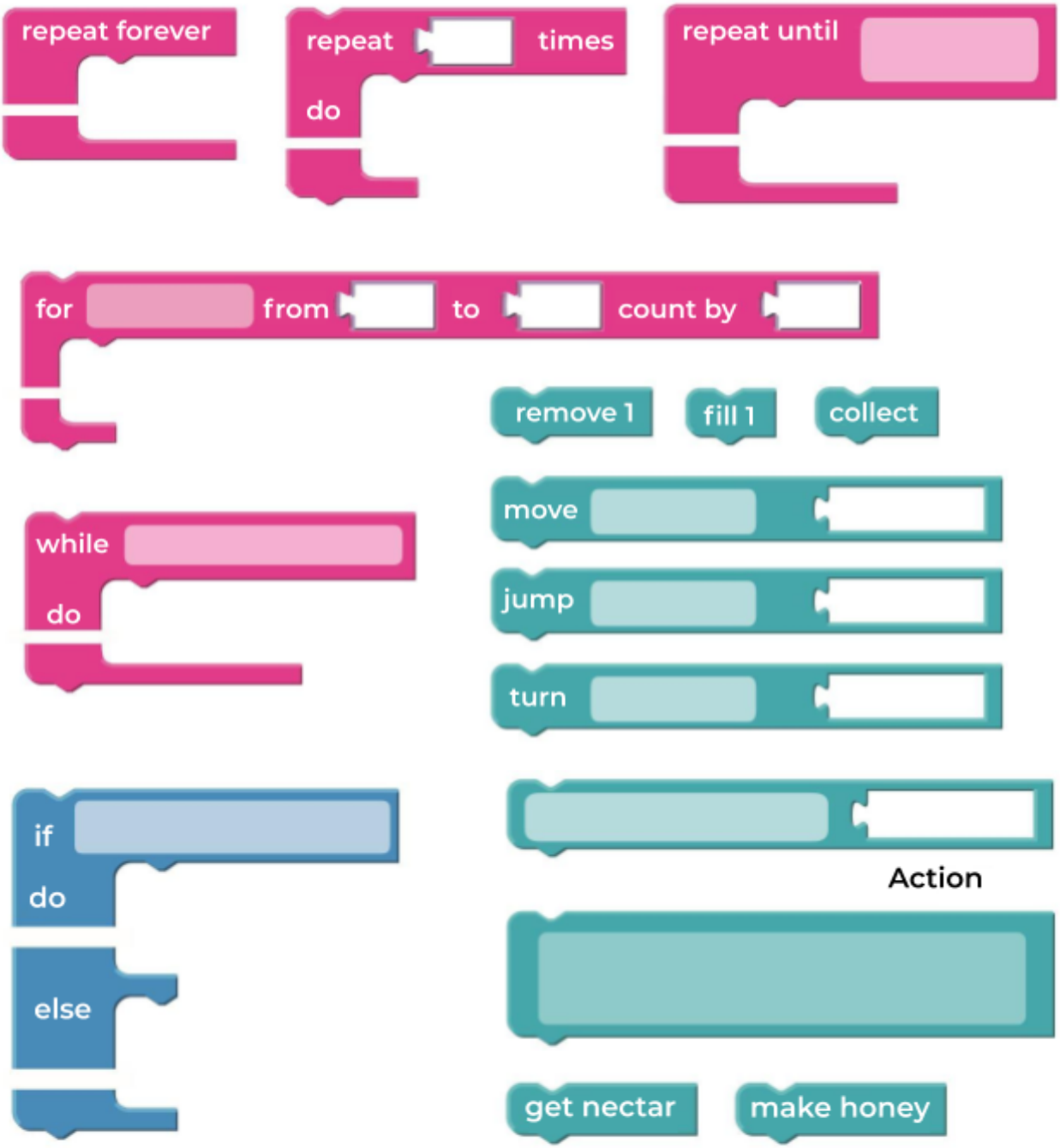


Unit 6 Lesson 2

Sequences in Maze

Resources

Unplugged Blocks (Courses C-F)



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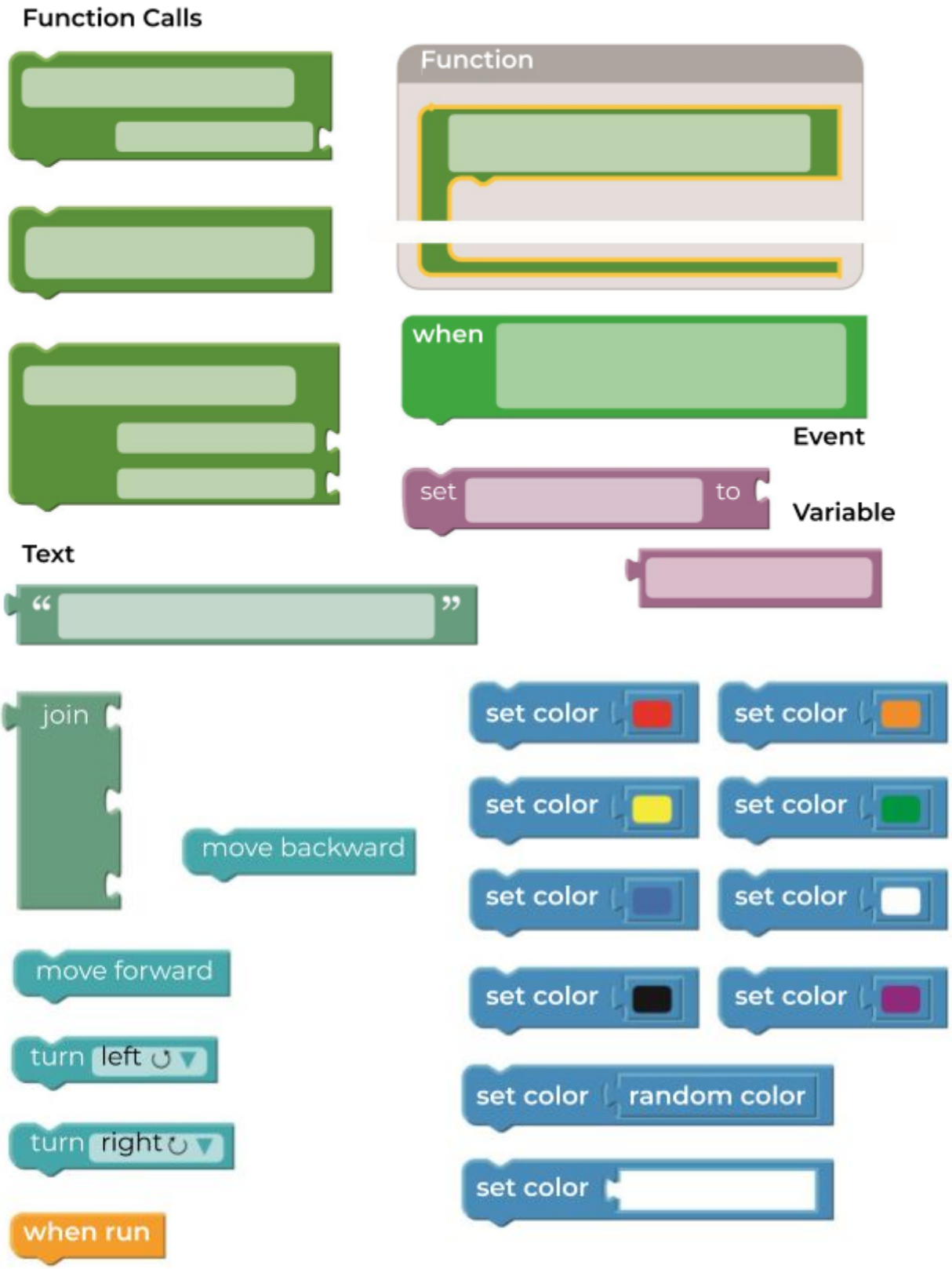

Main Activity Notes

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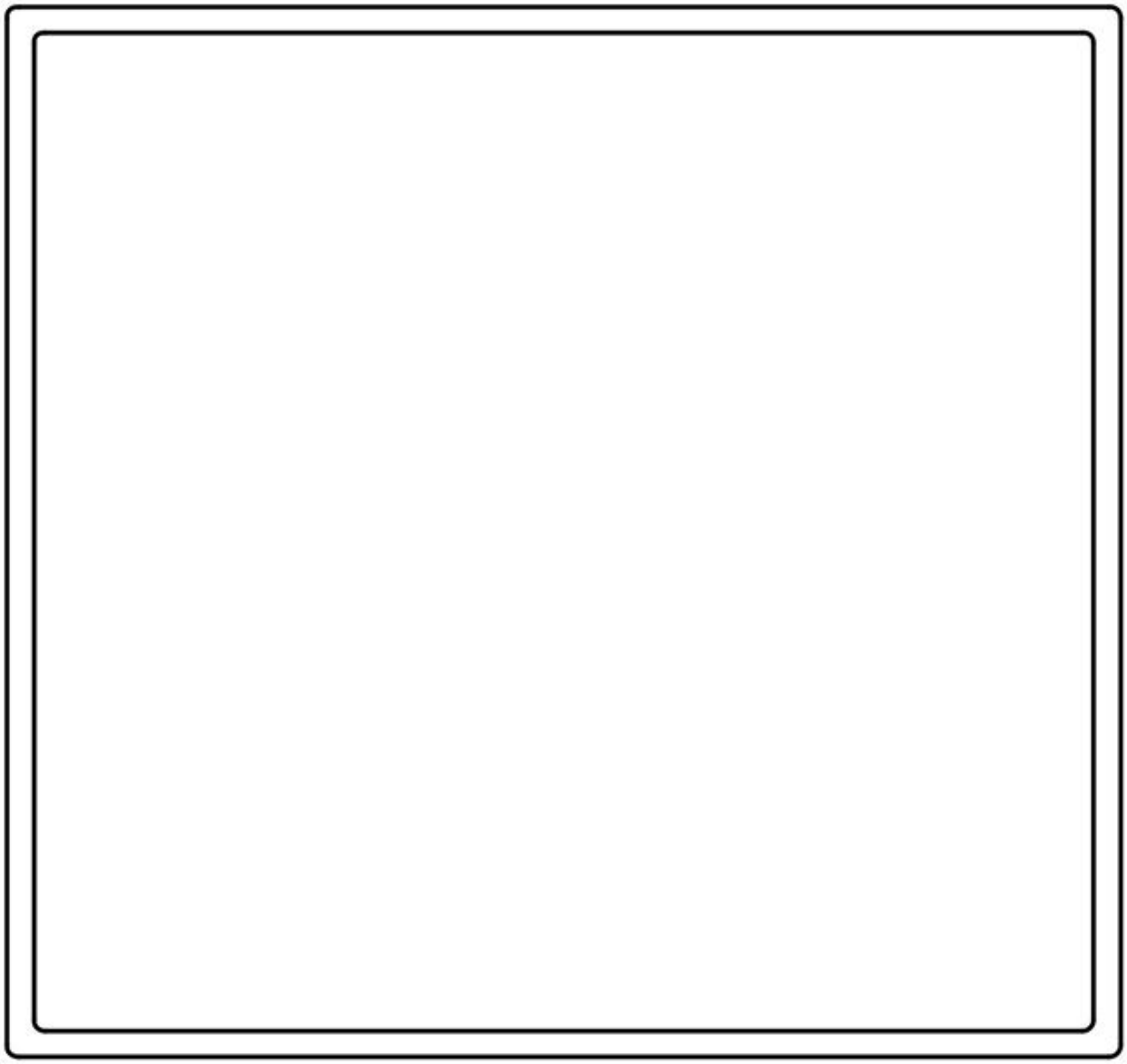

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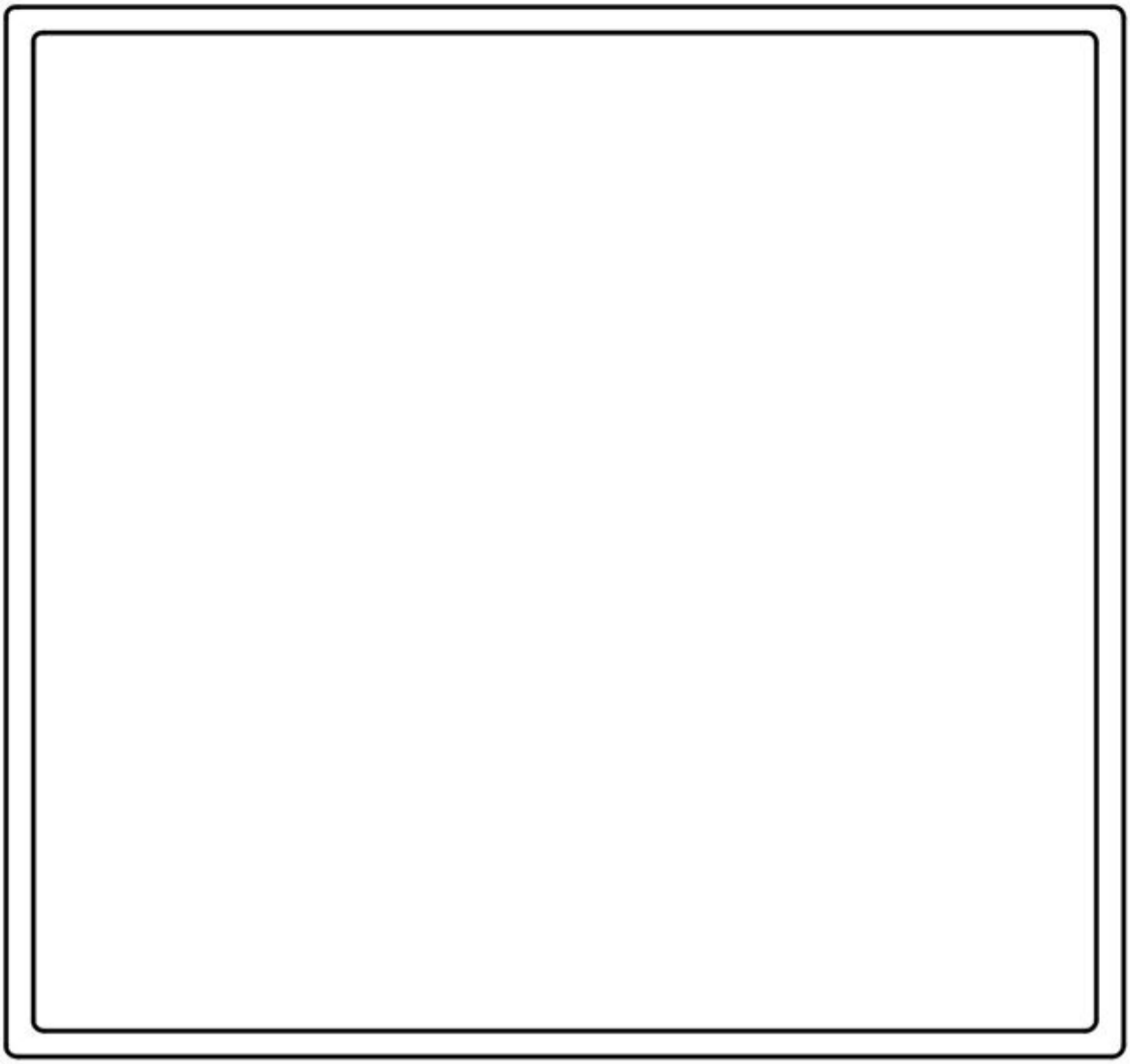

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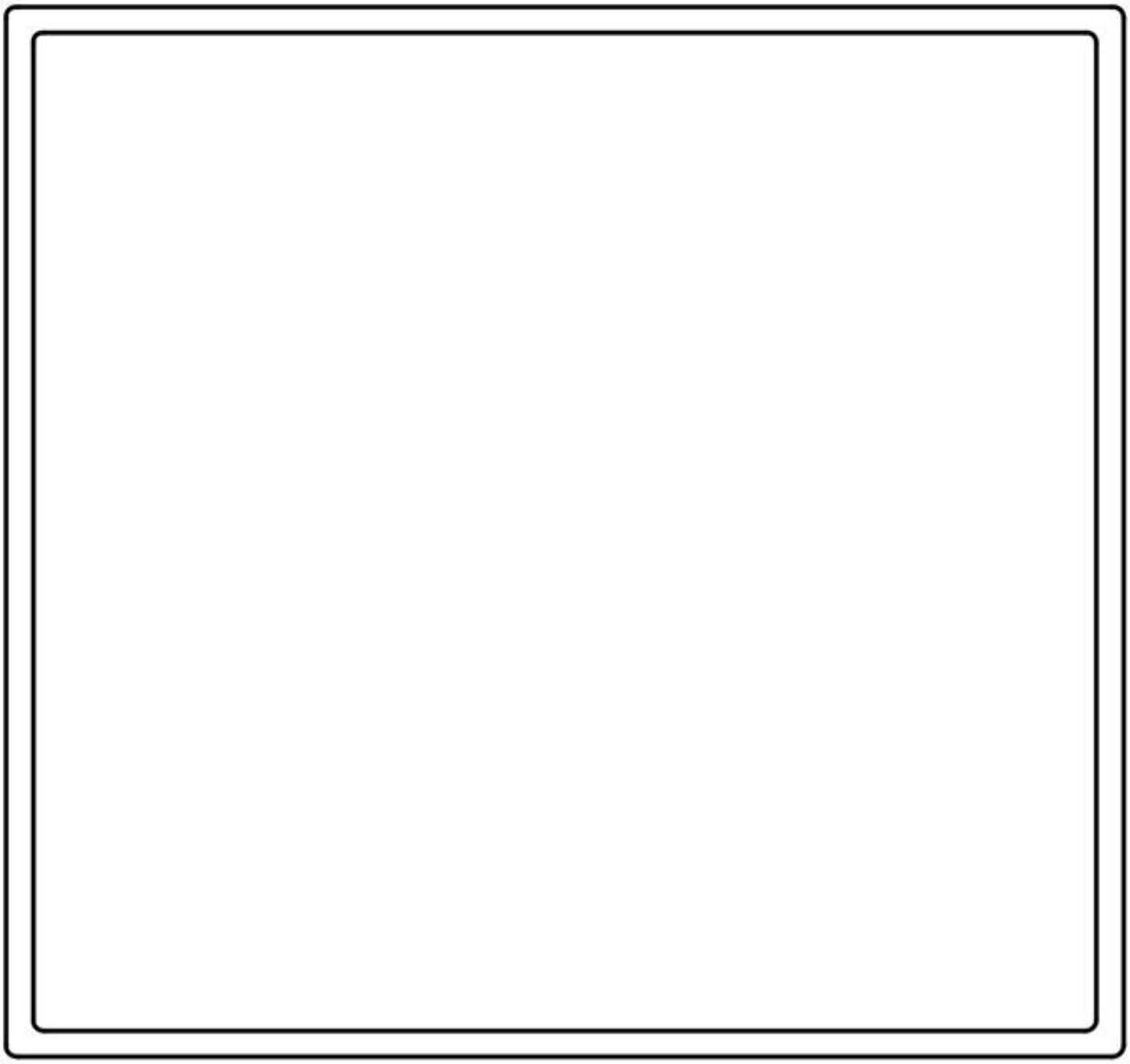

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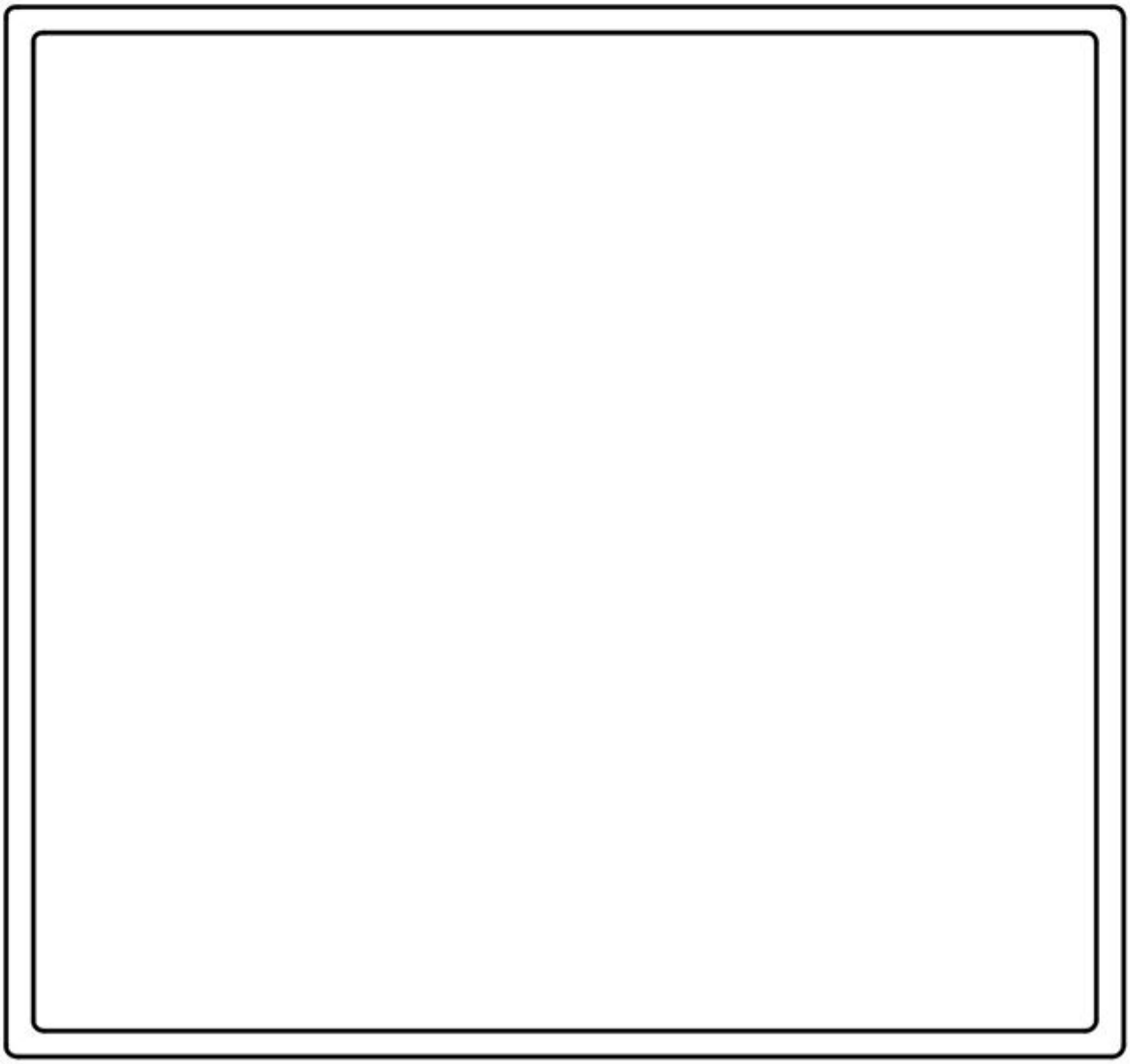

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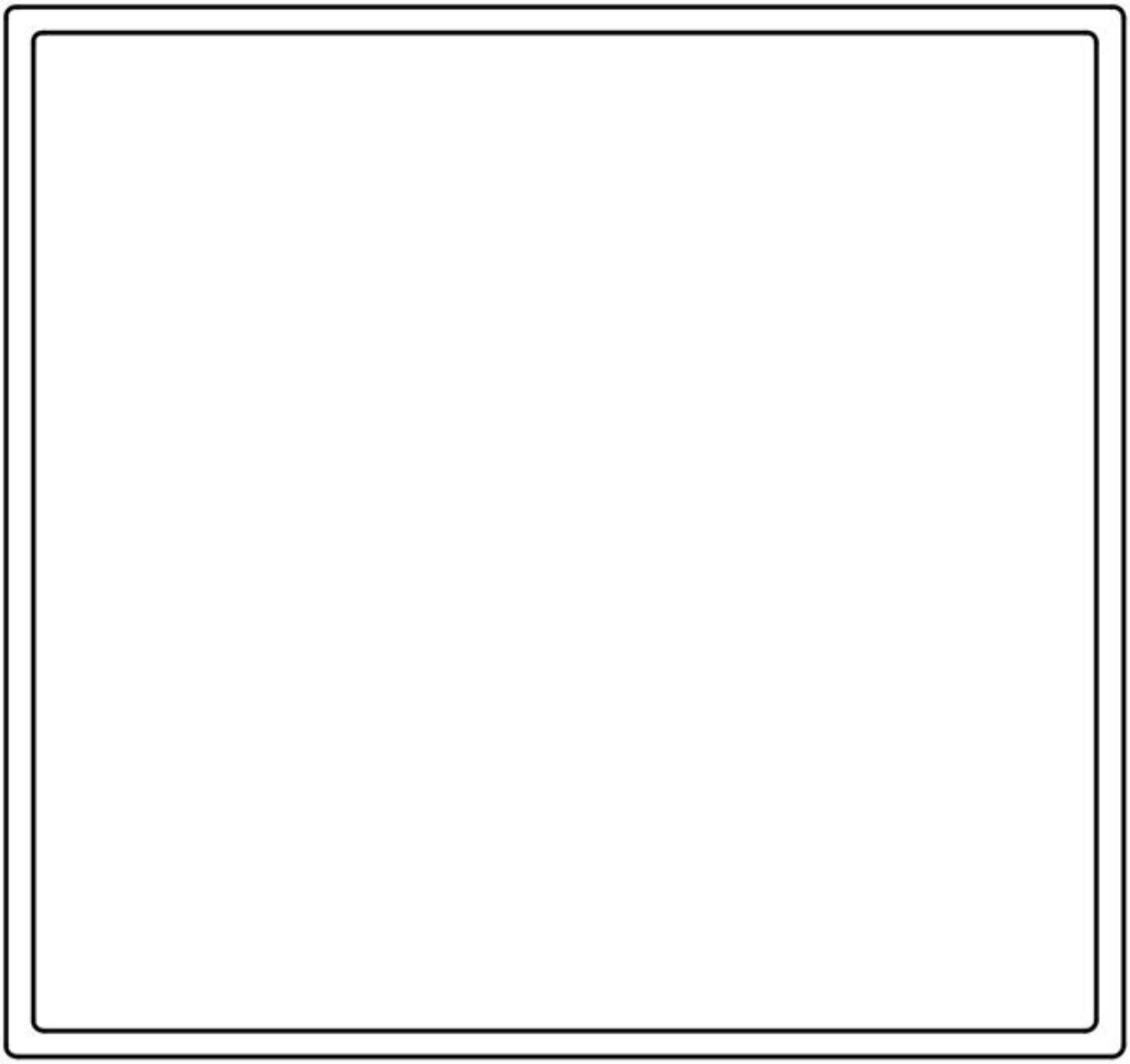

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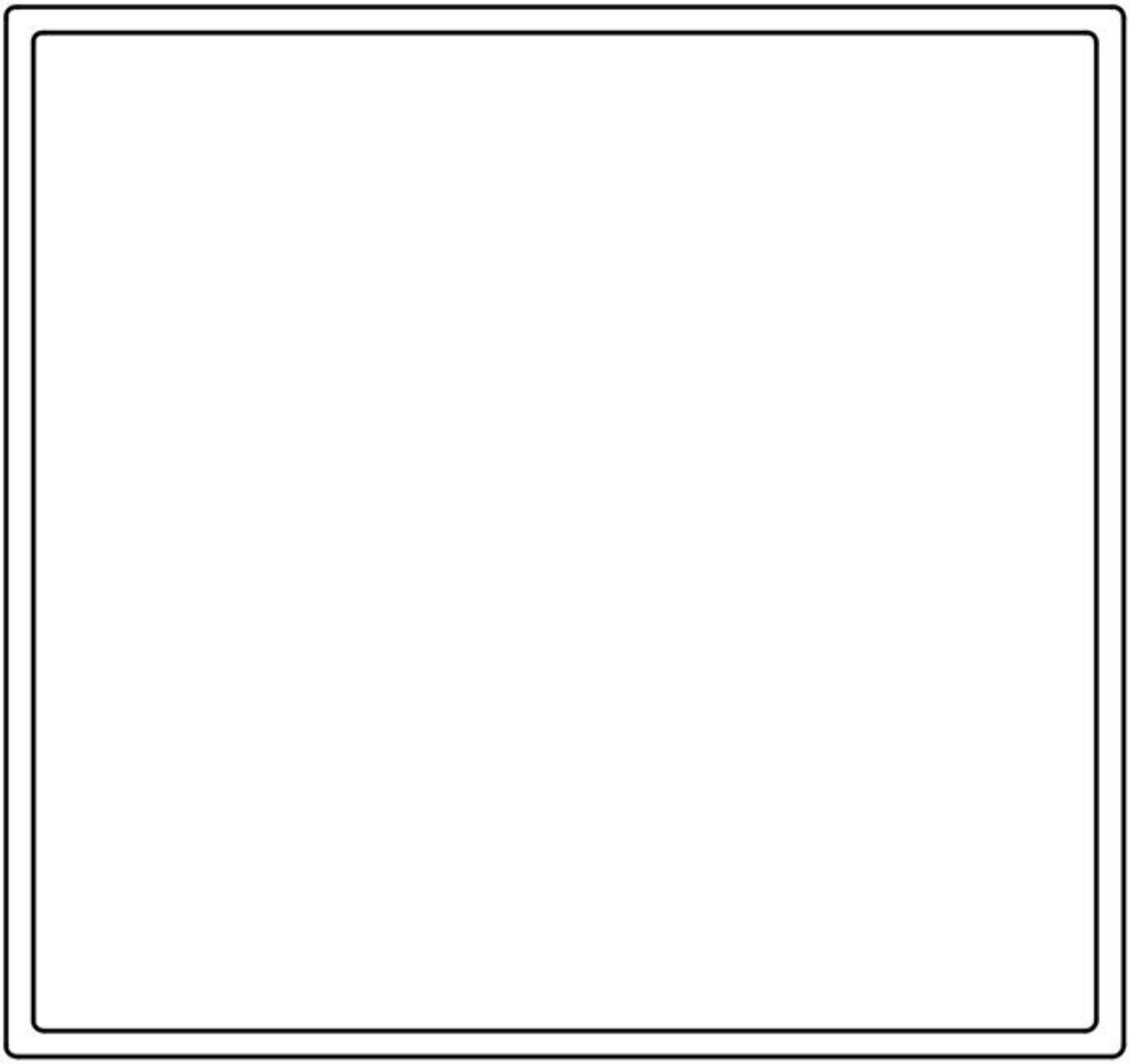

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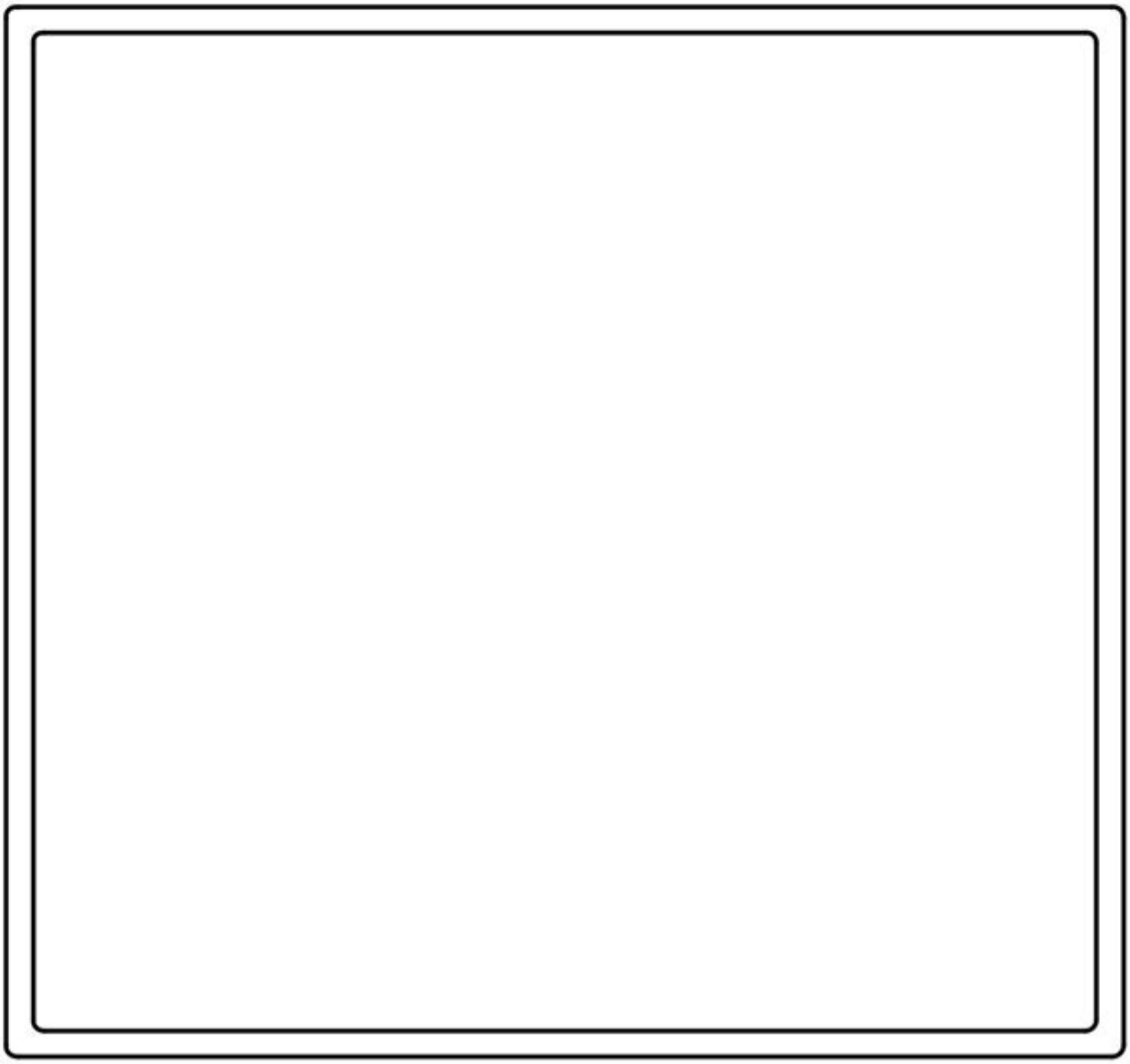

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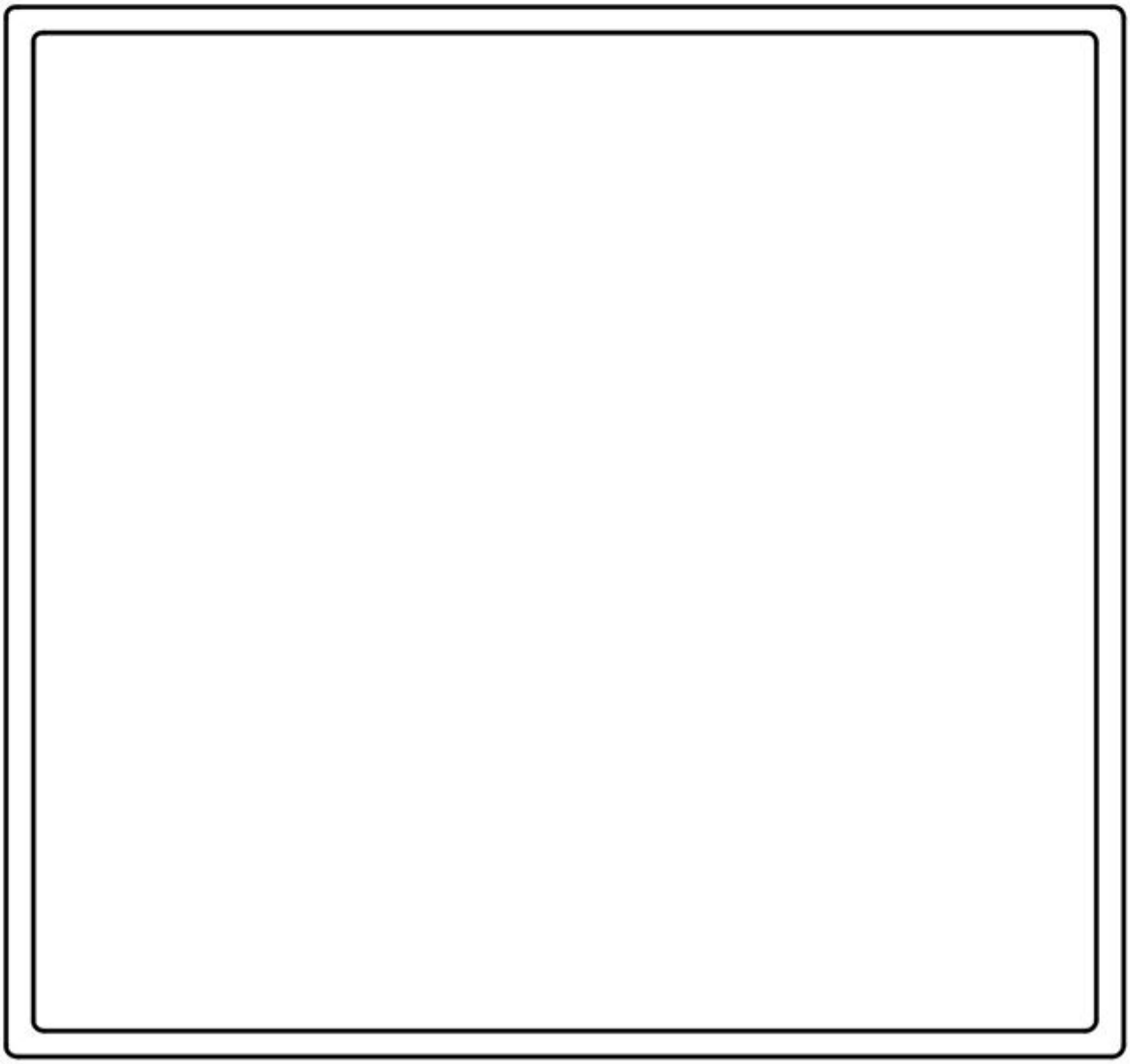

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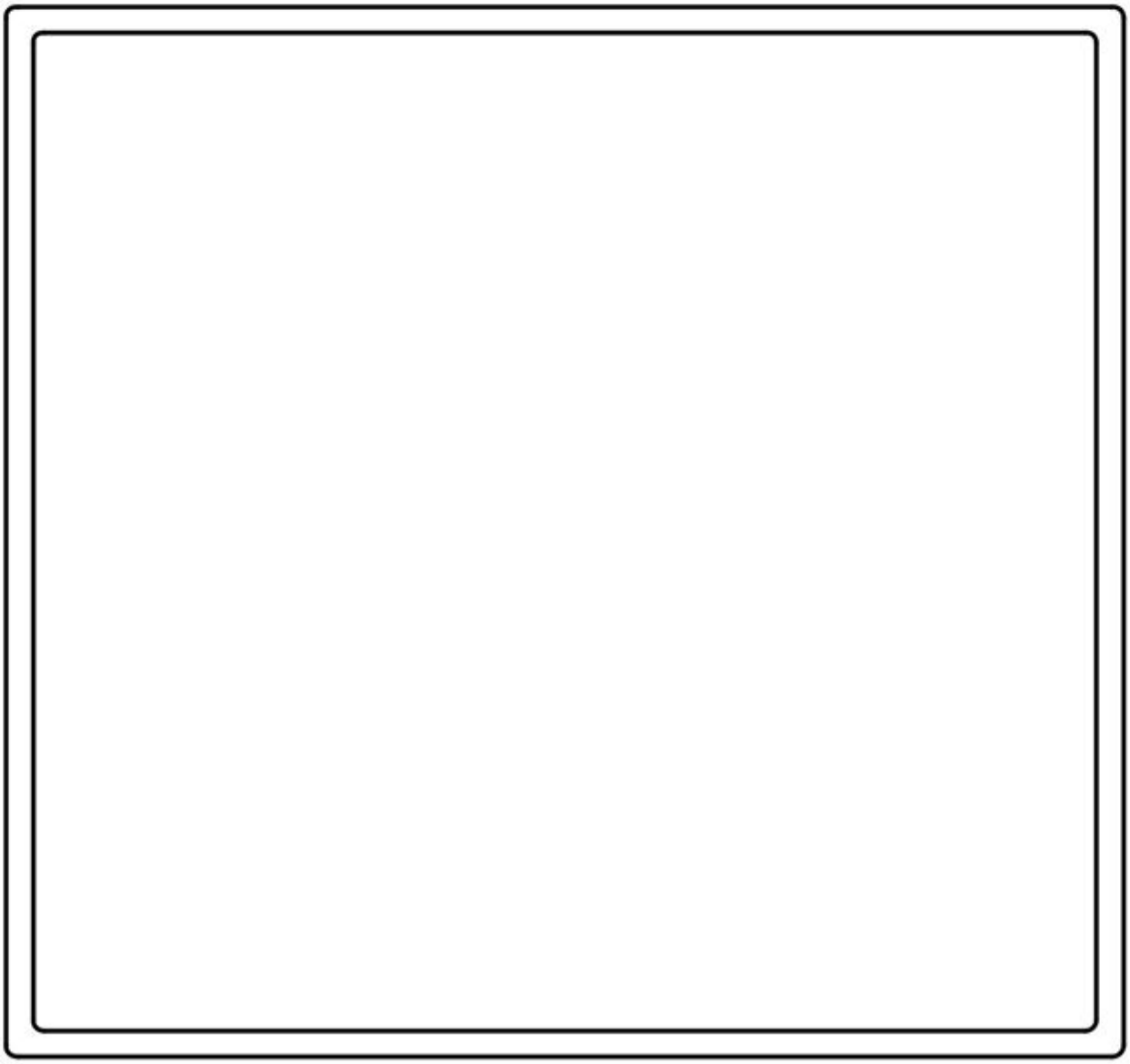

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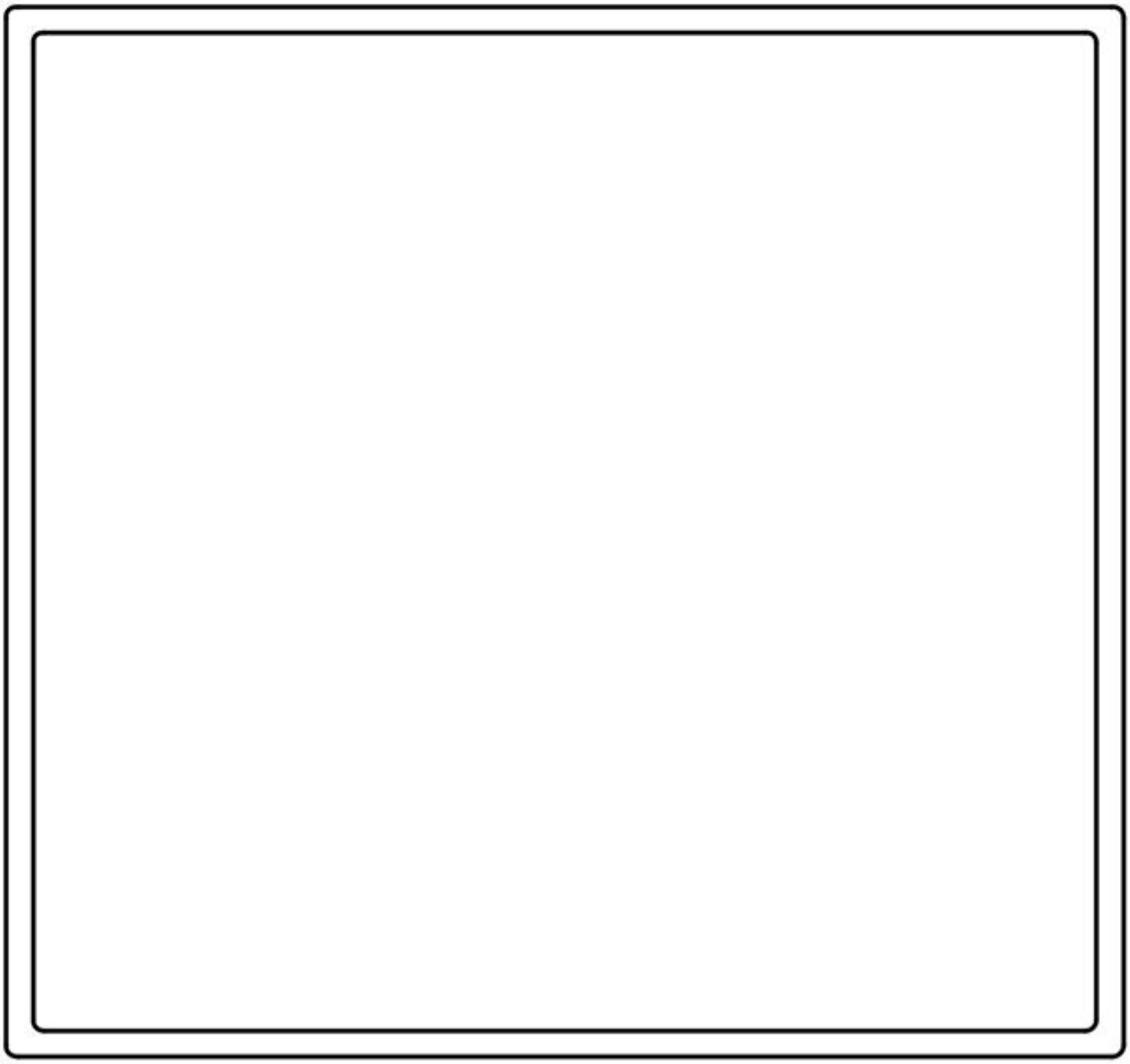

Unit 6 Lesson 3

Building a Foundation

Resources

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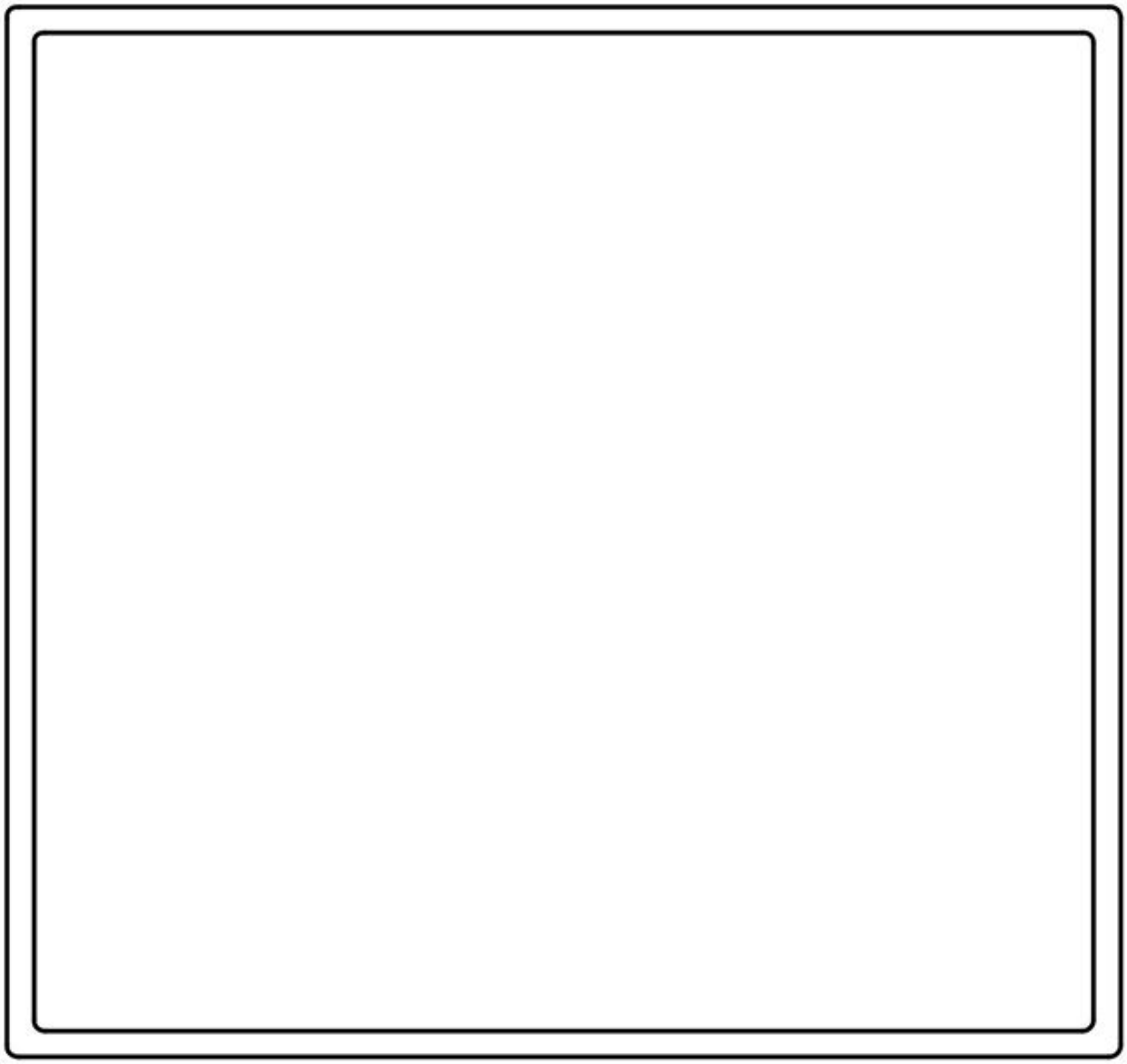

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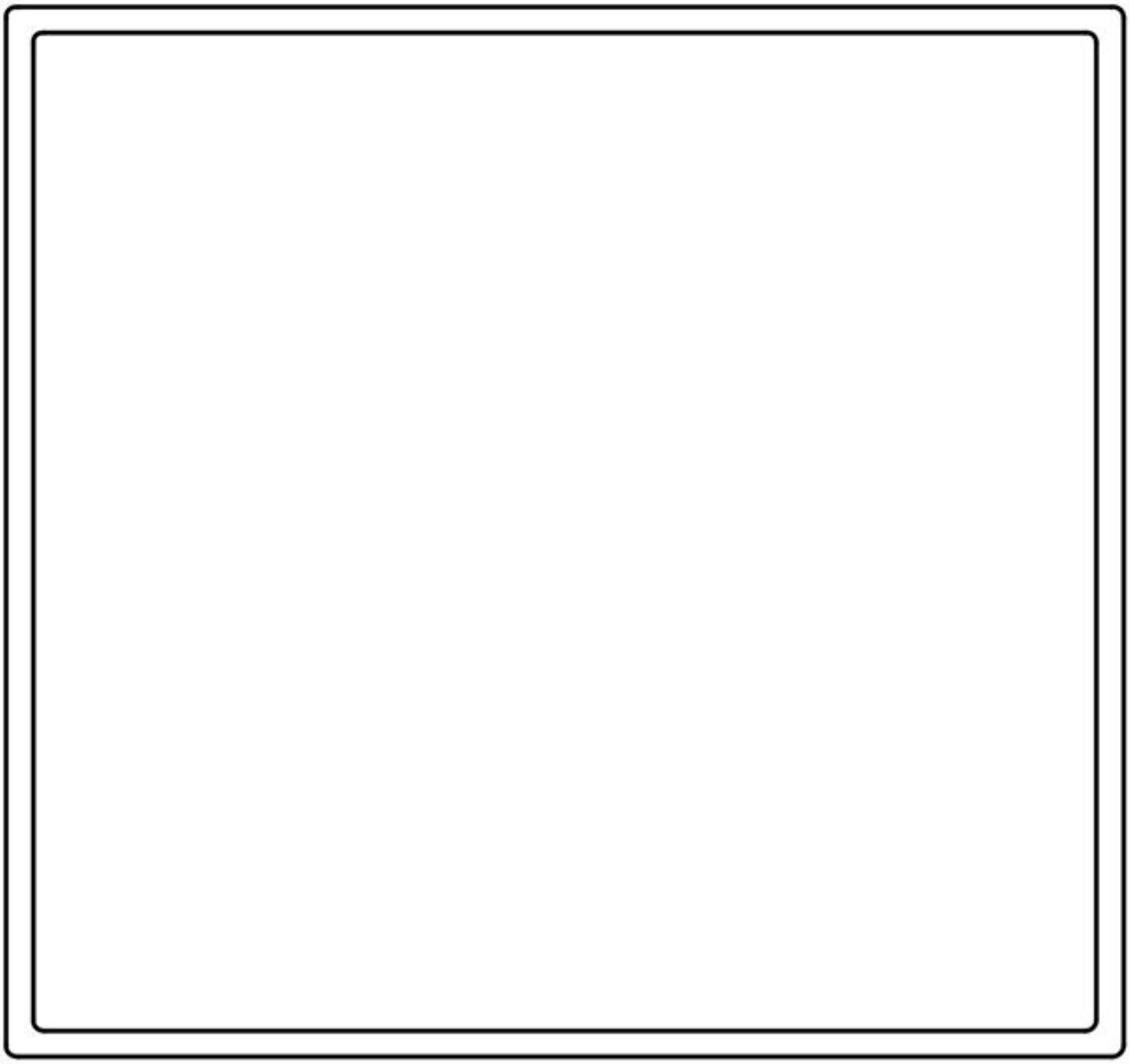

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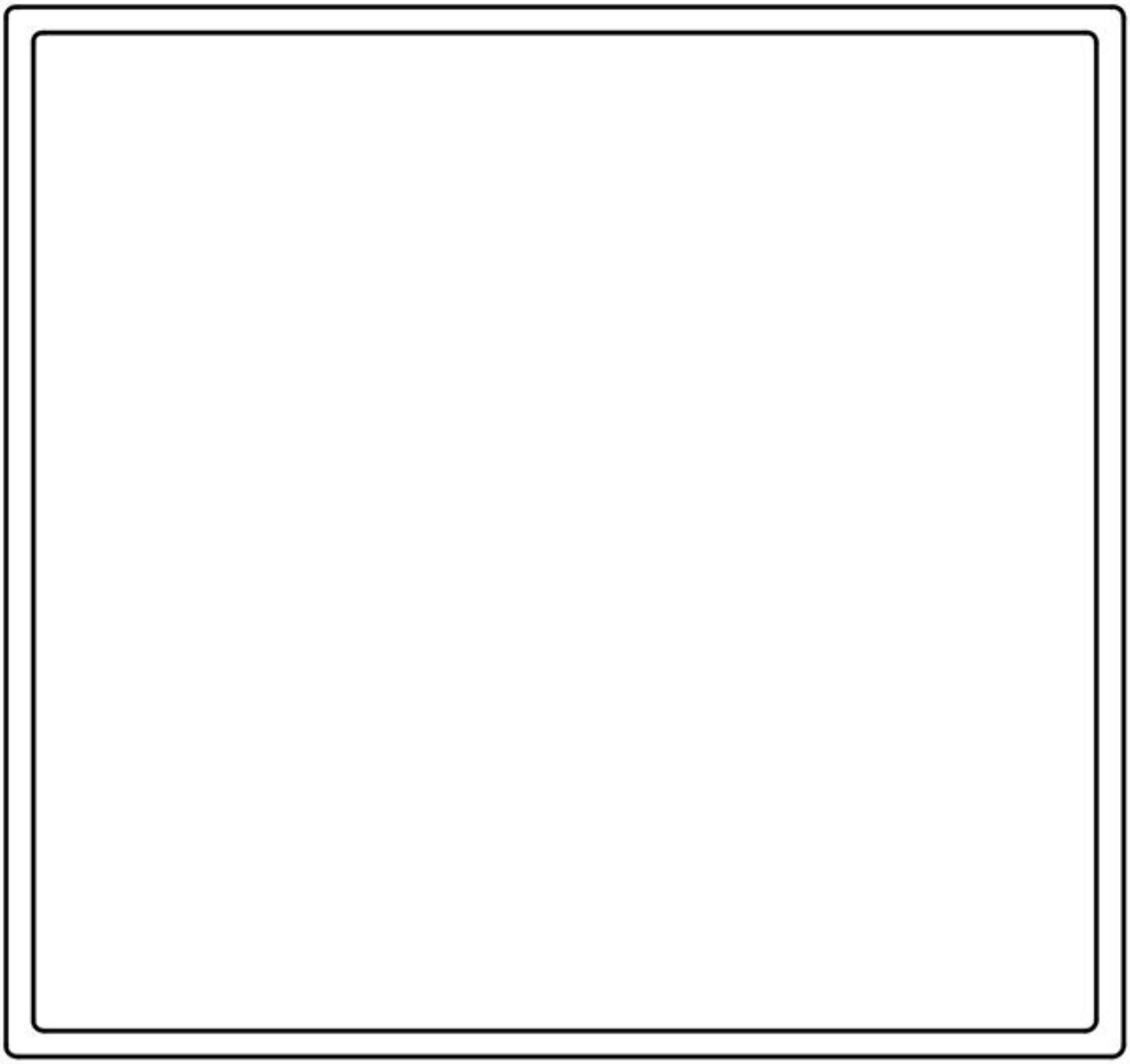

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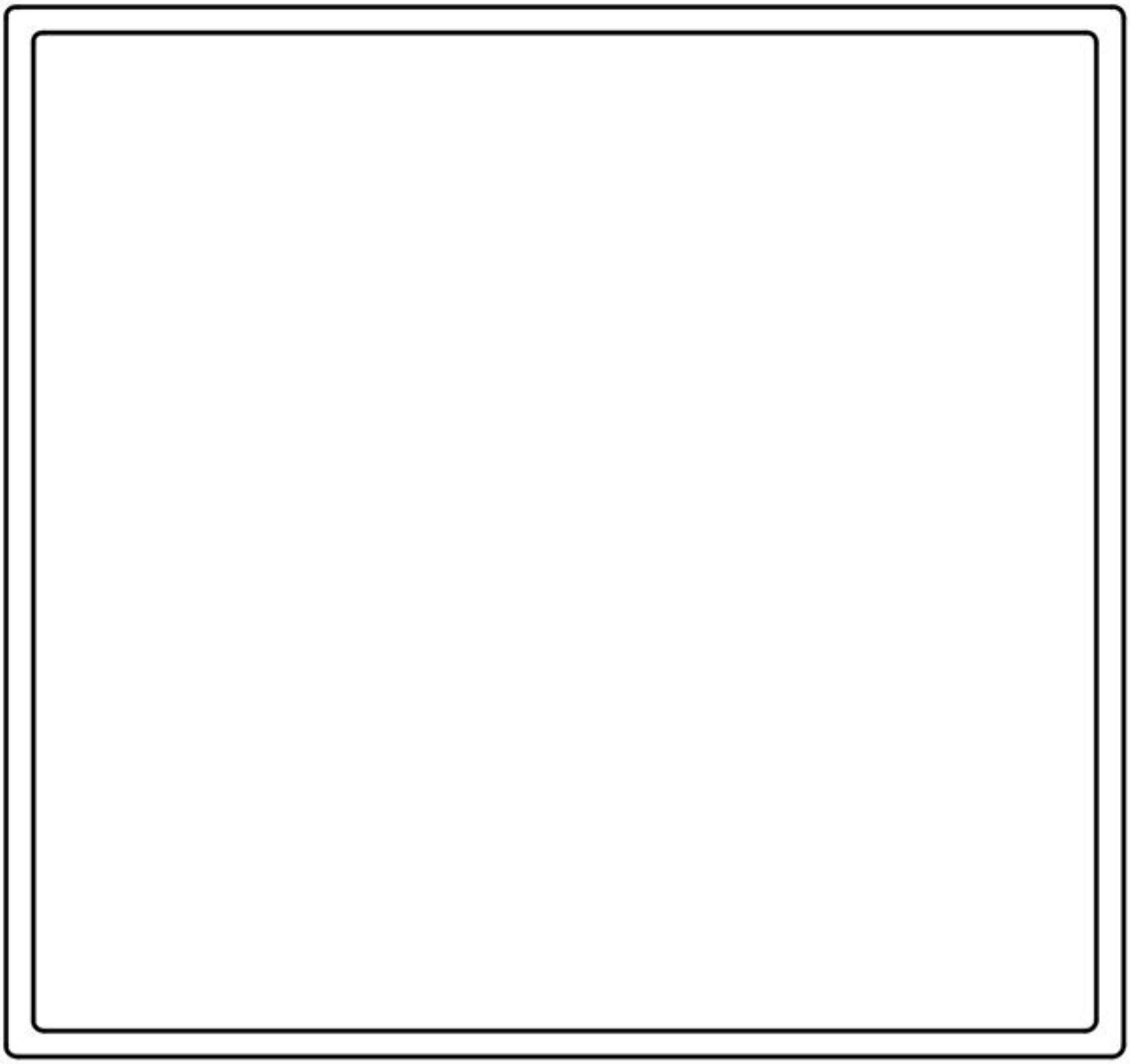

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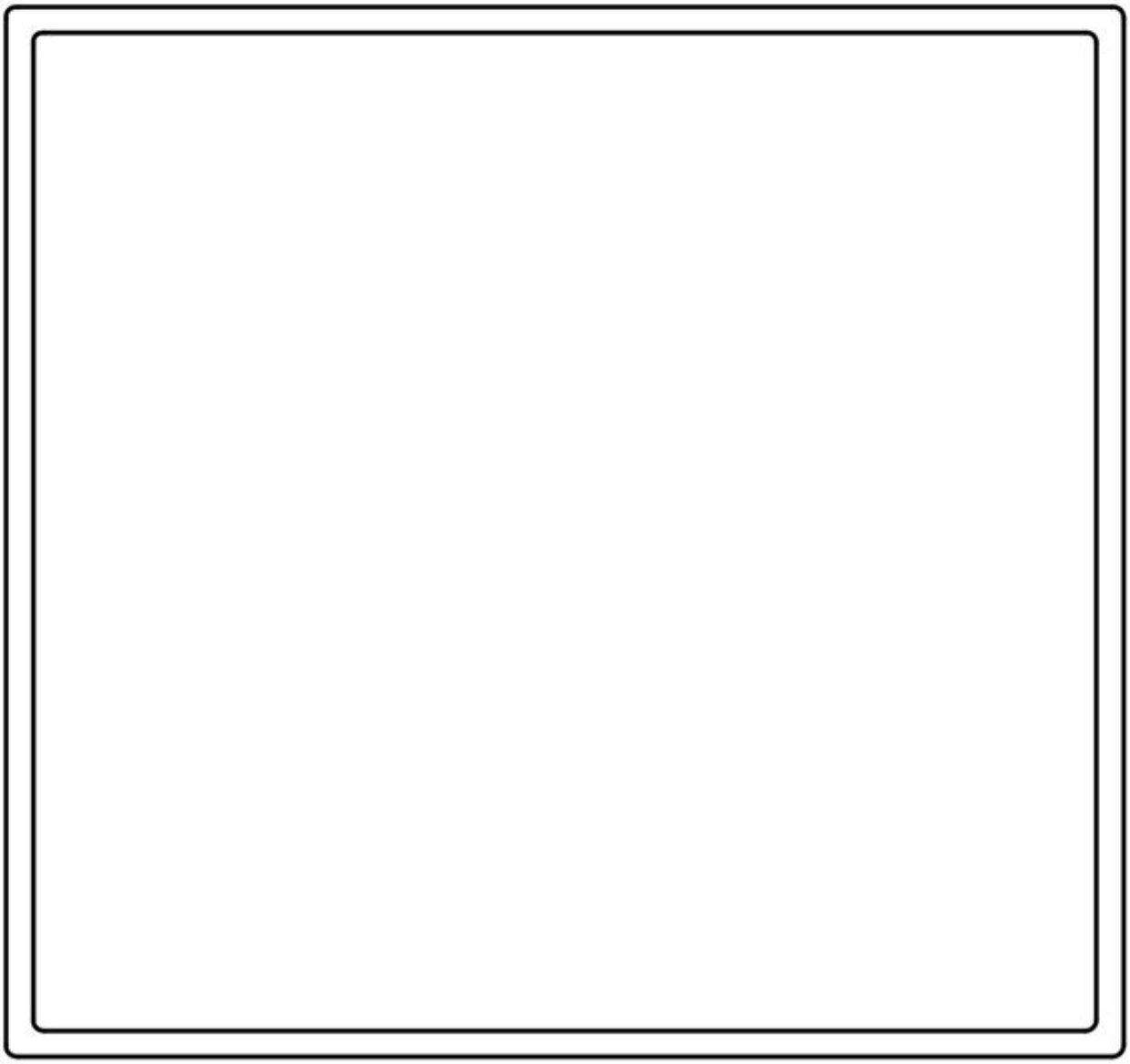

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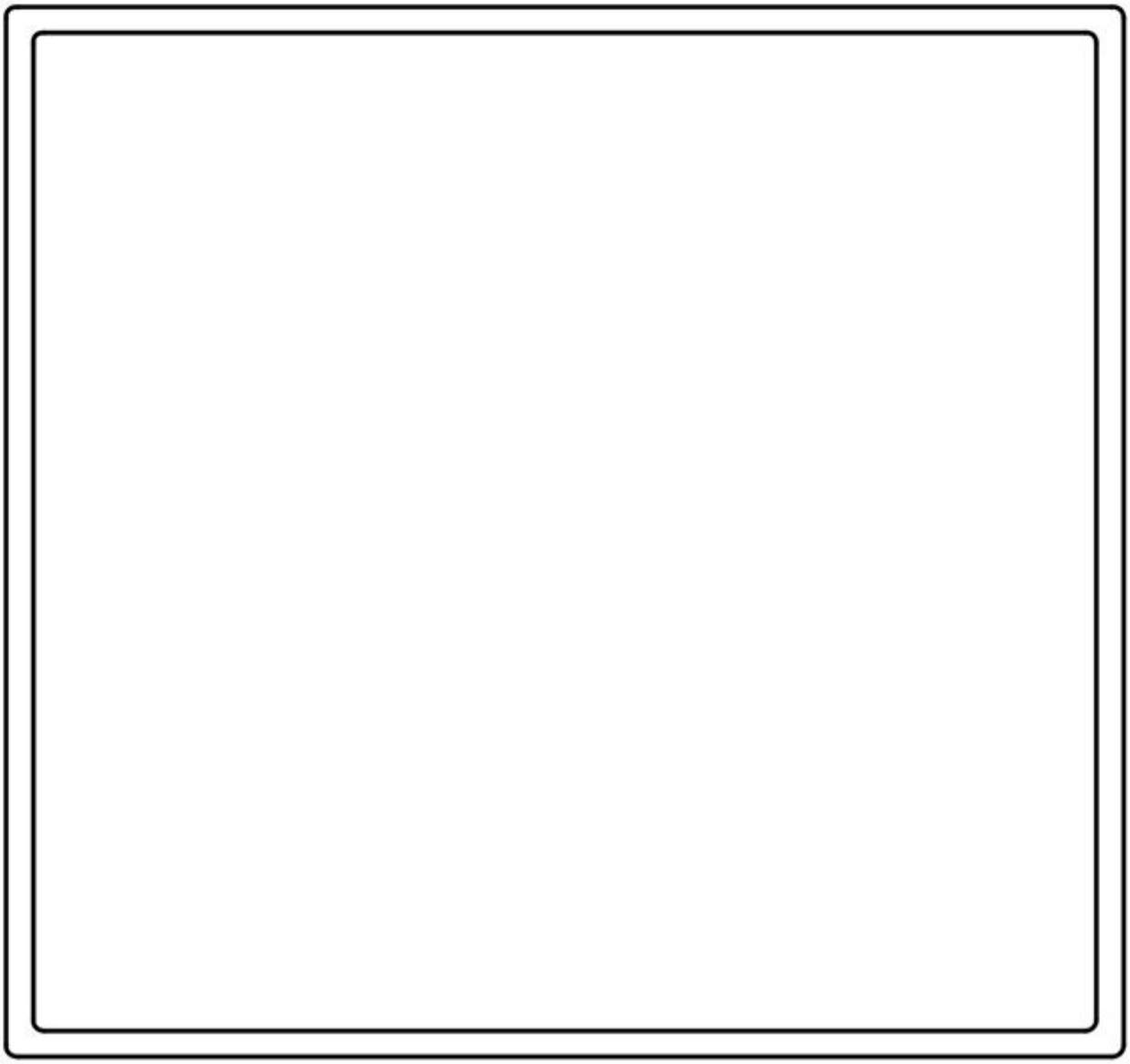

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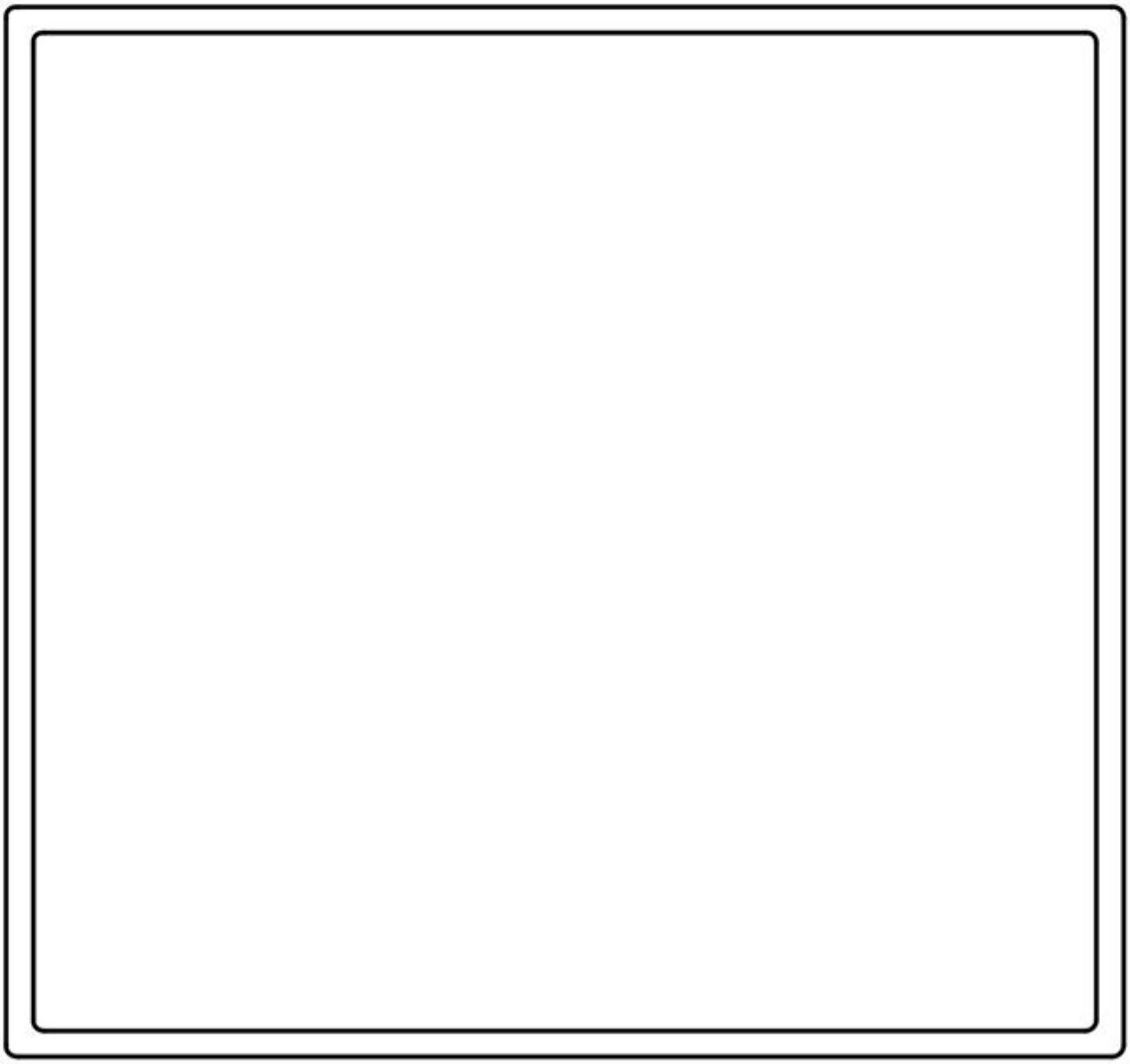

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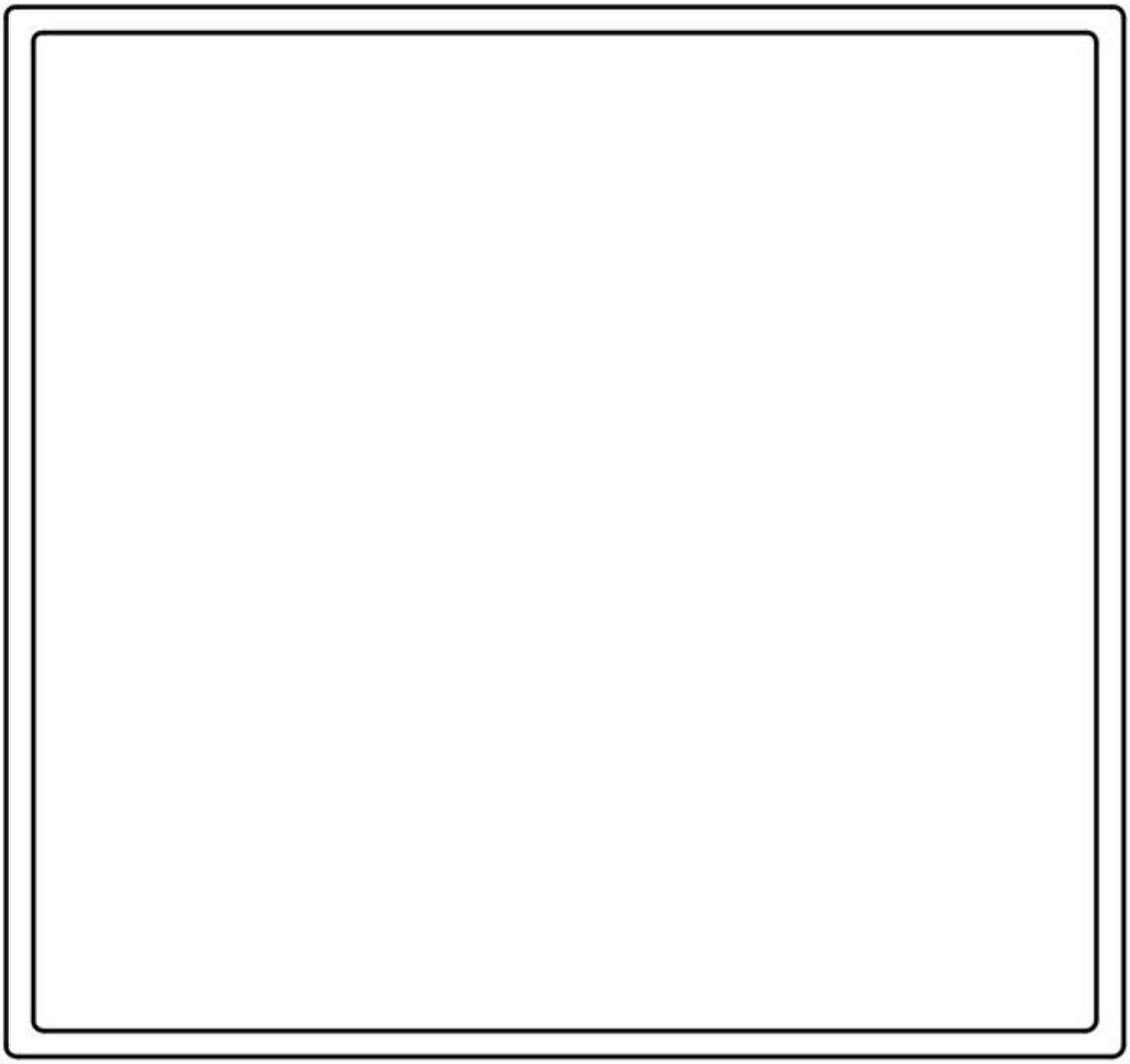

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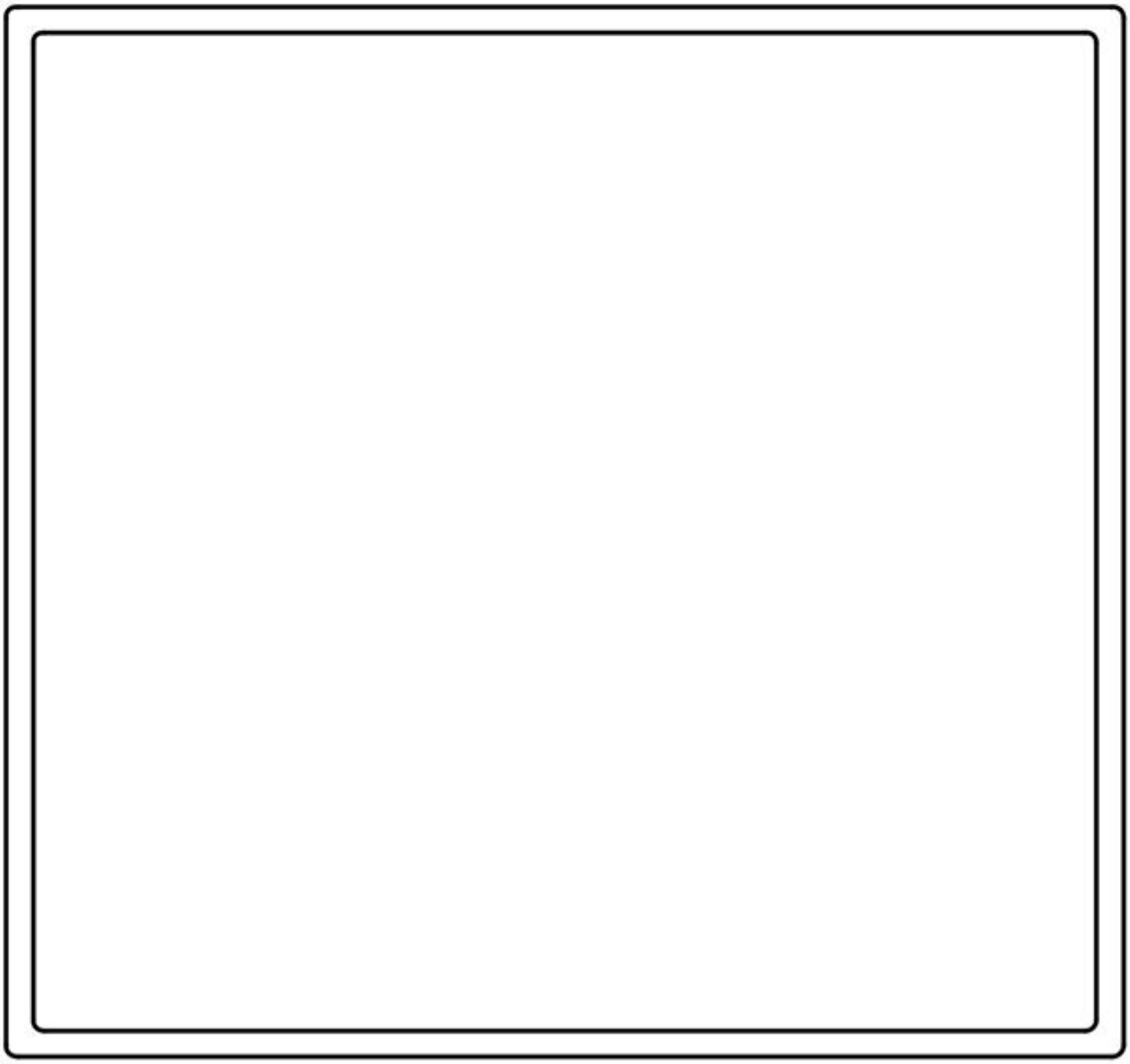

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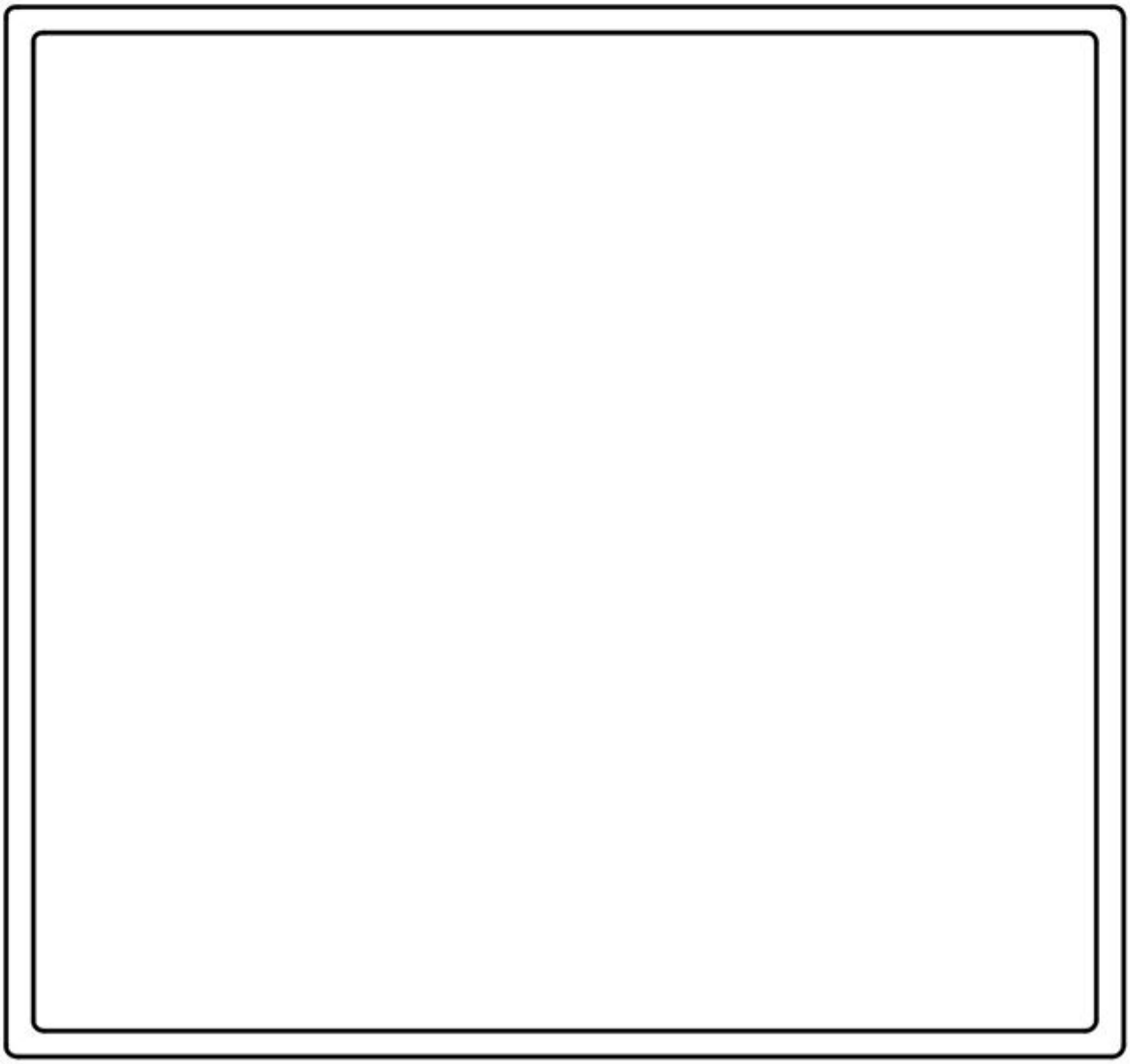

Unit 6 Lesson 4

Debugging with Scrat

Resources

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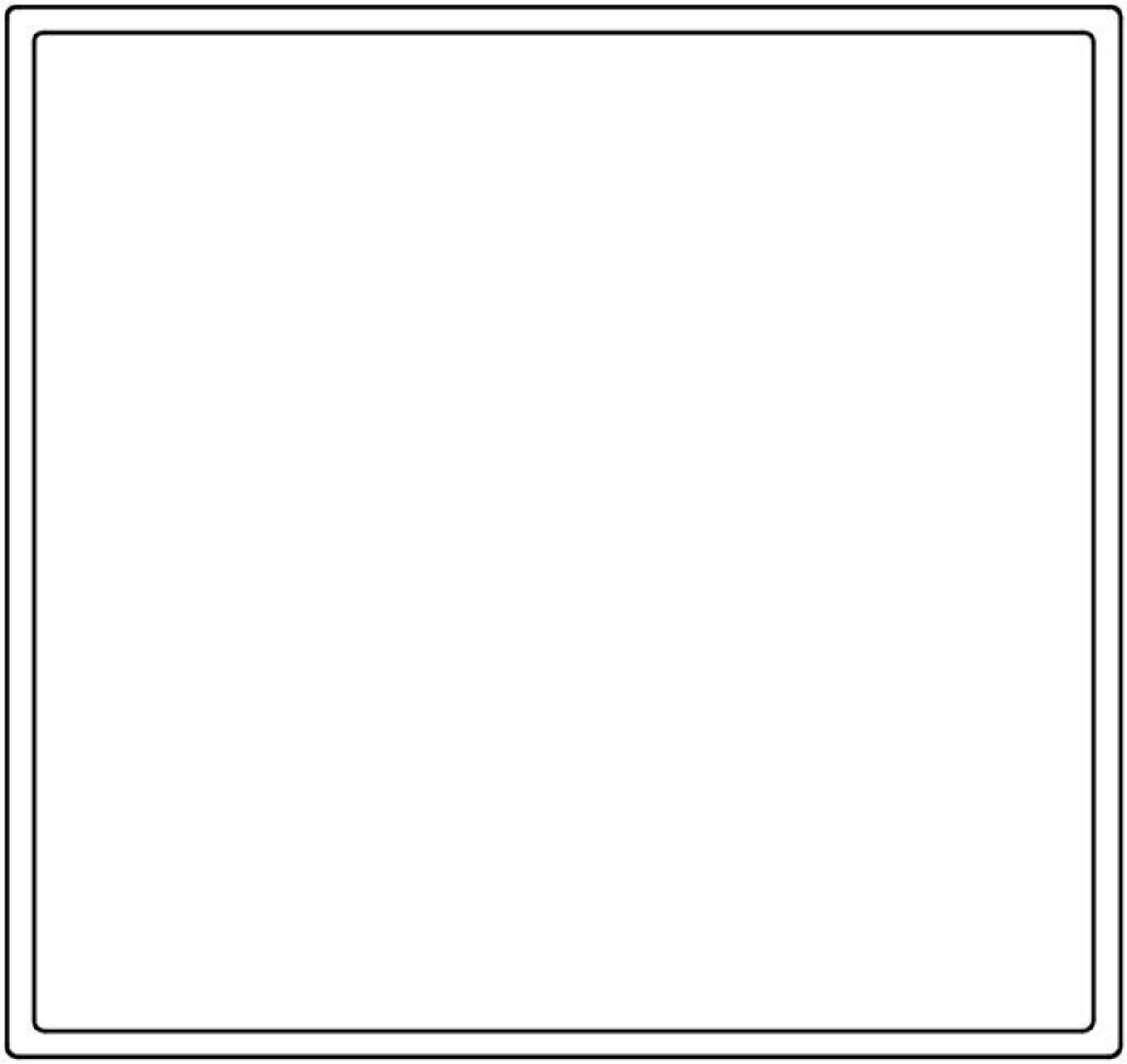

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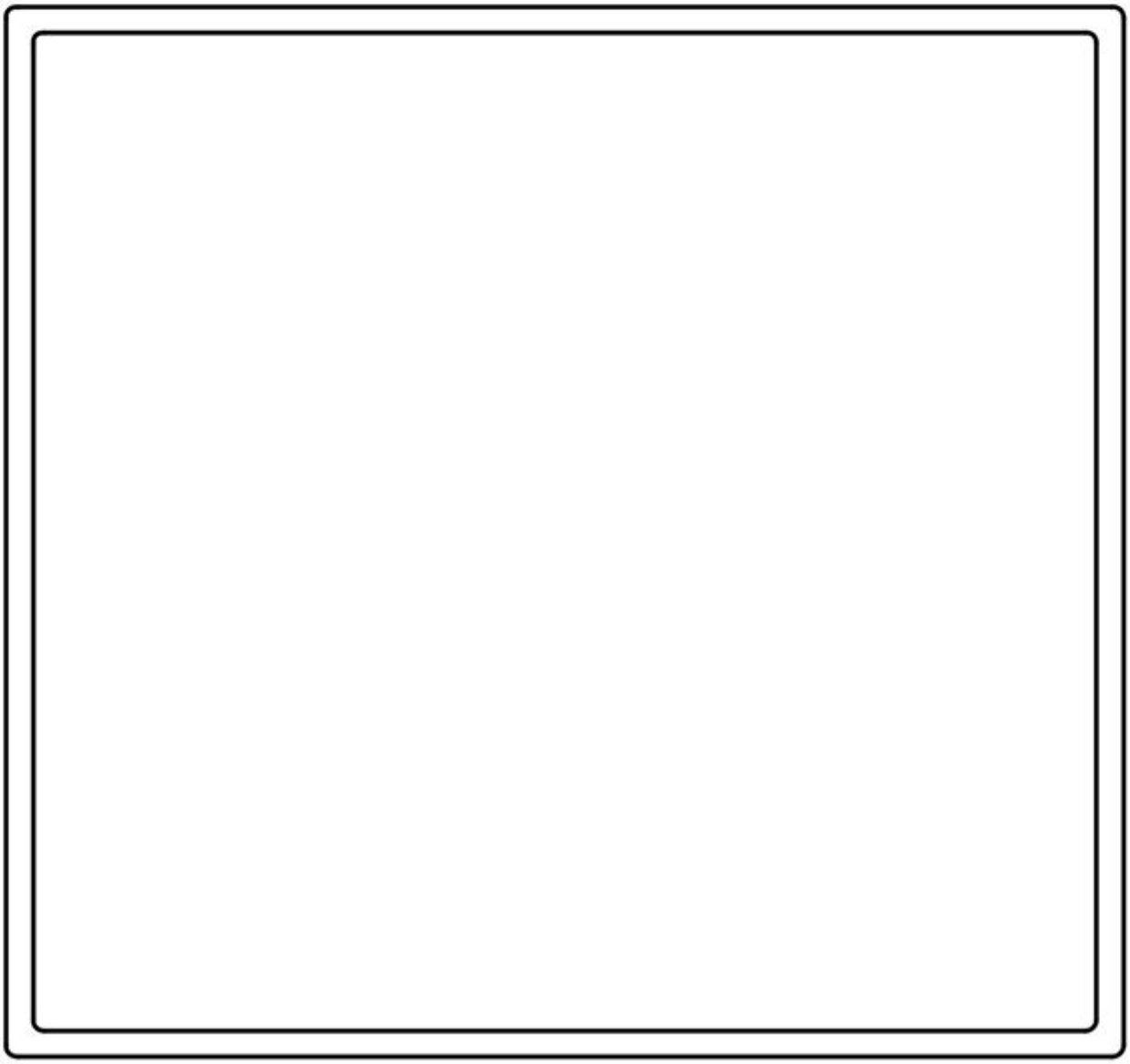

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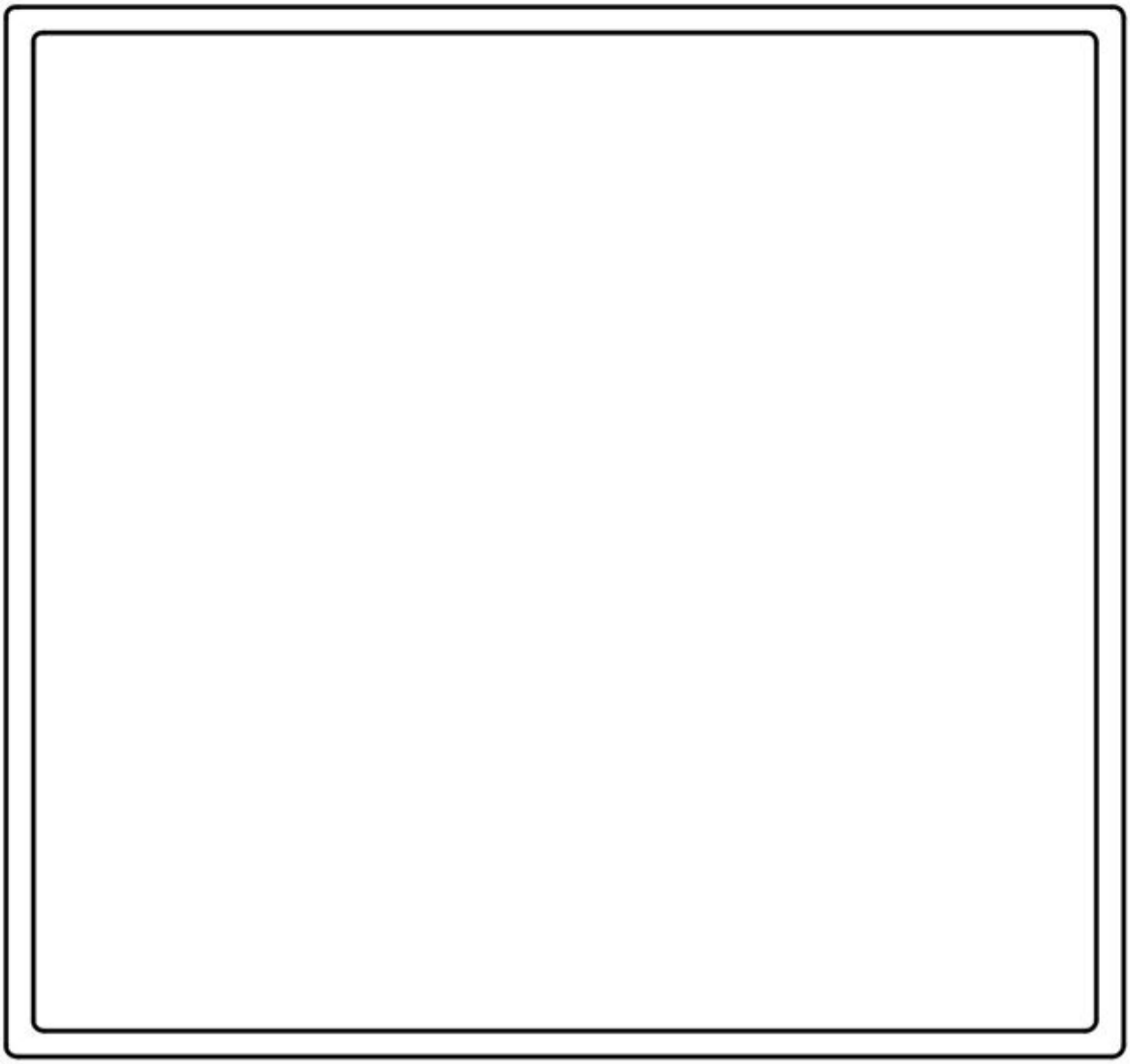

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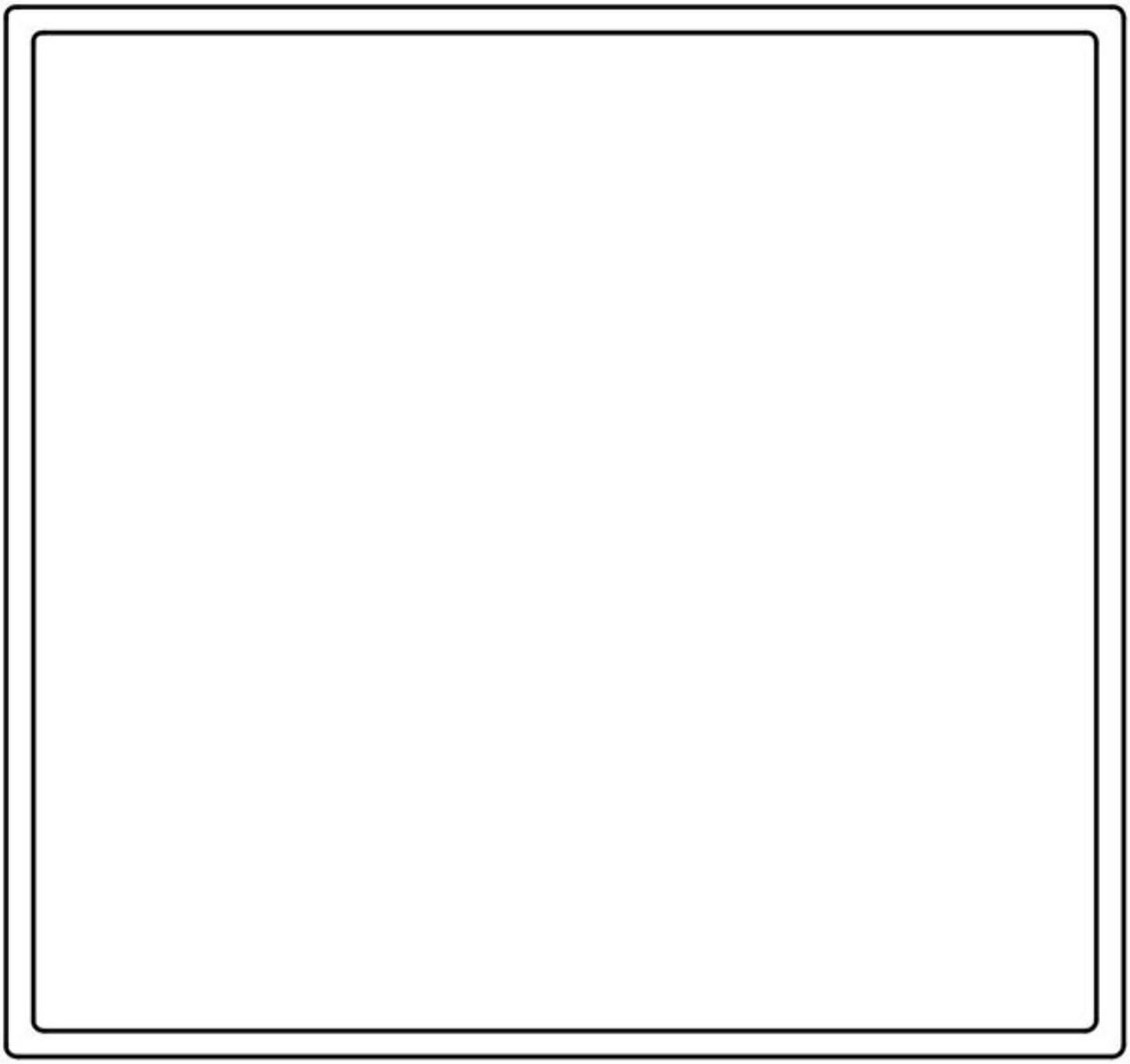

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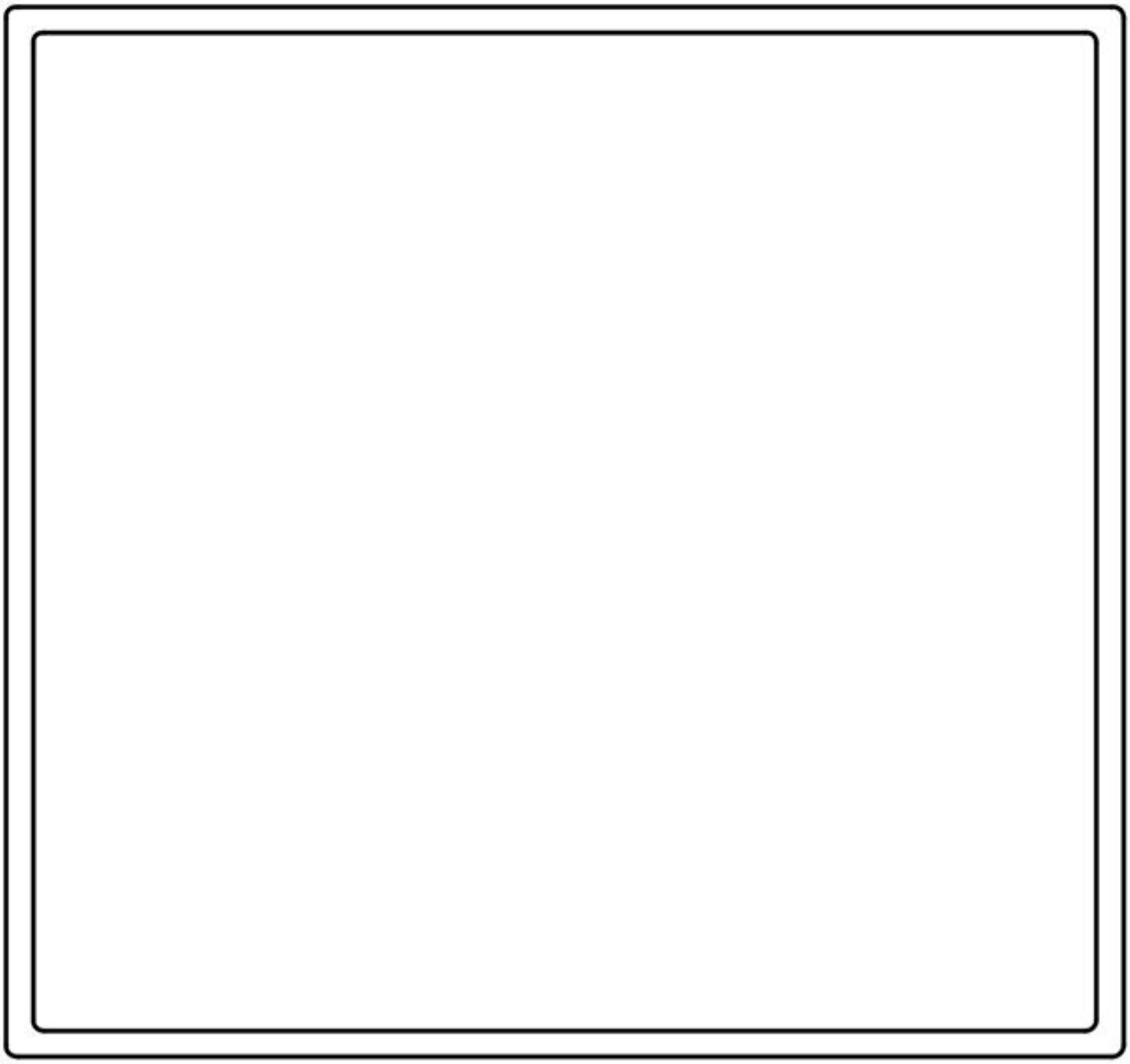

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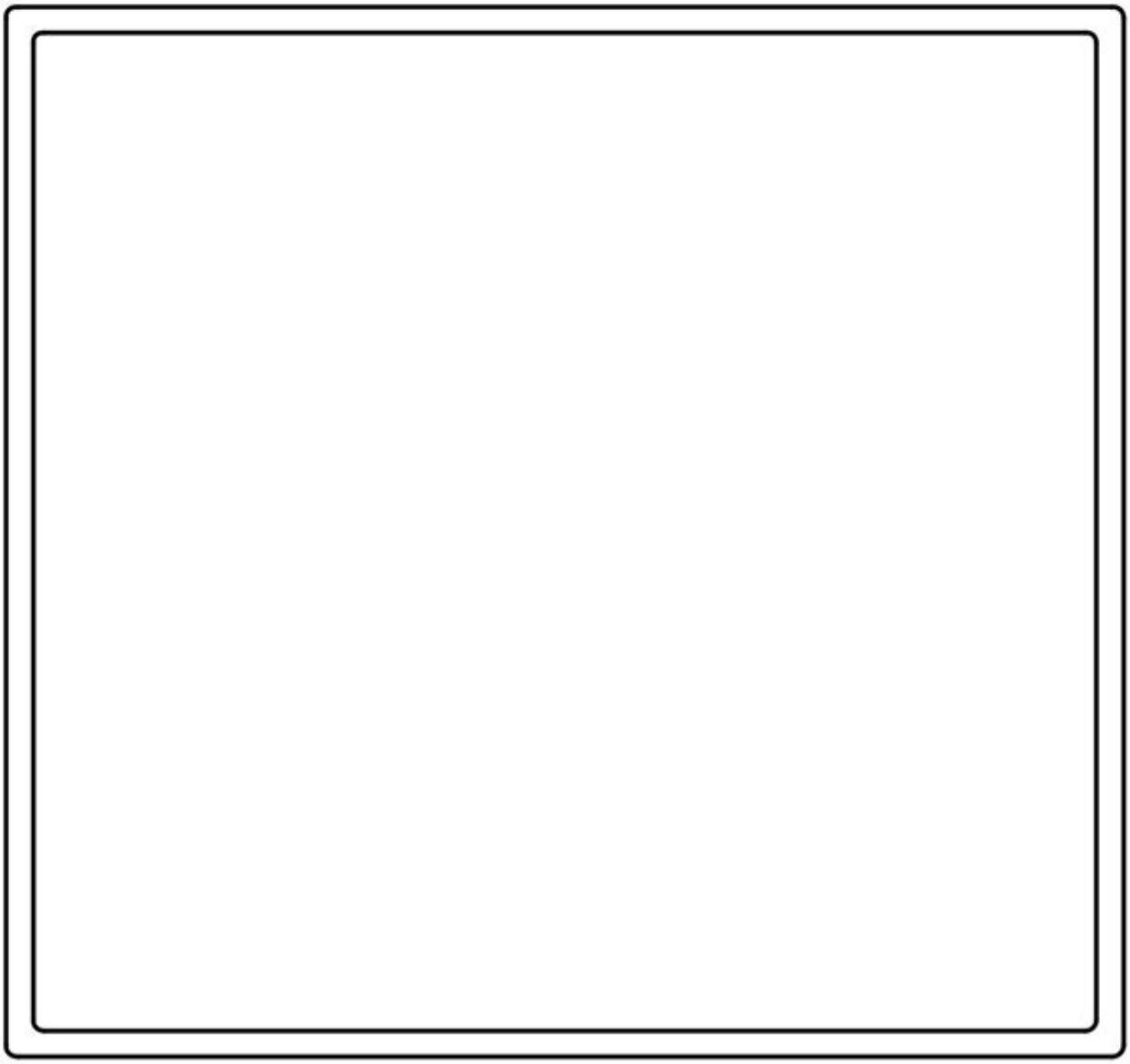

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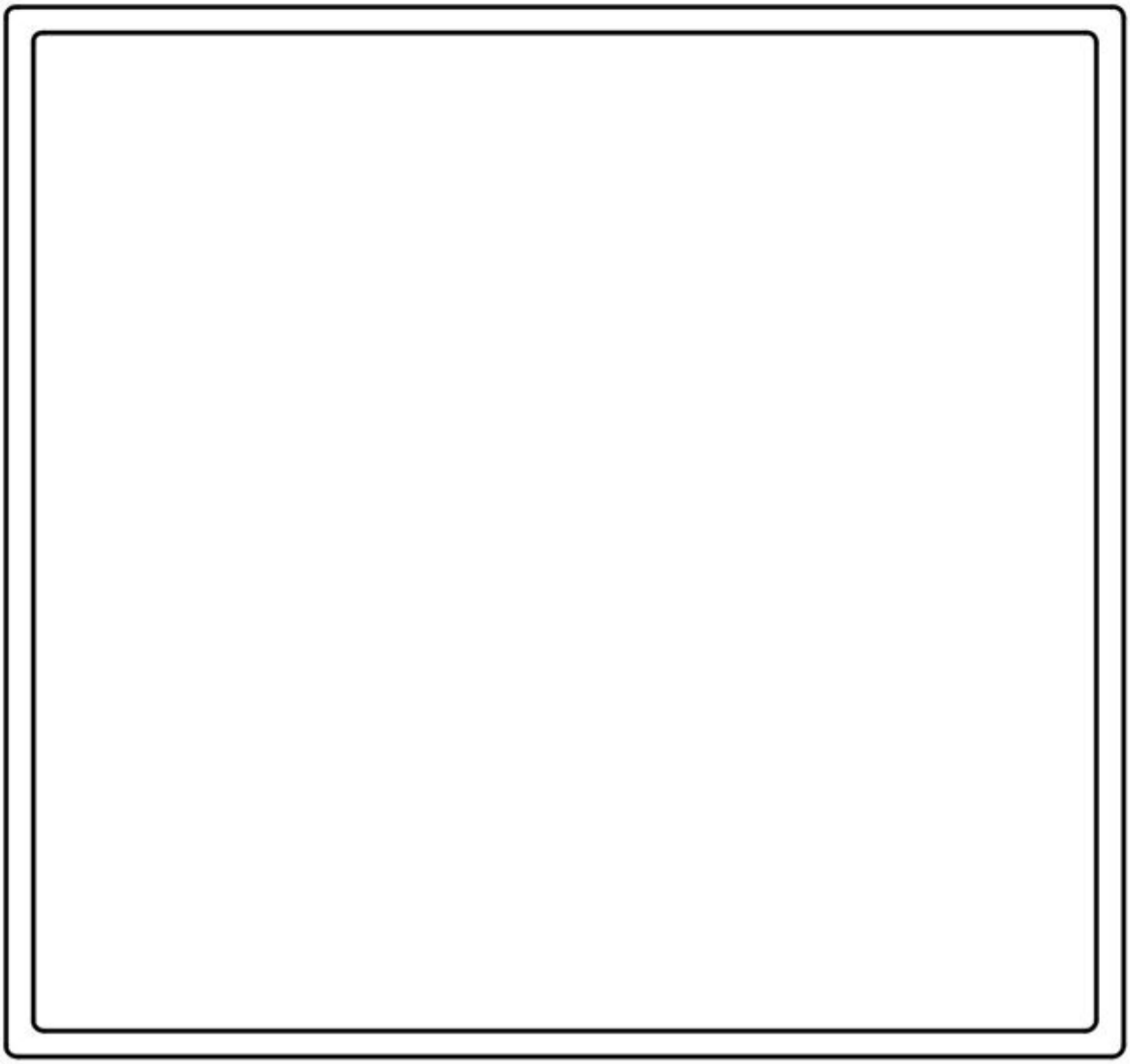

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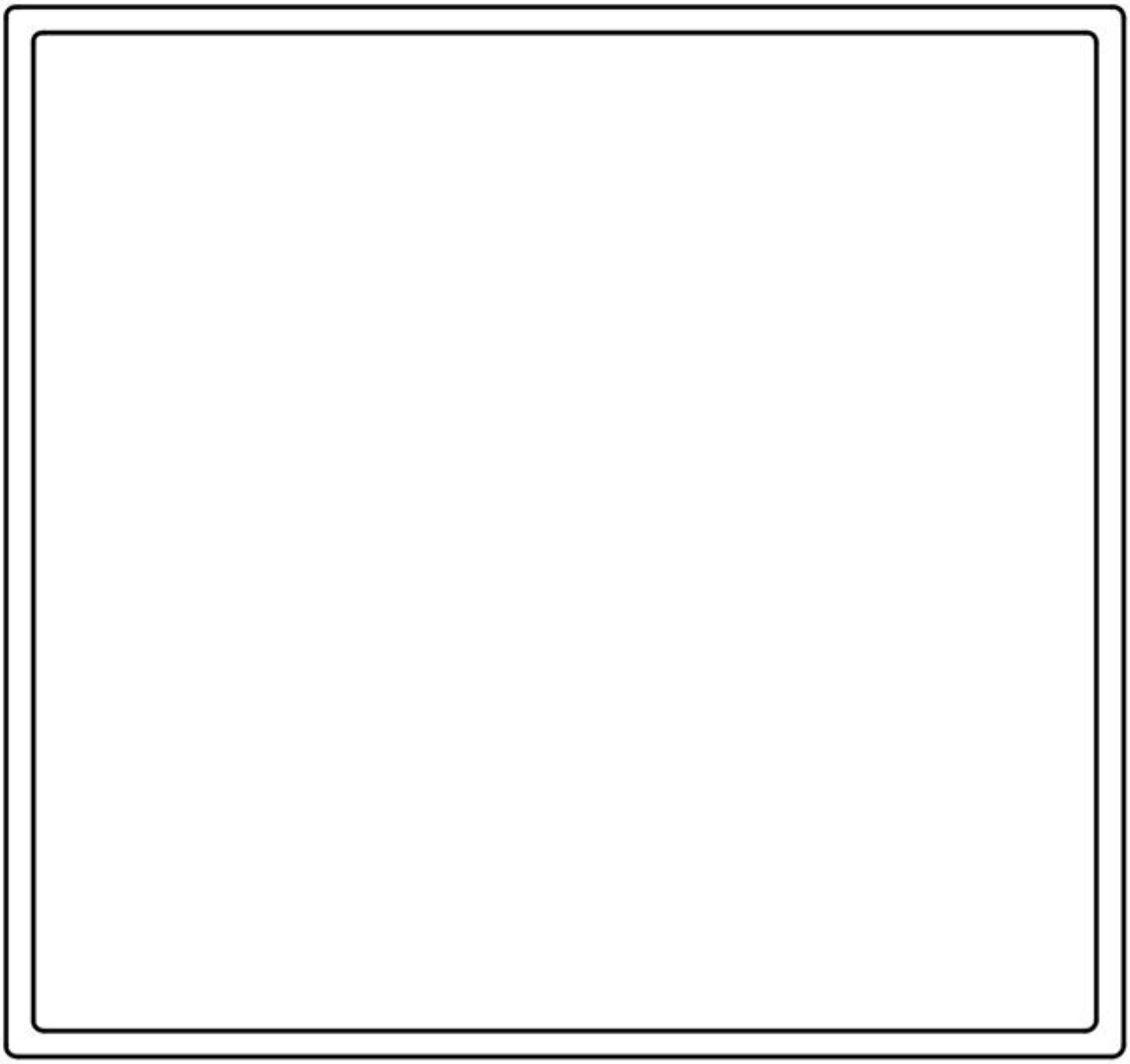

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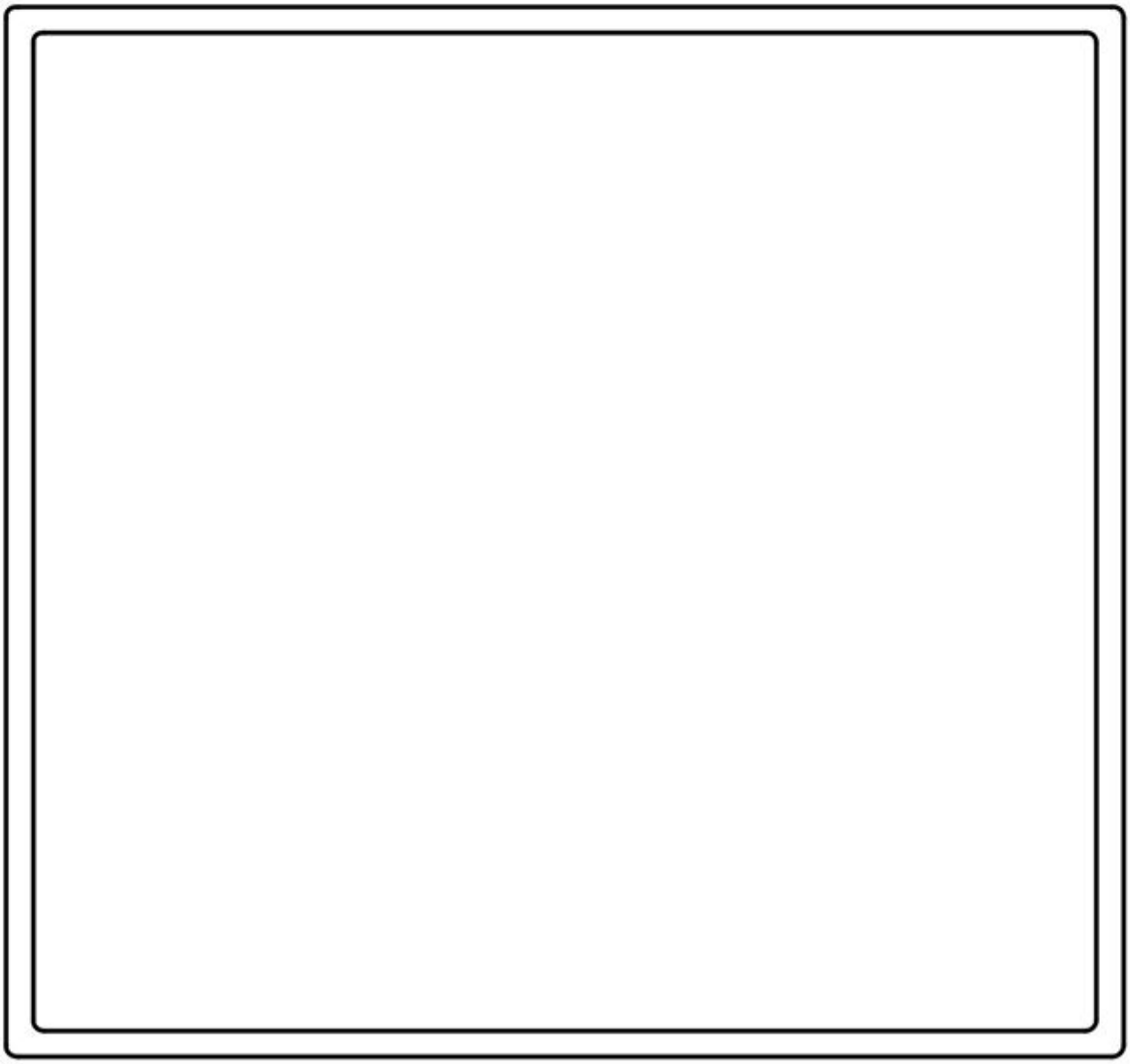

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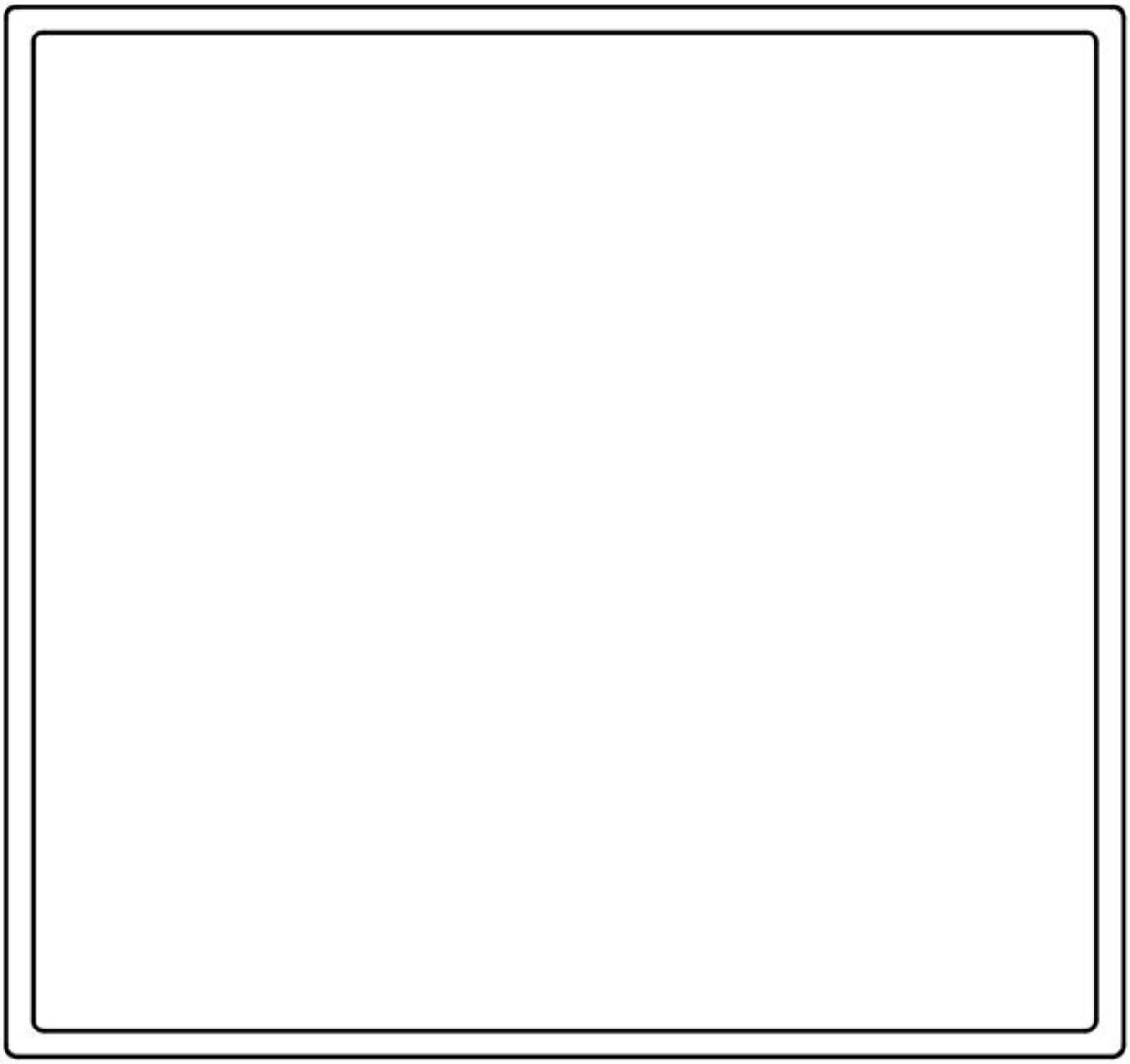

Code.org Debugging Recipe

These debugging tips will help you keep moving when you get stuck!

Work to Avoid Mistakes

- Read the directions.
- What is the goal of the puzzle?
- Take it slow and go one step at a time.
- Can you talk about the problem in your own words?
- Were you given any code to start?
  - What does it do?
  - Why do you think it's there?

Debugging

- Look for problems each step of the way.
- Describe what was supposed to happen.
- Describe what is going wrong.
- Does the difference between what was supposed to happen and what did happen give you any clues?
- Fix one thing at a time, then describe how the result changed.
- Try leaving "breadcrumbs" in your program. You can put clues inside your code (like having your program "say" something) to let you know when each chunk runs.
- Try doing each task as its own chunk, then put all of the pieces together at the end so it is easier to see what each thing does.
- Talk to a friend. Maybe one of your classmates can help you figure out where your plan goes awry.
- Try at least three ways of xing problems before you ask for help.

Unit 6 Lesson 5

Programming in Artist

Resources

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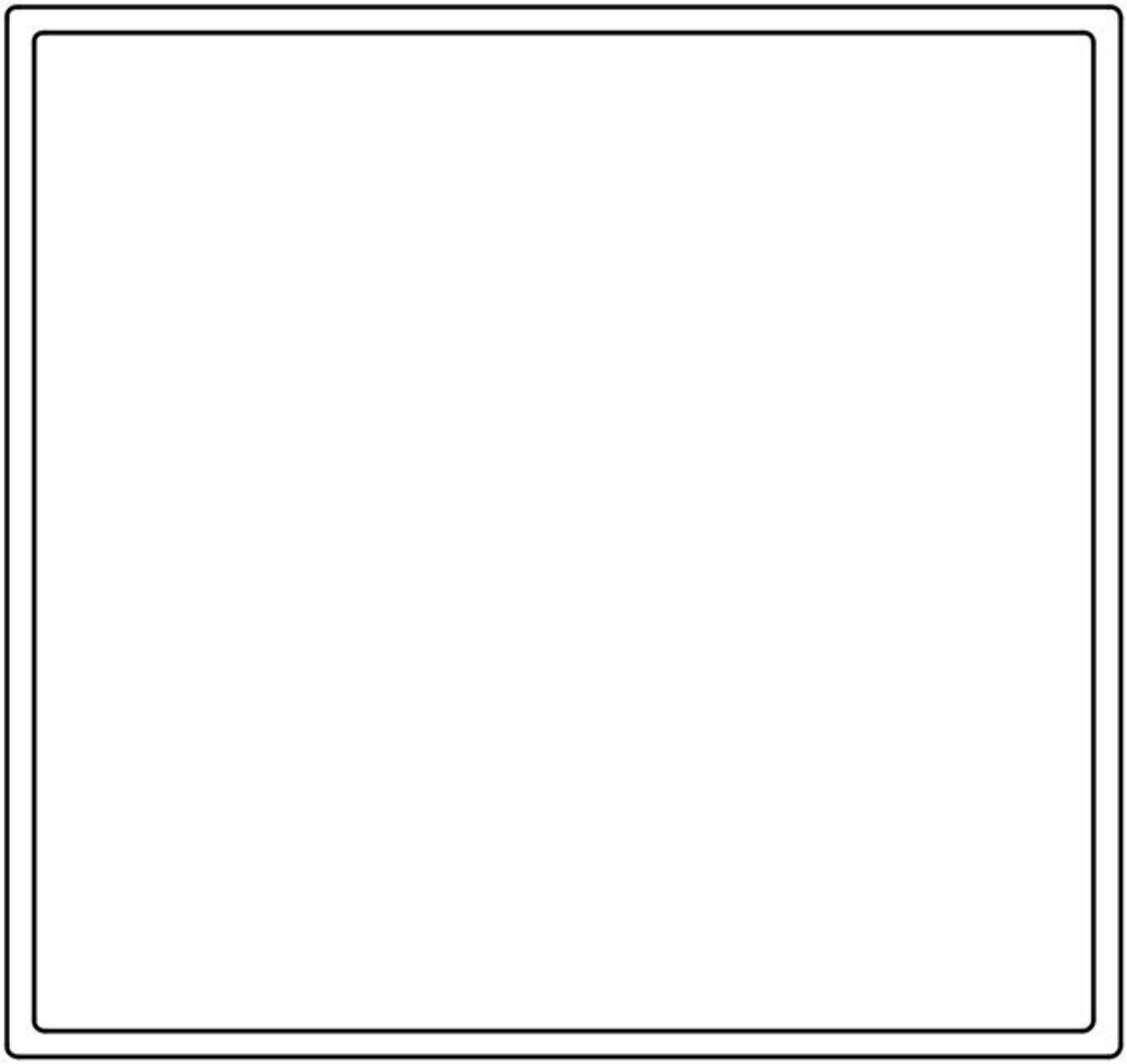

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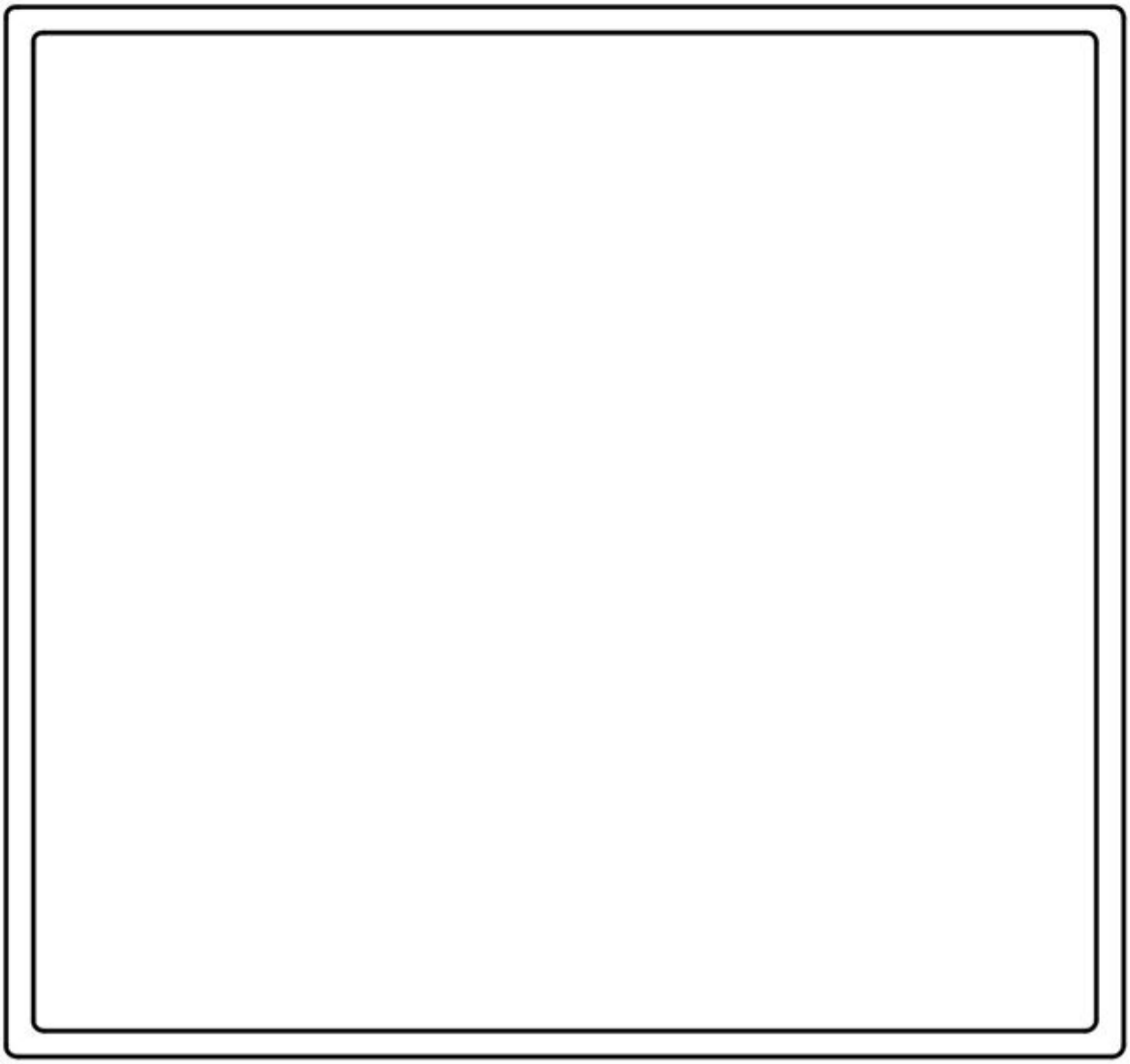

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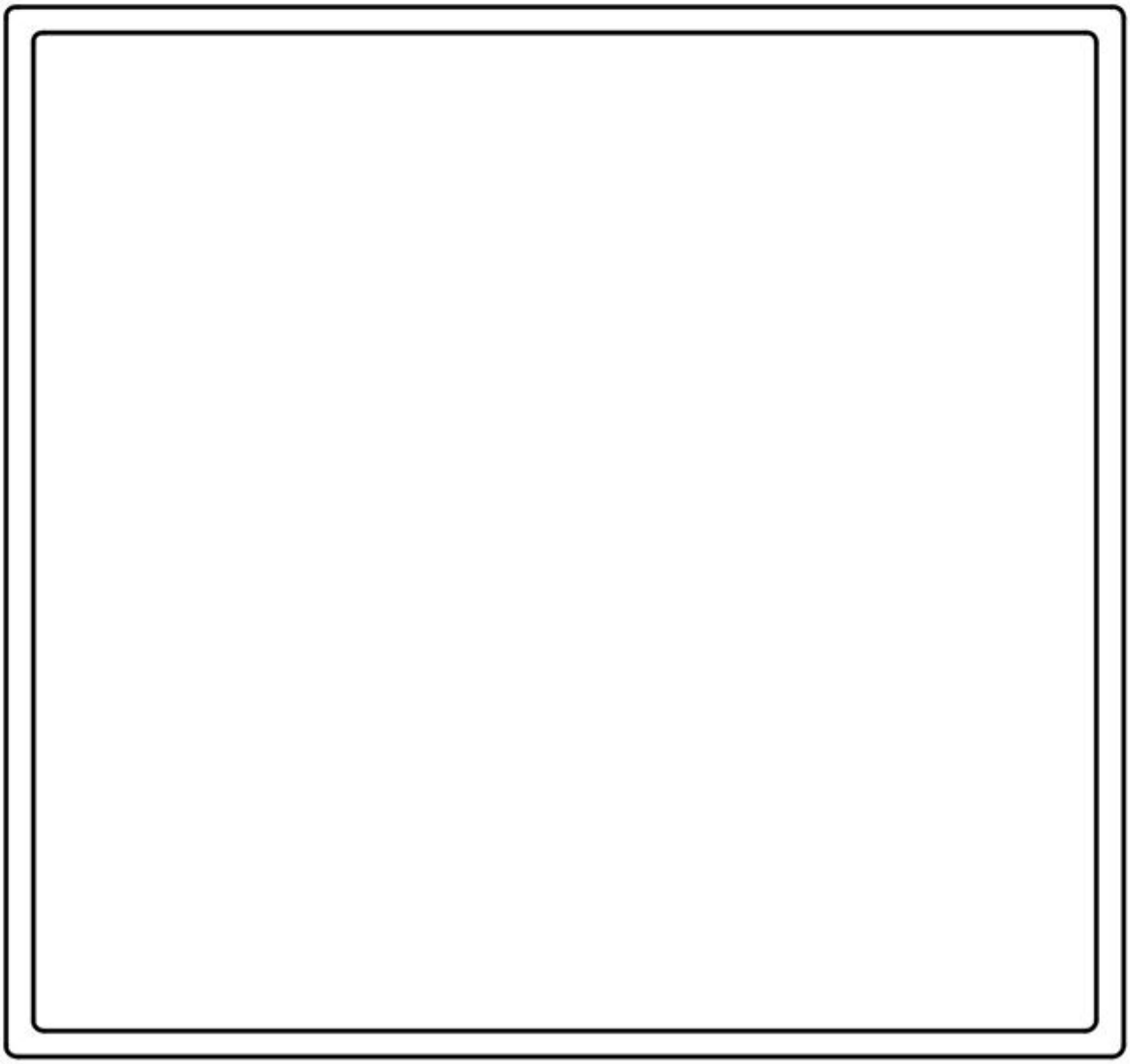

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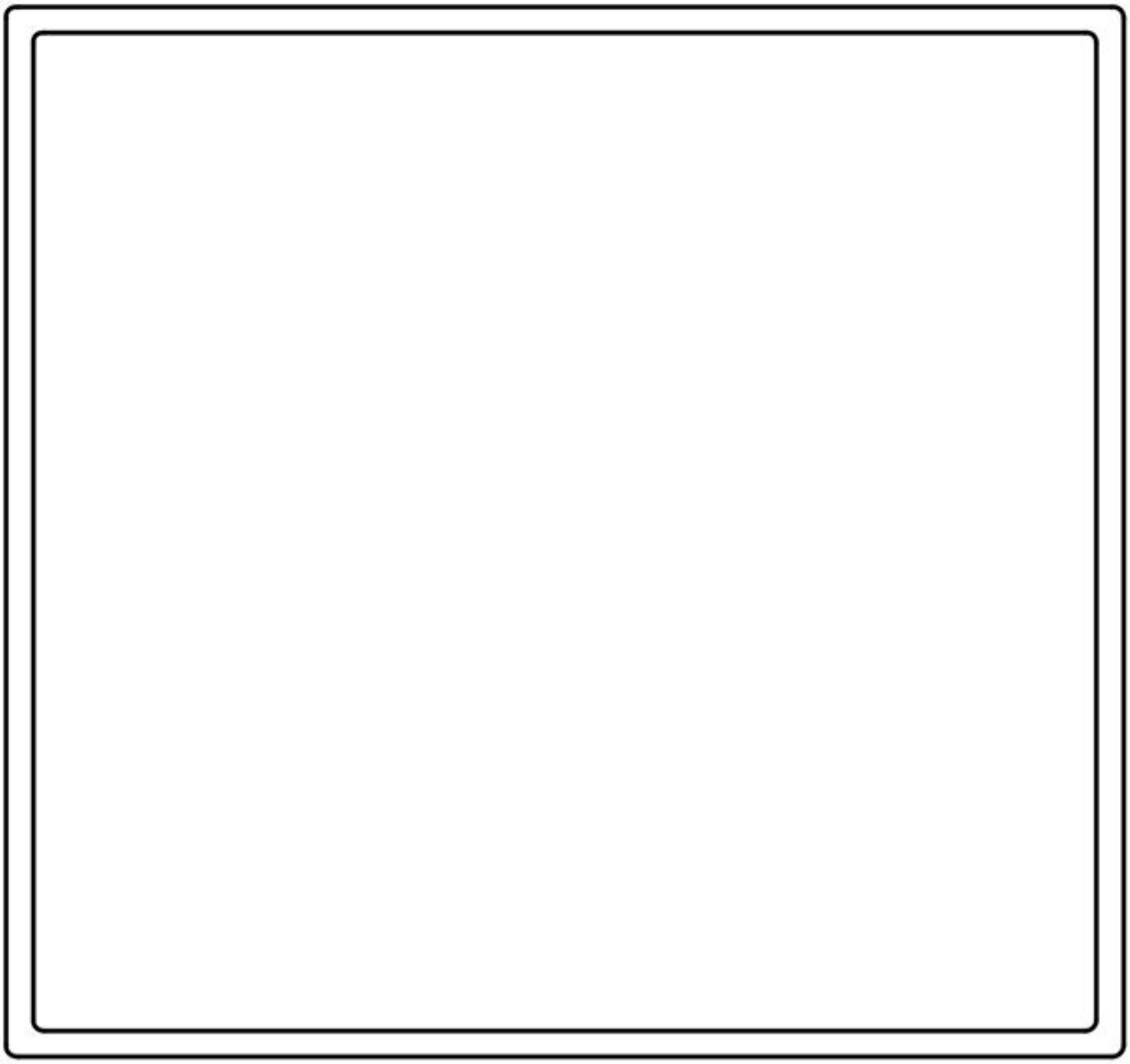

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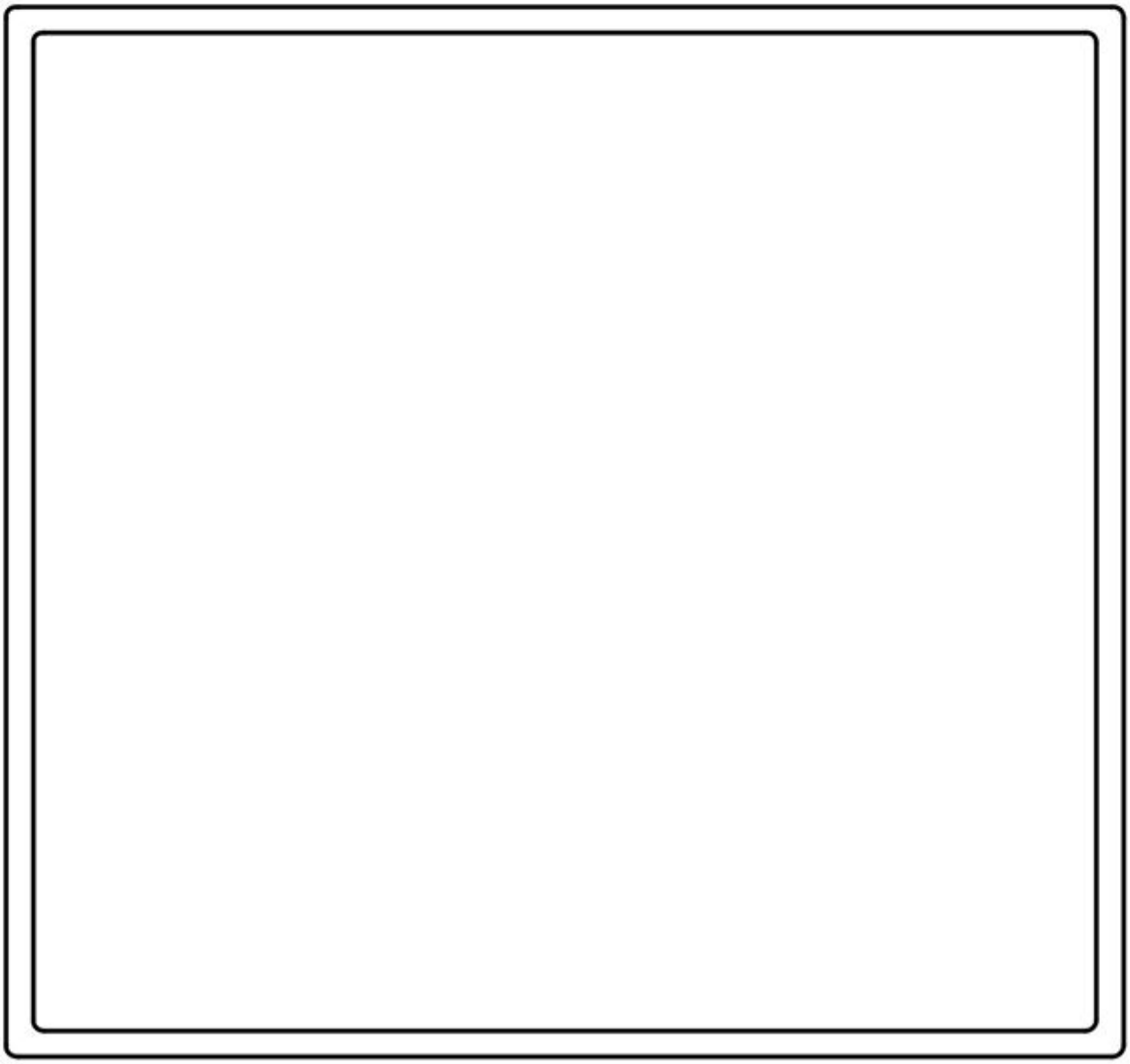

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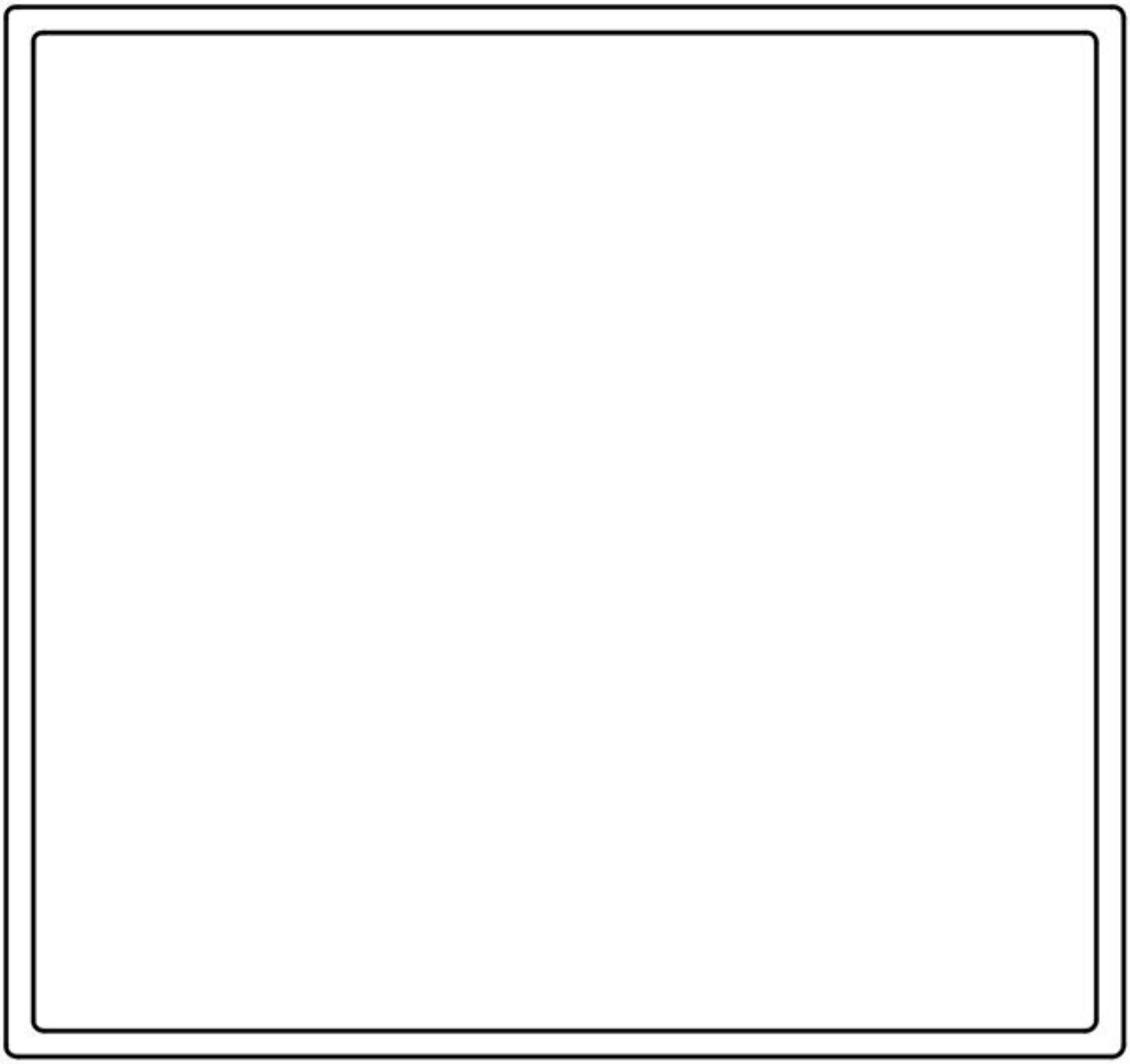

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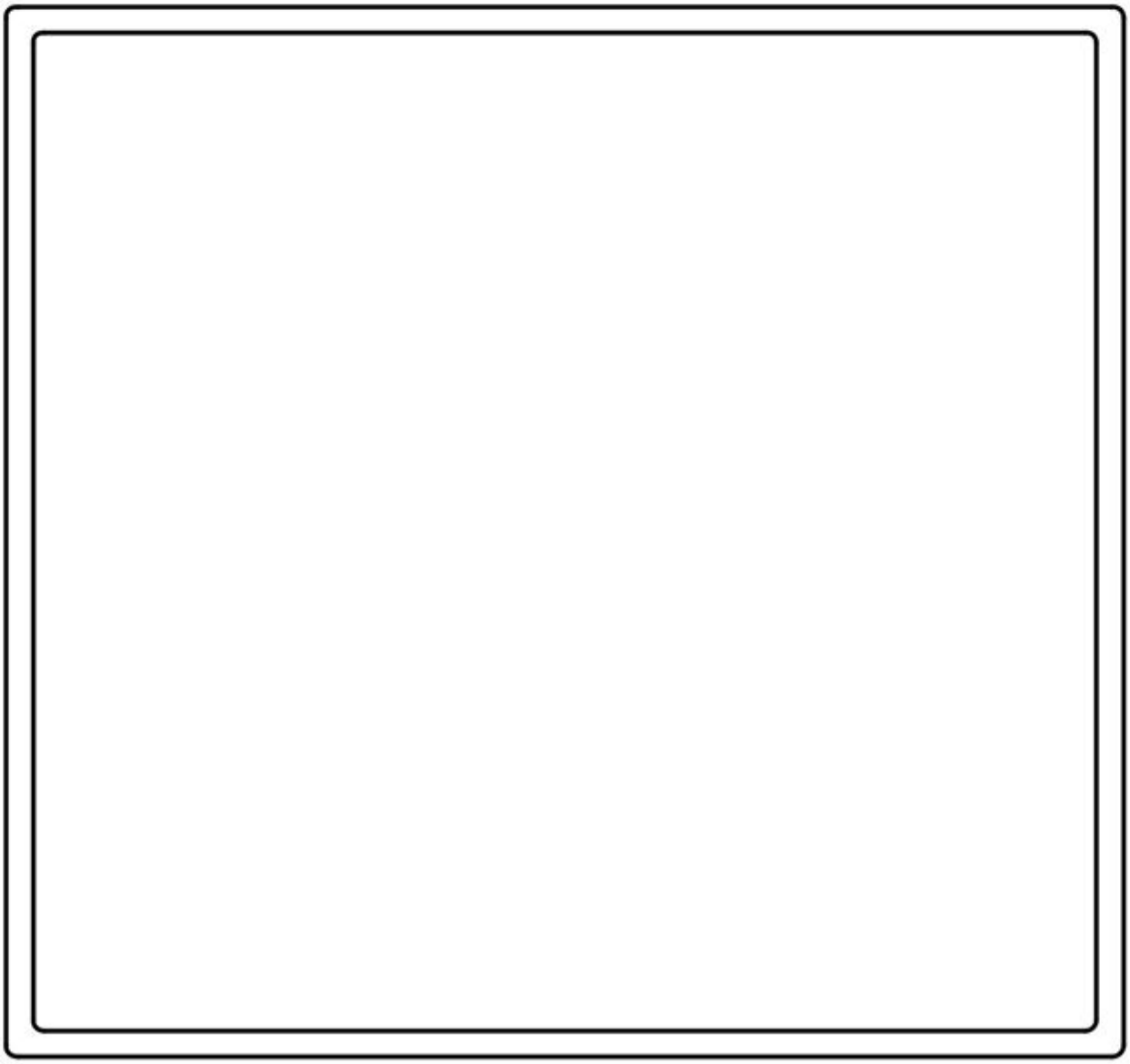

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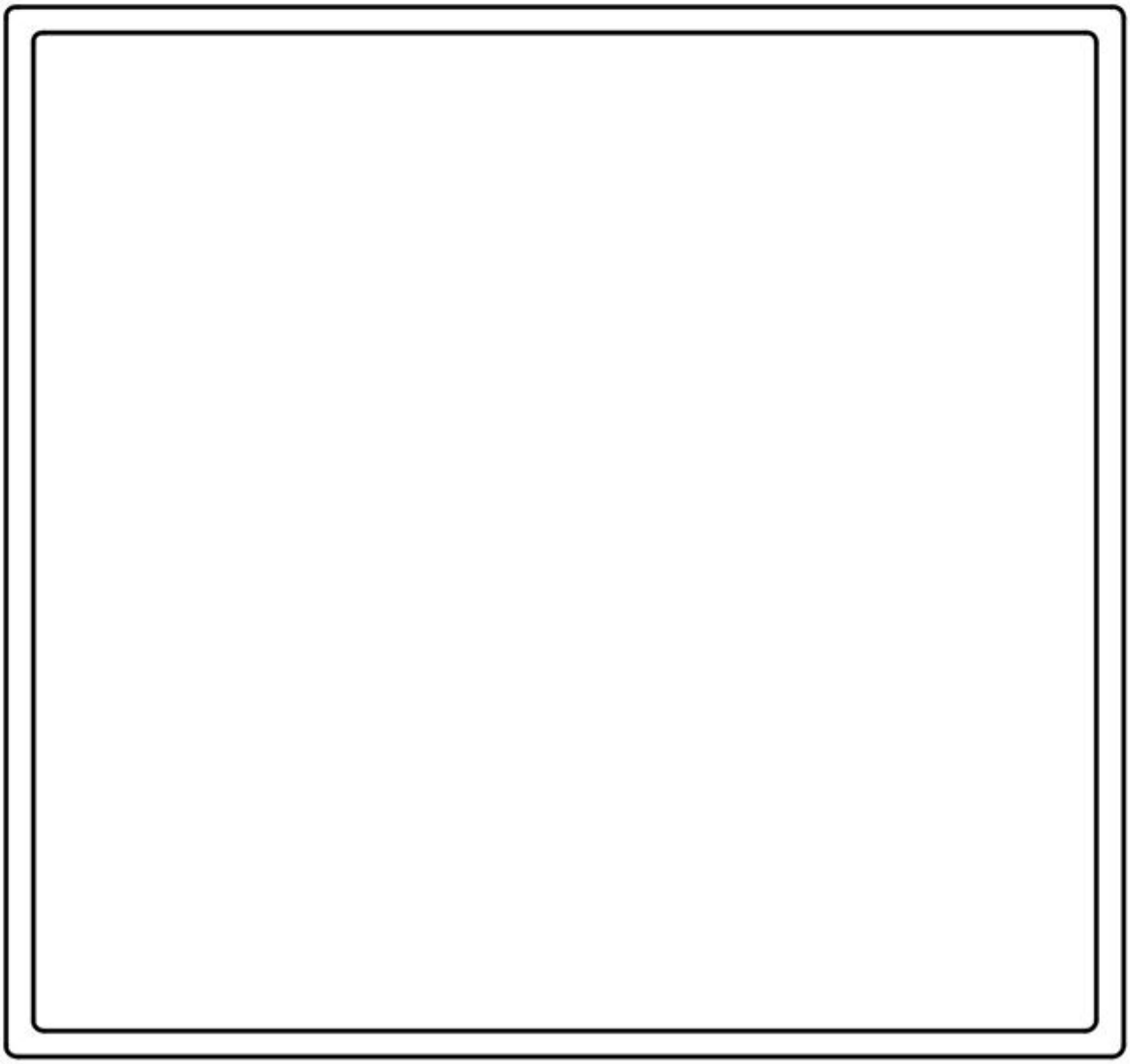

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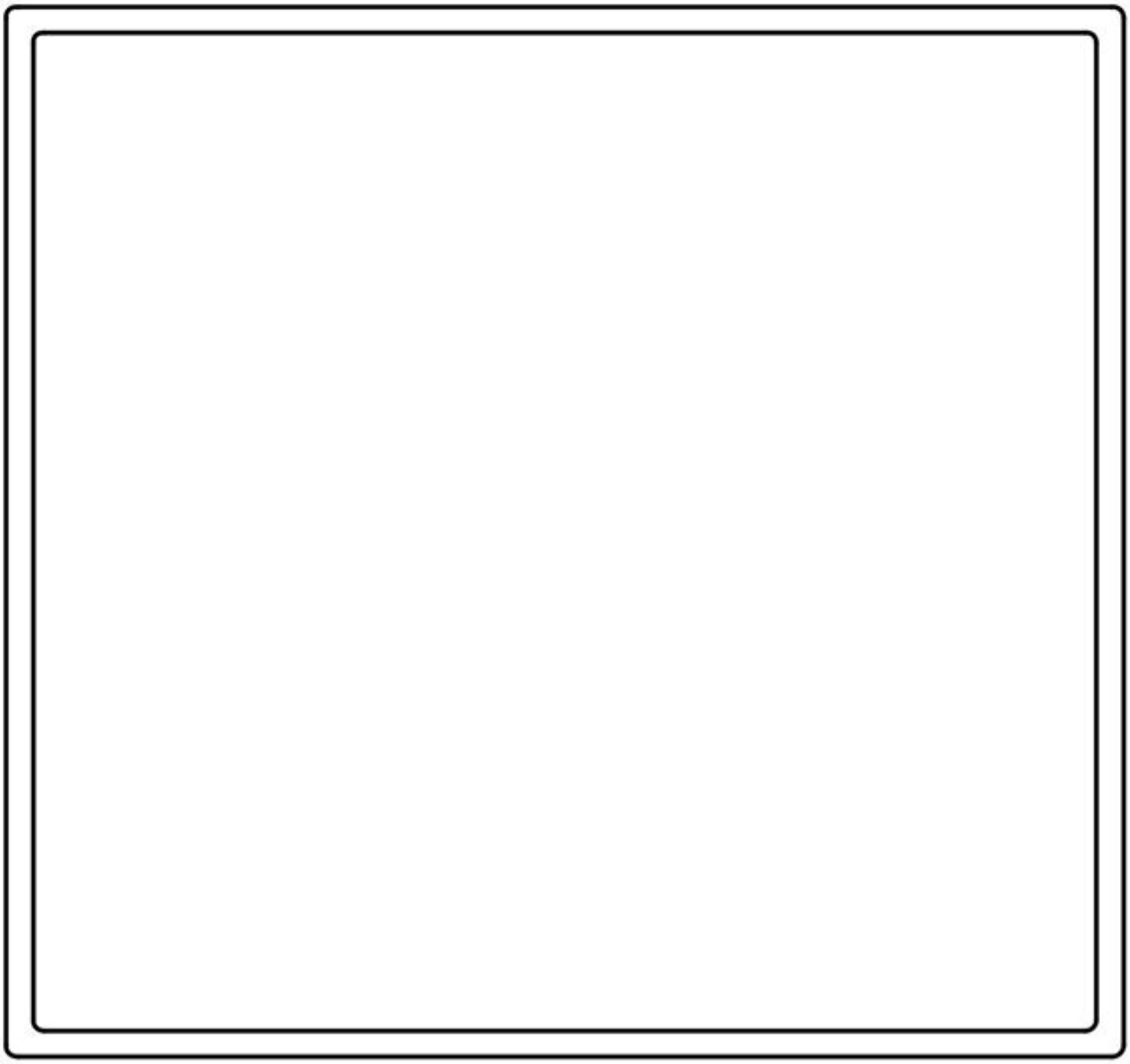

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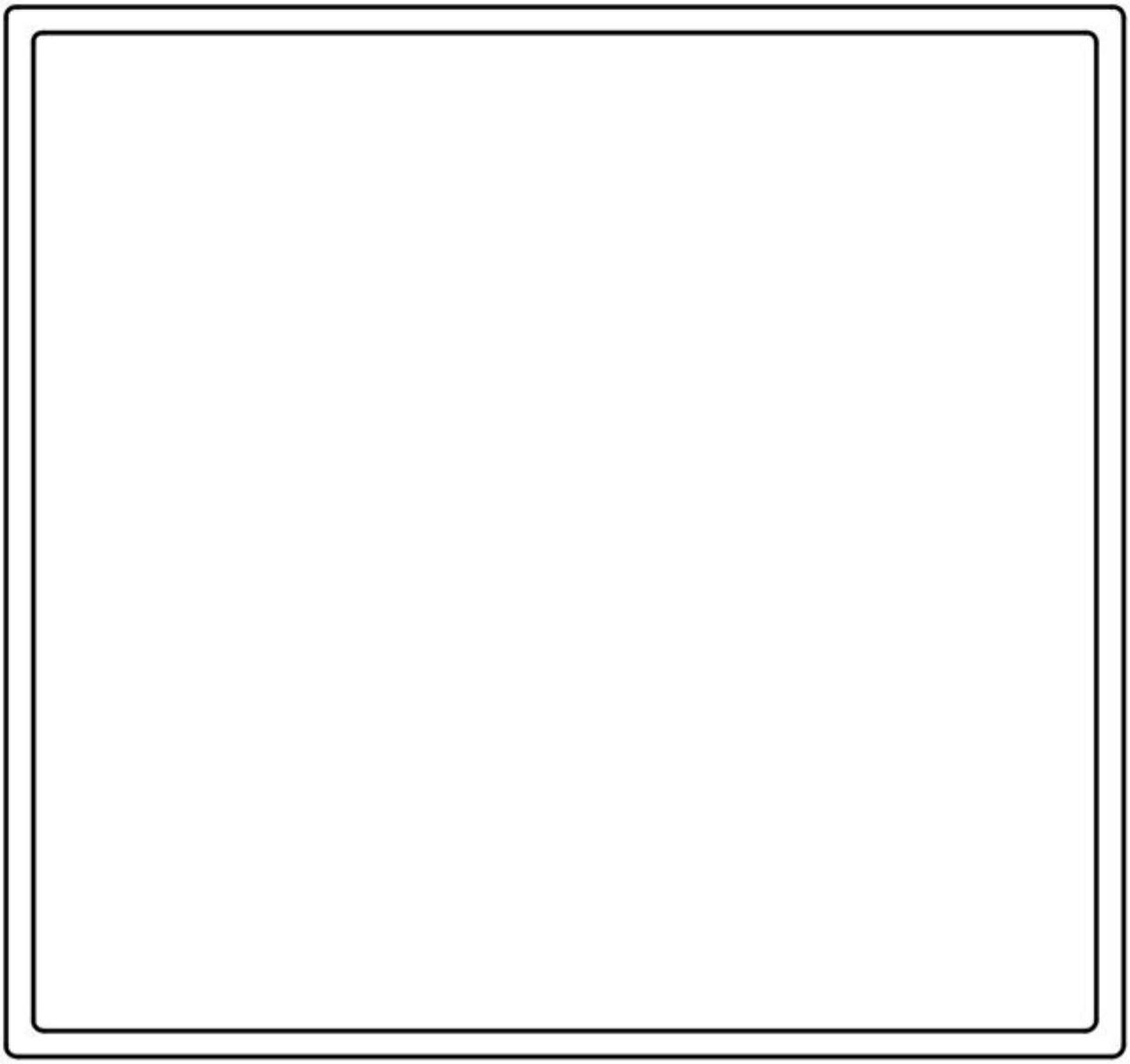


Name(s)_____ Period _____ Date _____

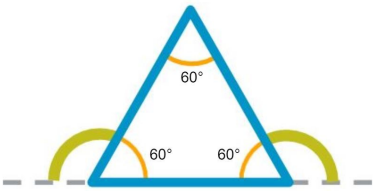
Turns & Angles

in Regular Polygons

Triangle

(**3** sides)

120° Right Turn



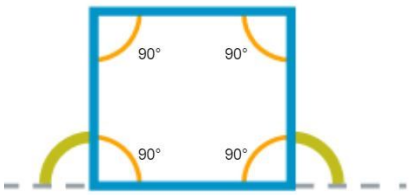
120° Left turn

Each turn is 360° / **3** = **120°**
Each angle is 180° - **120°** = **60°**

Rectangle

(**4** sides)

90° Right Turn



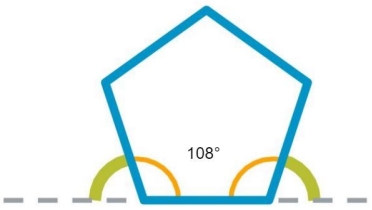
90° Left Turn

Each turn is 360° / **4** = **90°**
Each angle is 180° - **90°** = **90°**

Pentagon

(**5** sides)

72° Right Turn



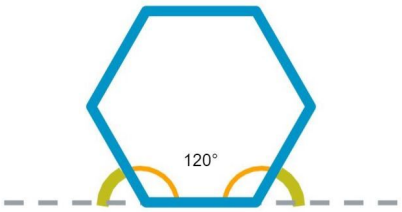
72° Left Turn

Each turn is 360° / **5** = **72°**
Each angle is 180° - **72°** = **108°**

Hexagon

(**6** sides)

60° Right Turn



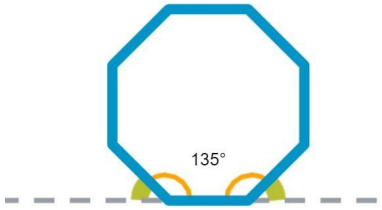
60° Left Turn

Each turn is 360° / **6** = **60°**
Each angle is 180° - **60°** = **120°**

Octagon

(**8** sides)

45° Right Turn



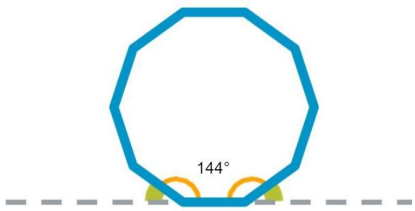
45° Left Turn

Each turn is 360° / **8** = **45°**
Each angle is 180° - **45°** = **135°**

Decagon

(**10** sides)

36° Right Turn



36° Left Turn

Each turn is 360° / **10** = **36°**
Each angle is 180° - **36°** = **144°**

Unit 6 Lesson 6

My Loopy Robotic Friends

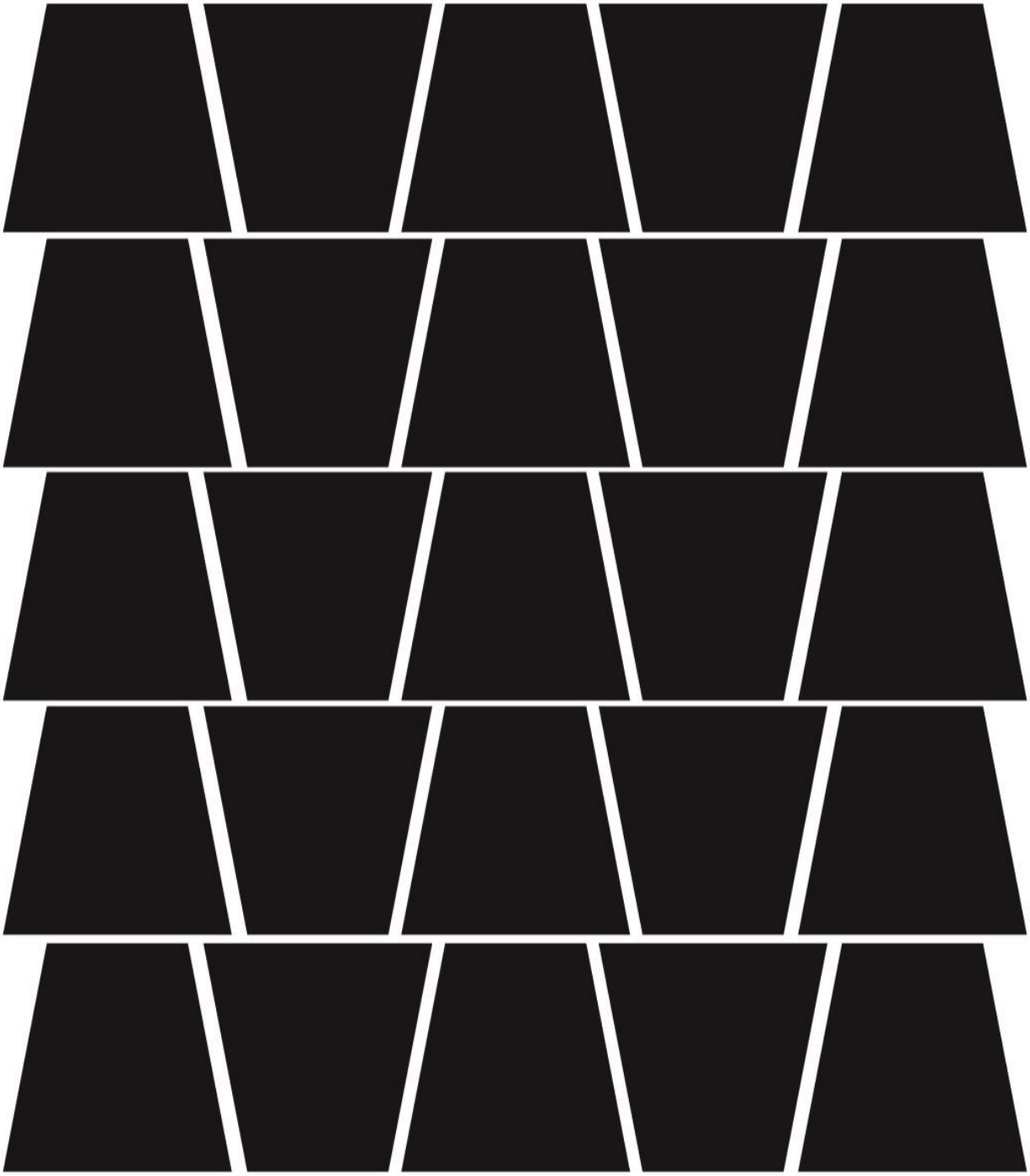
Resources

My Robotic Friends

Paper Trapezoids

To cut quickly:

First cut in horizontal strips, then snip along lines to make trapezoids.



Unit 6 Lesson 7

Loops in Artist

Resources

Main Activity Notes

Teachers play a vital role in computer science education and supporting a collaborative and vibrant classroom environment. During online activities, the role of the teacher is primarily one of encouragement and support. Online lessons are meant to be student-centered, so teachers should avoid stepping in when students get stuck. Some ideas on how to do this are:

- Utilize pair programming whenever possible during the activity.
- Encourage students with questions/challenges to start by asking their partner.
    - Unanswered questions can be escalated to a nearby group, who might already know the solution.
- Remind students to use the debugging process before you approach.
- Have students describe the problem that they're seeing. What is it supposed to do? What does it do? What does that tell you?
- Remind frustrated students that frustration is a step on the path to learning, and that persistence will pay off.
- If a student is still stuck after all of this, ask leading questions to get the student to spot an error on their own.

Teacher Tip:

Show the students the ***right*** way to help classmates:

- Don't sit in the classmate's chair
- Don't use the classmate's keyboard
- Don't touch the classmate's mouse
- Make sure the classmate can describe the solution to you out loud before you walk away

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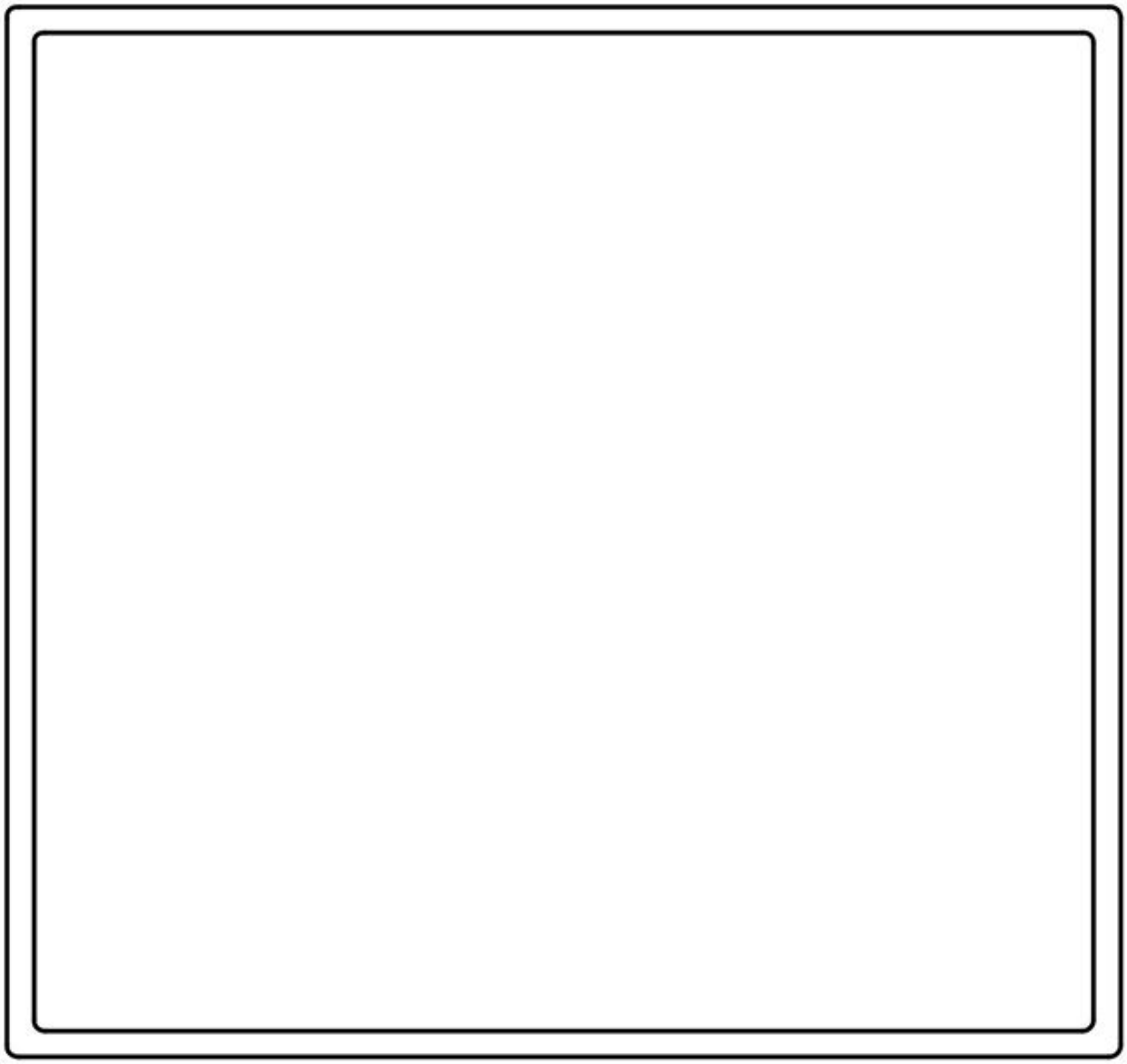
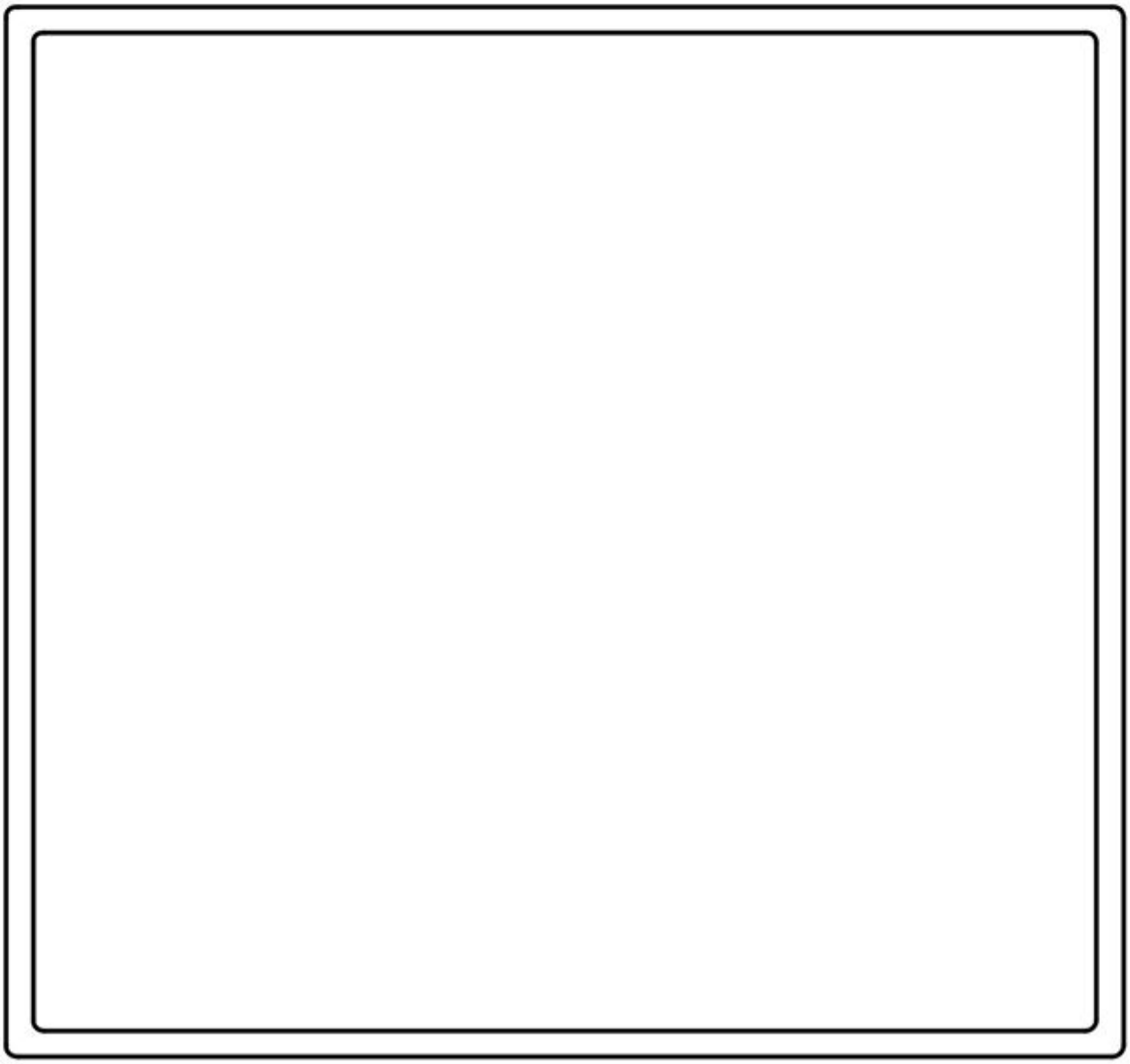


Grade: Date:

My Think Spot Journal

Date:



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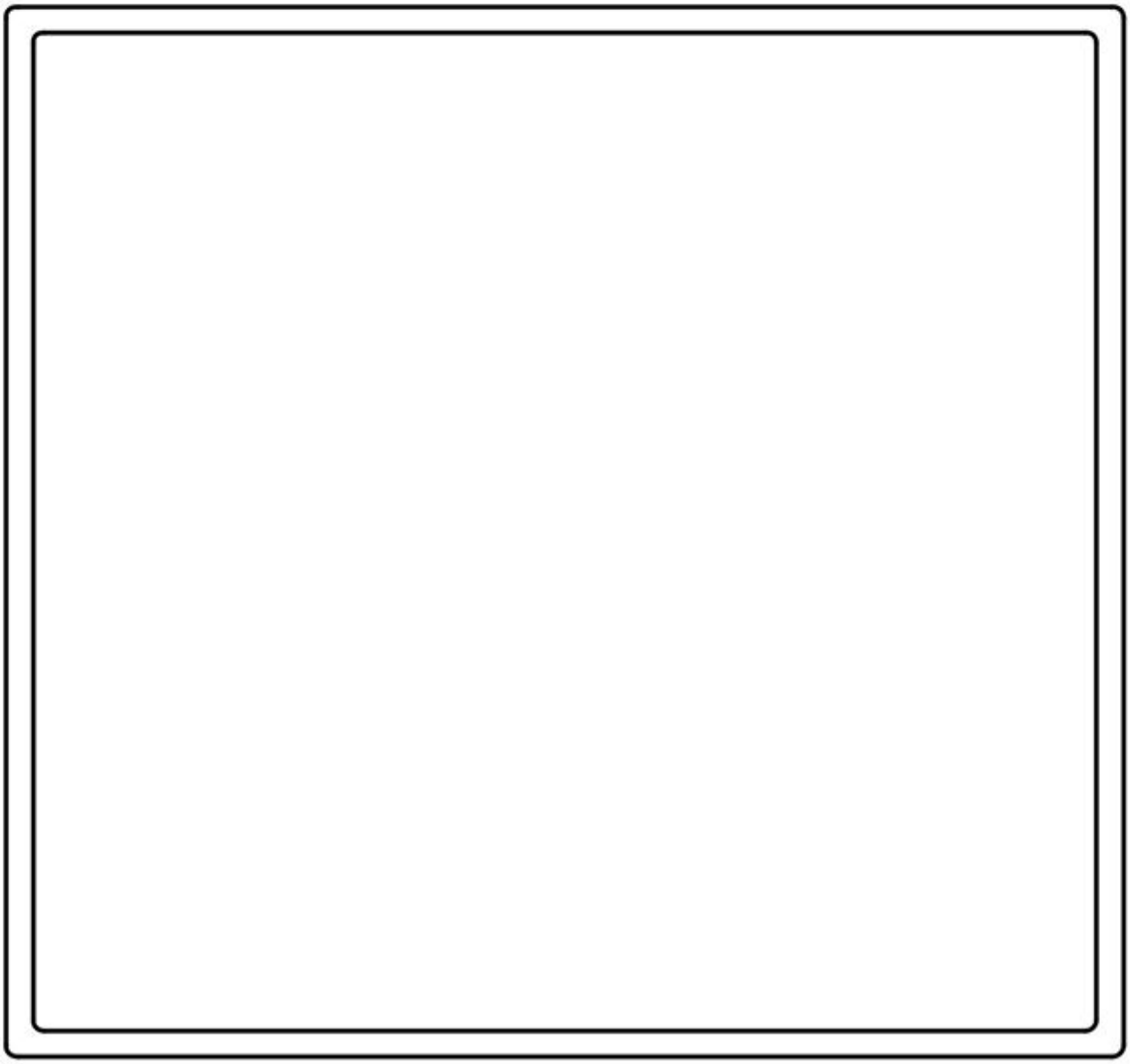

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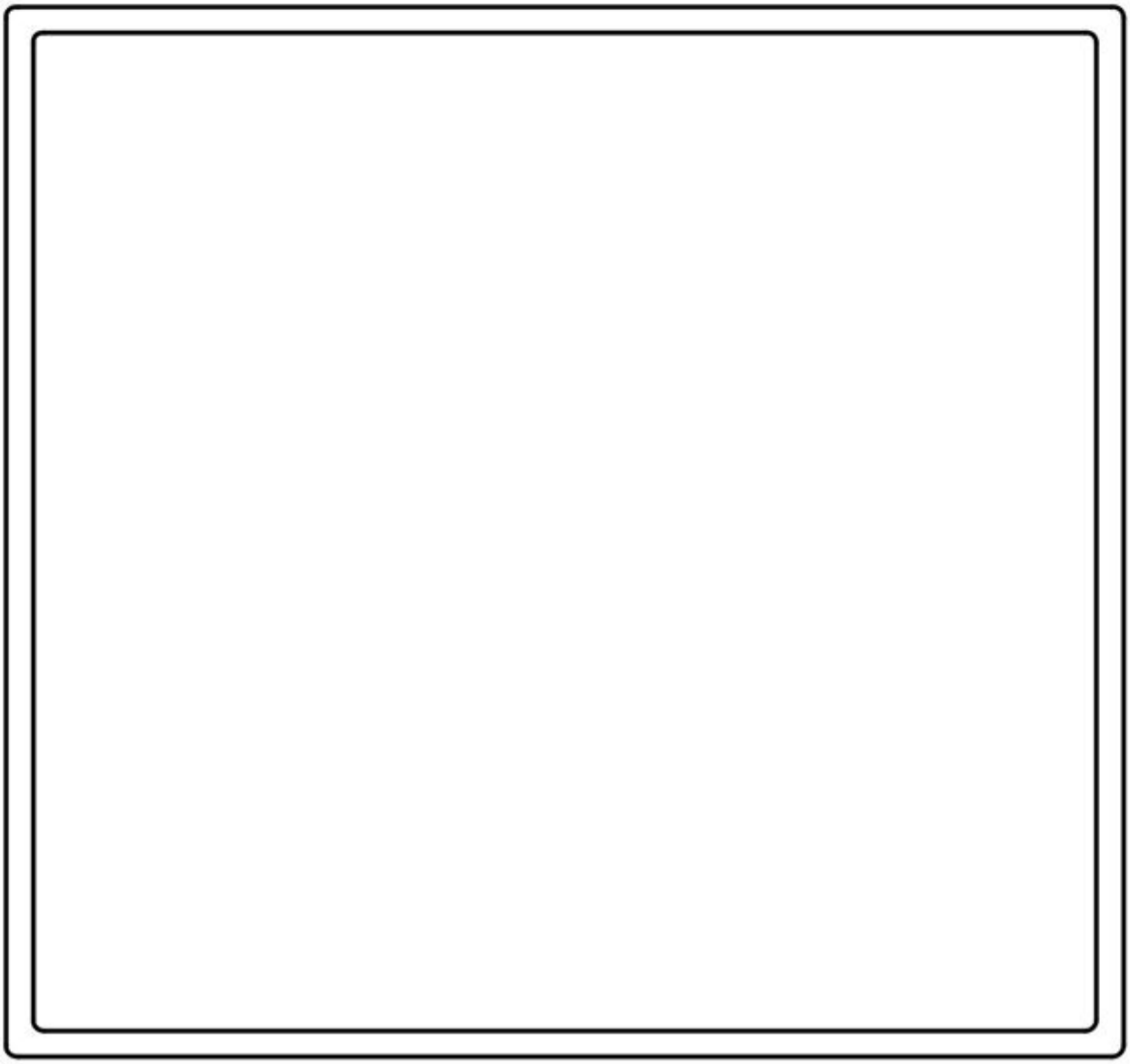

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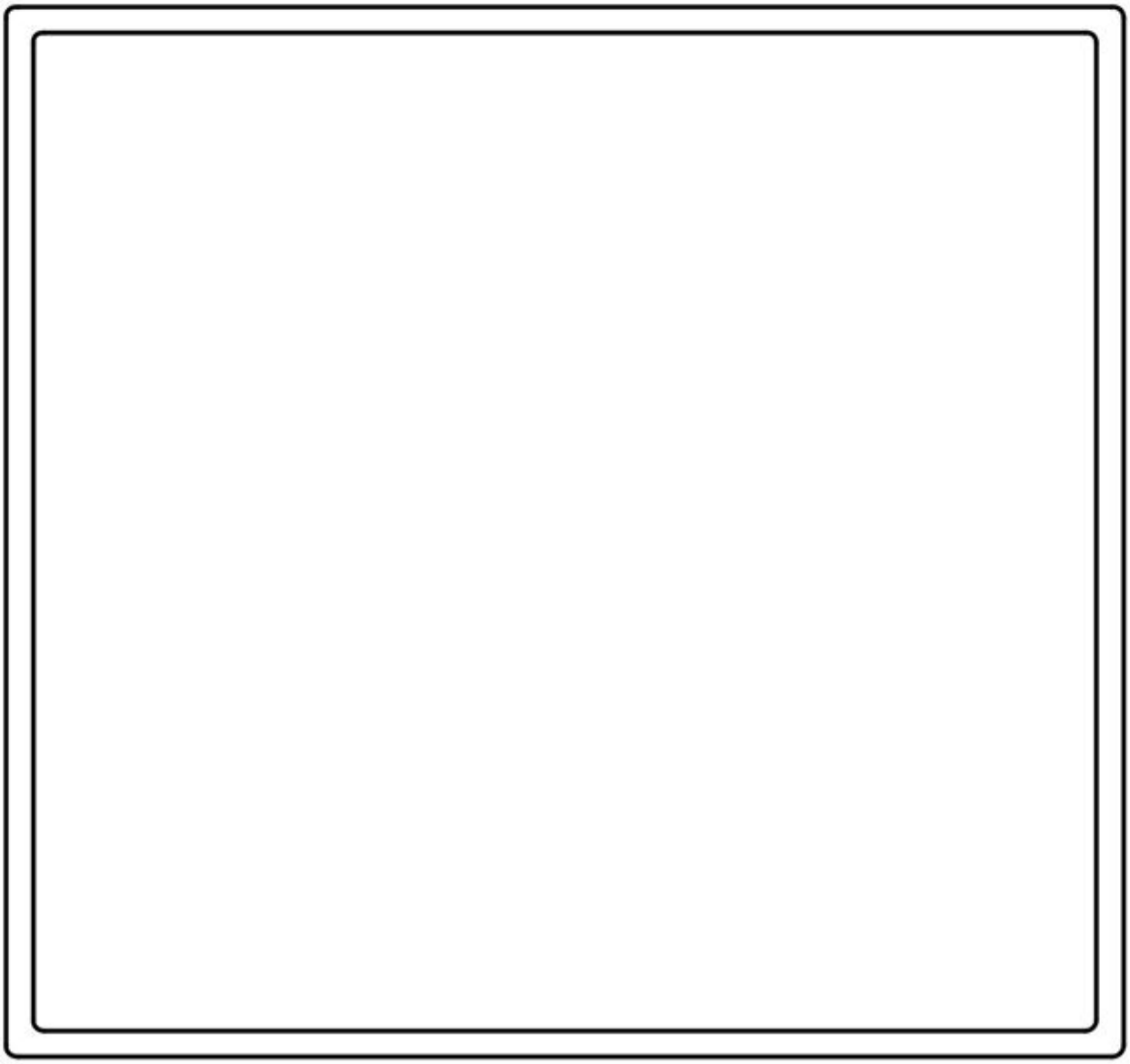

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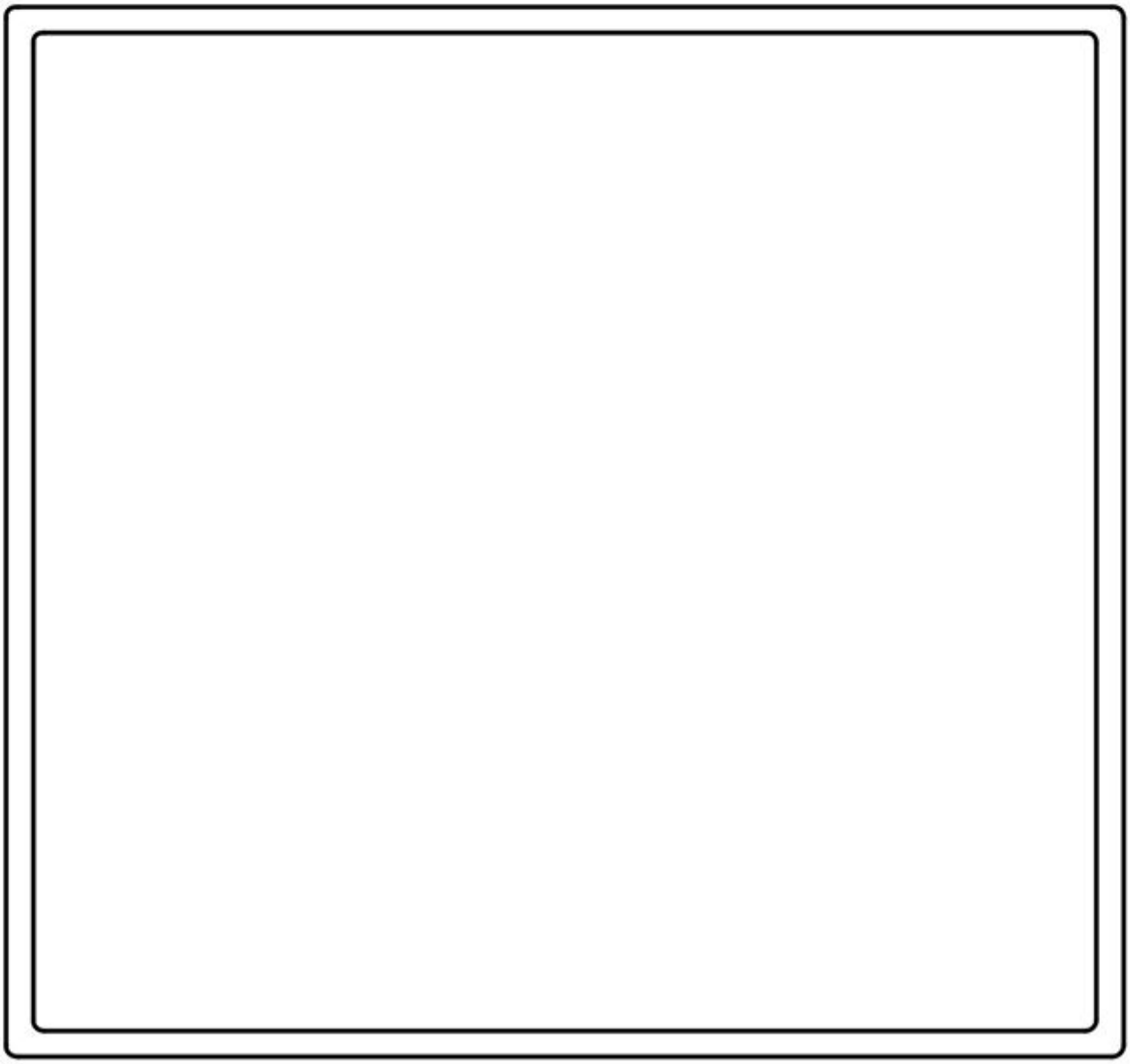

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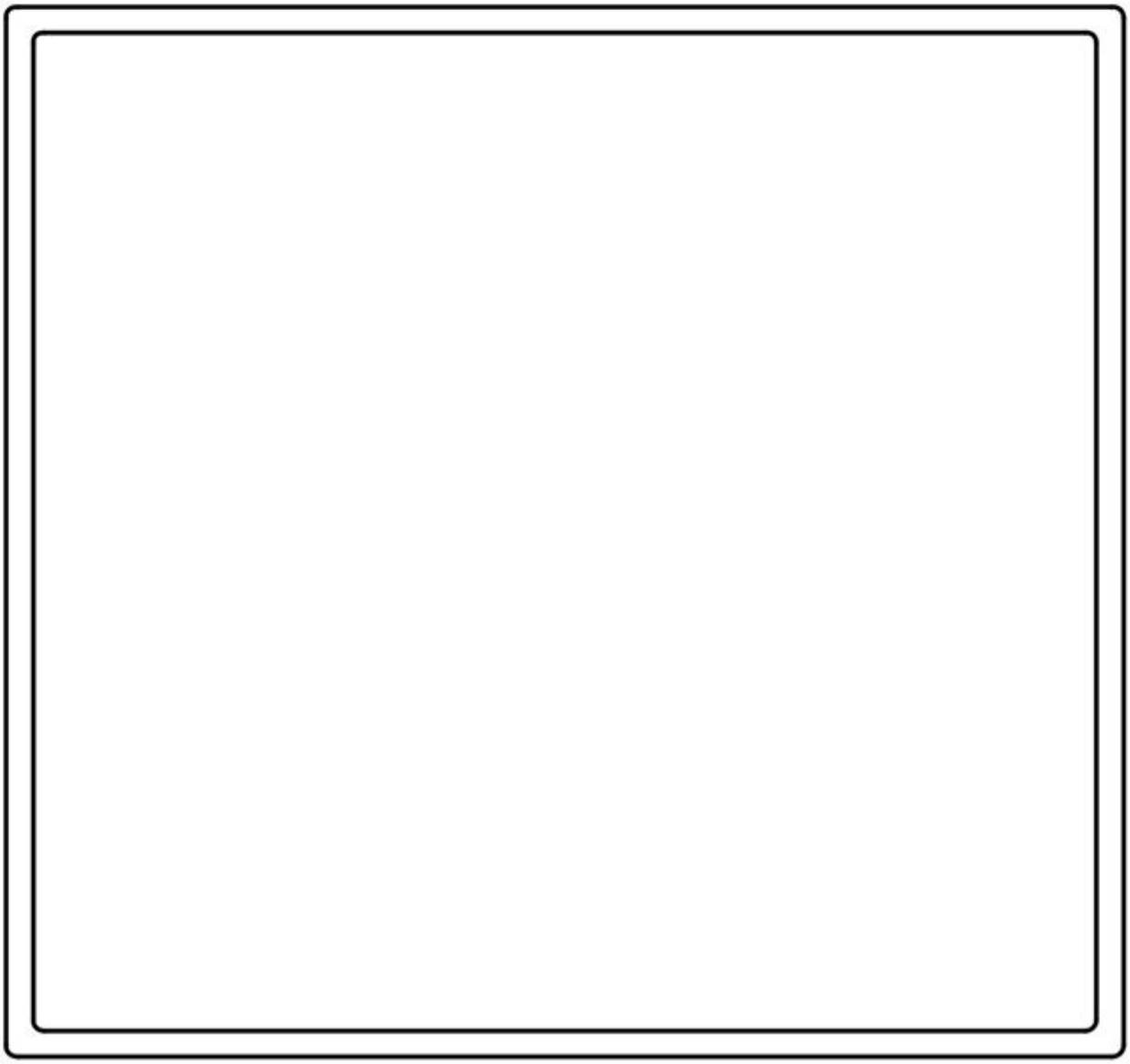

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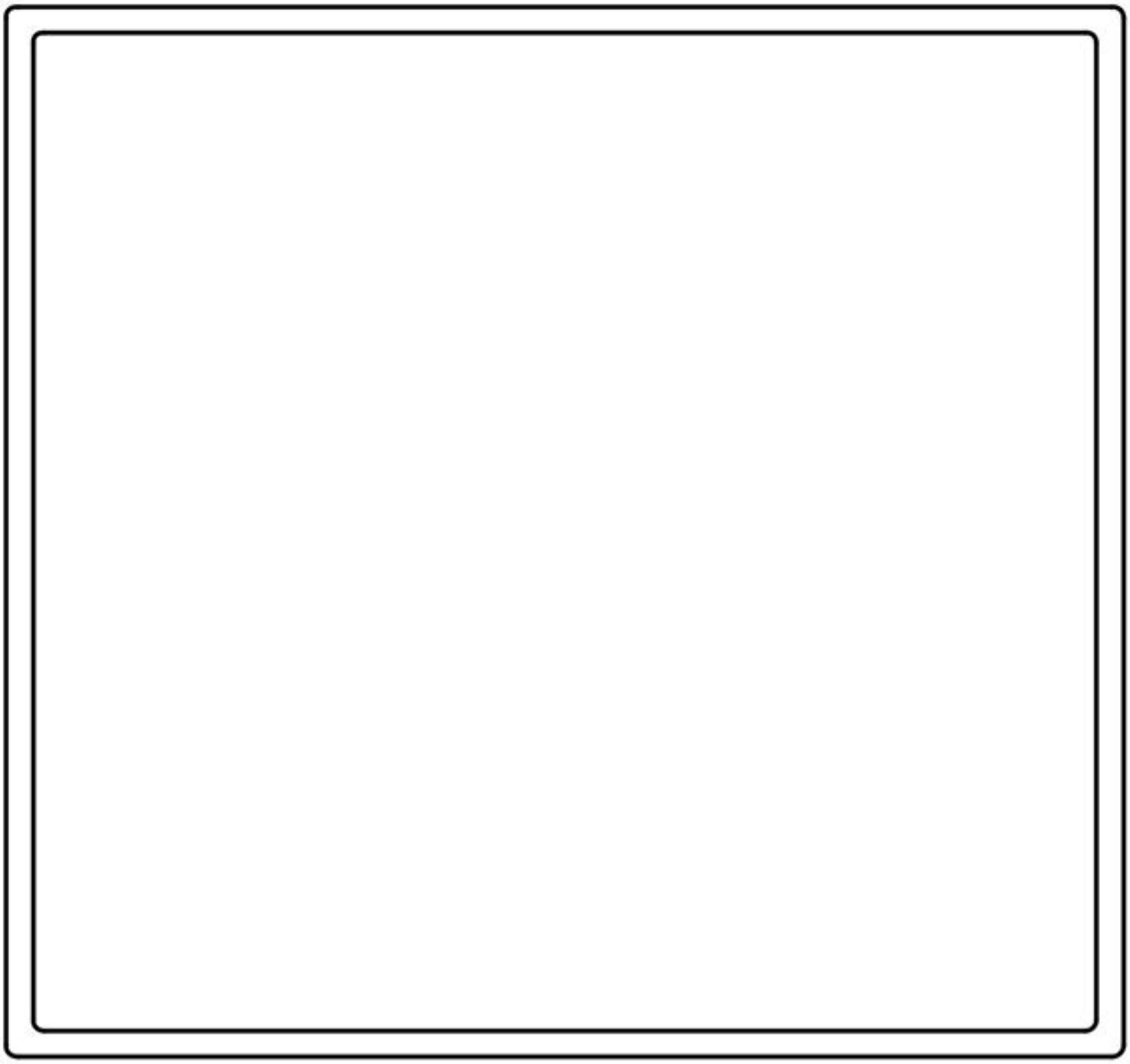

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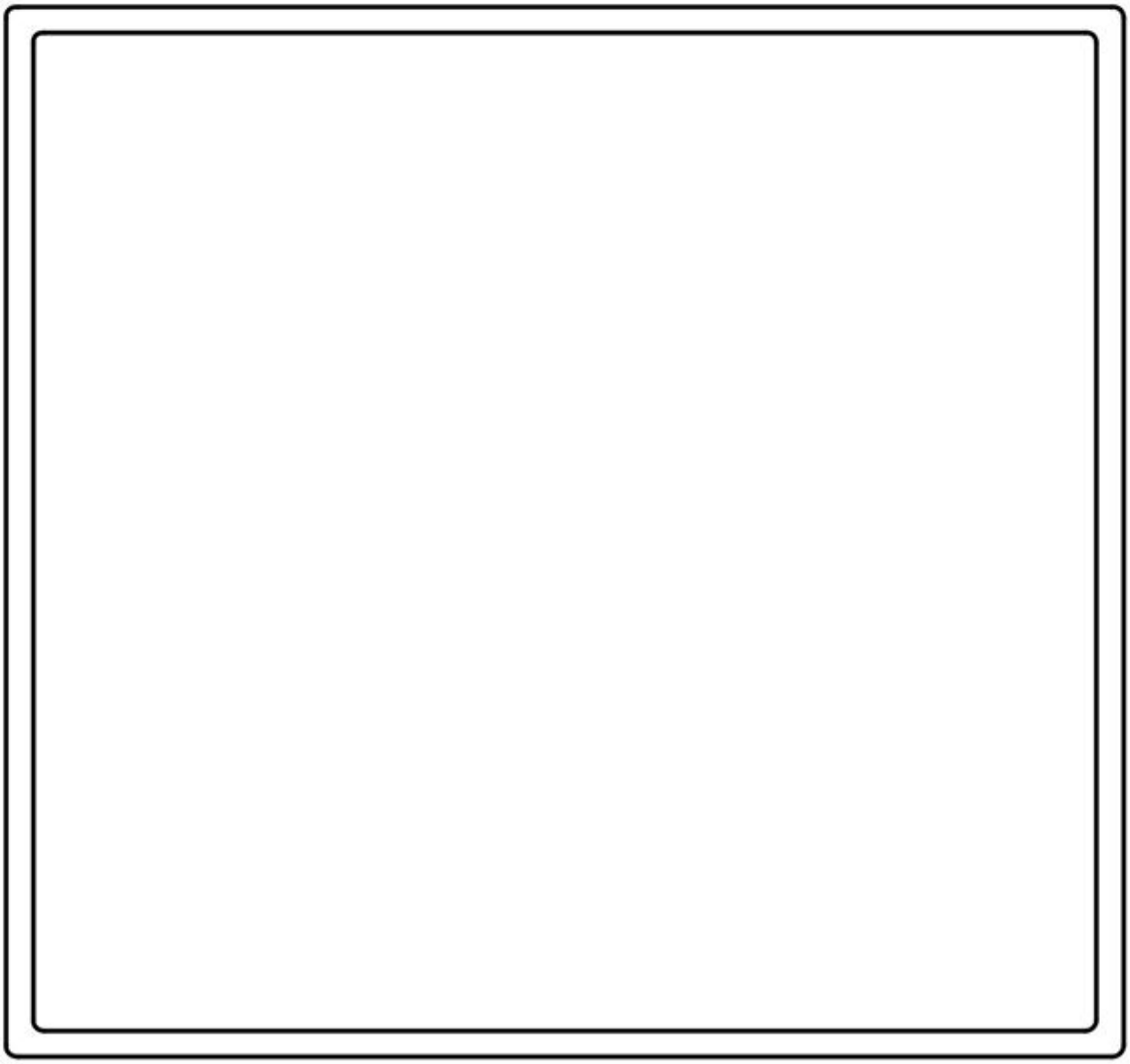

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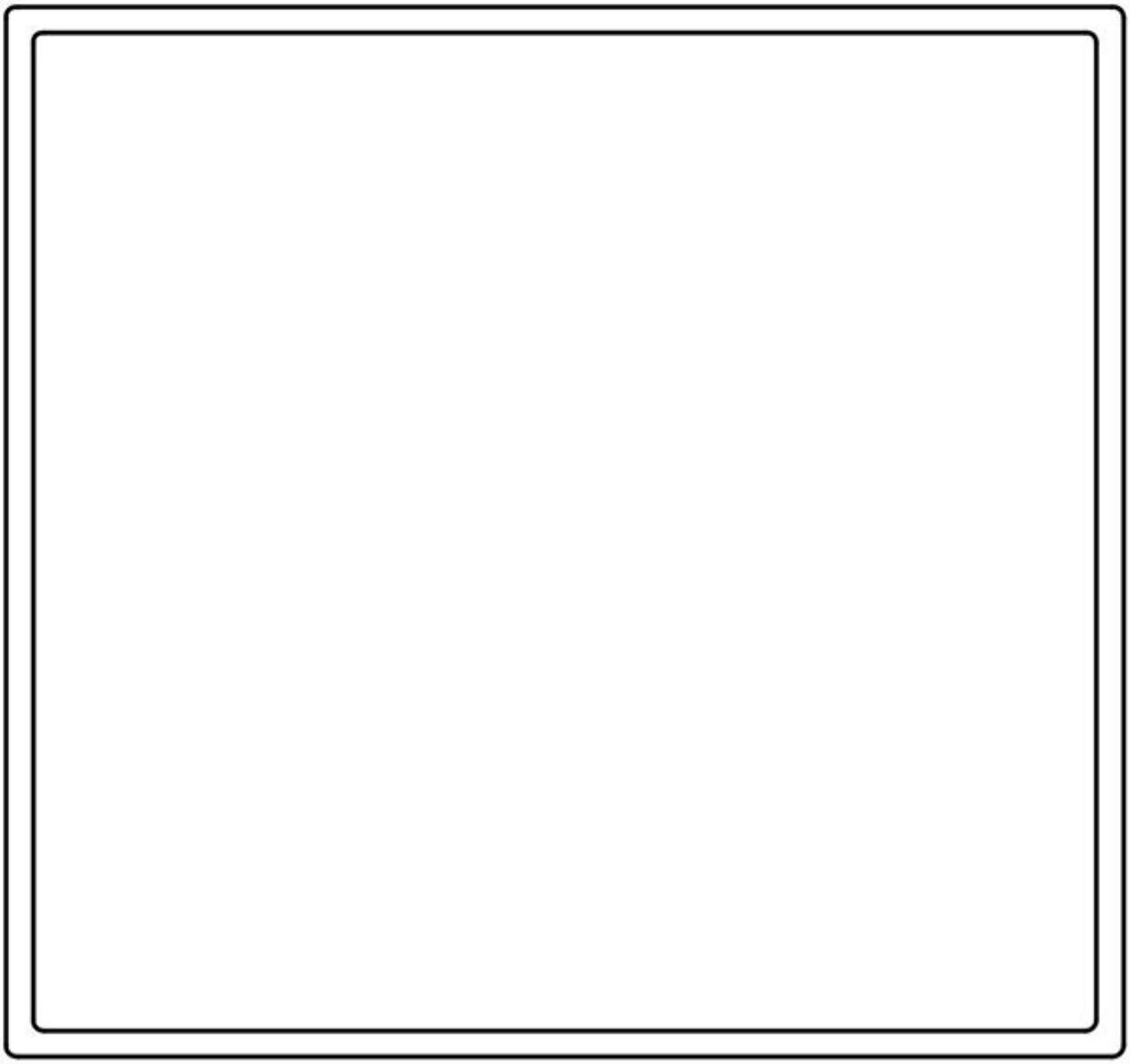

Unit 6 Lesson 8

Nested Loops

Resources

Main Activity Notes

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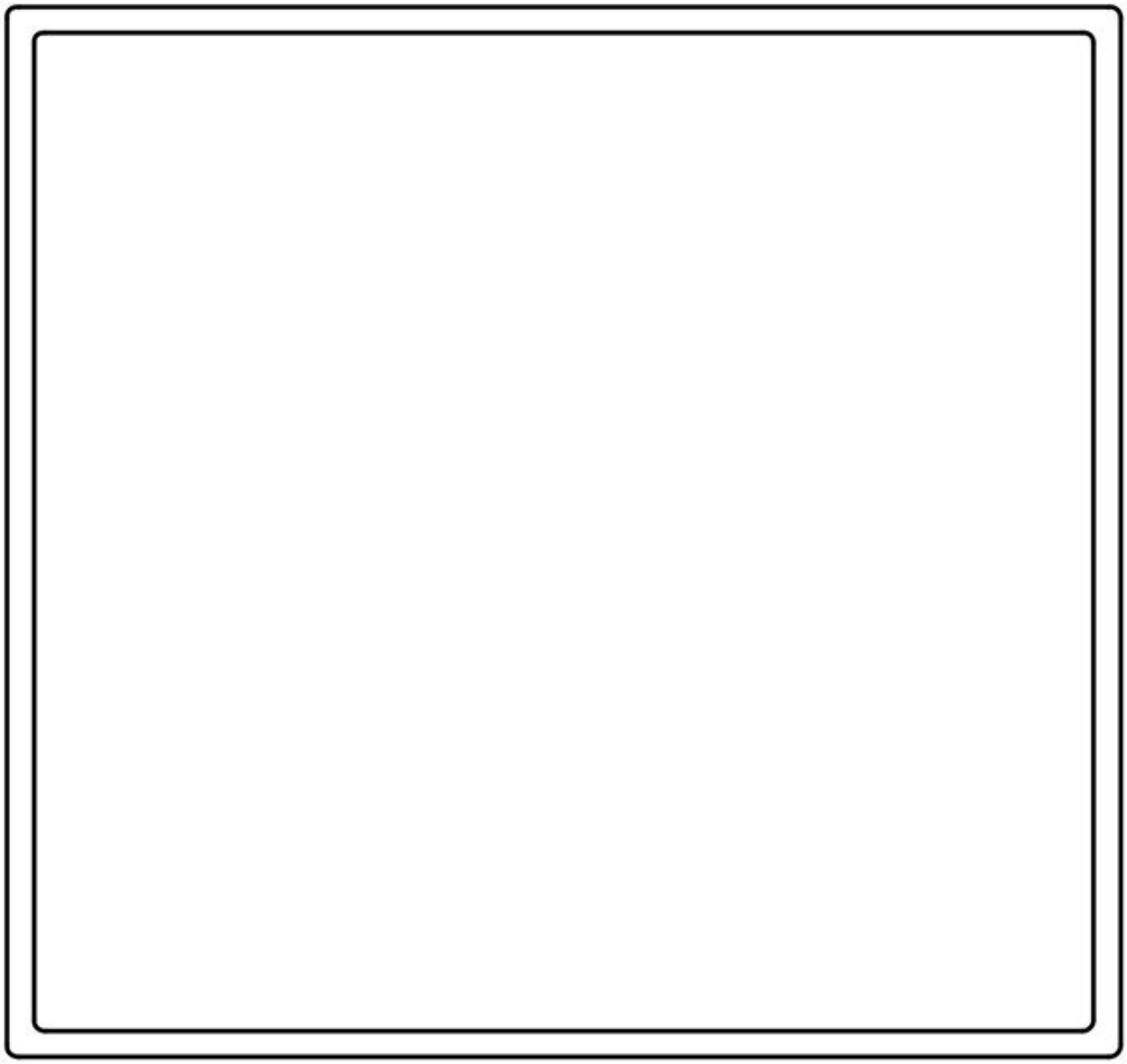

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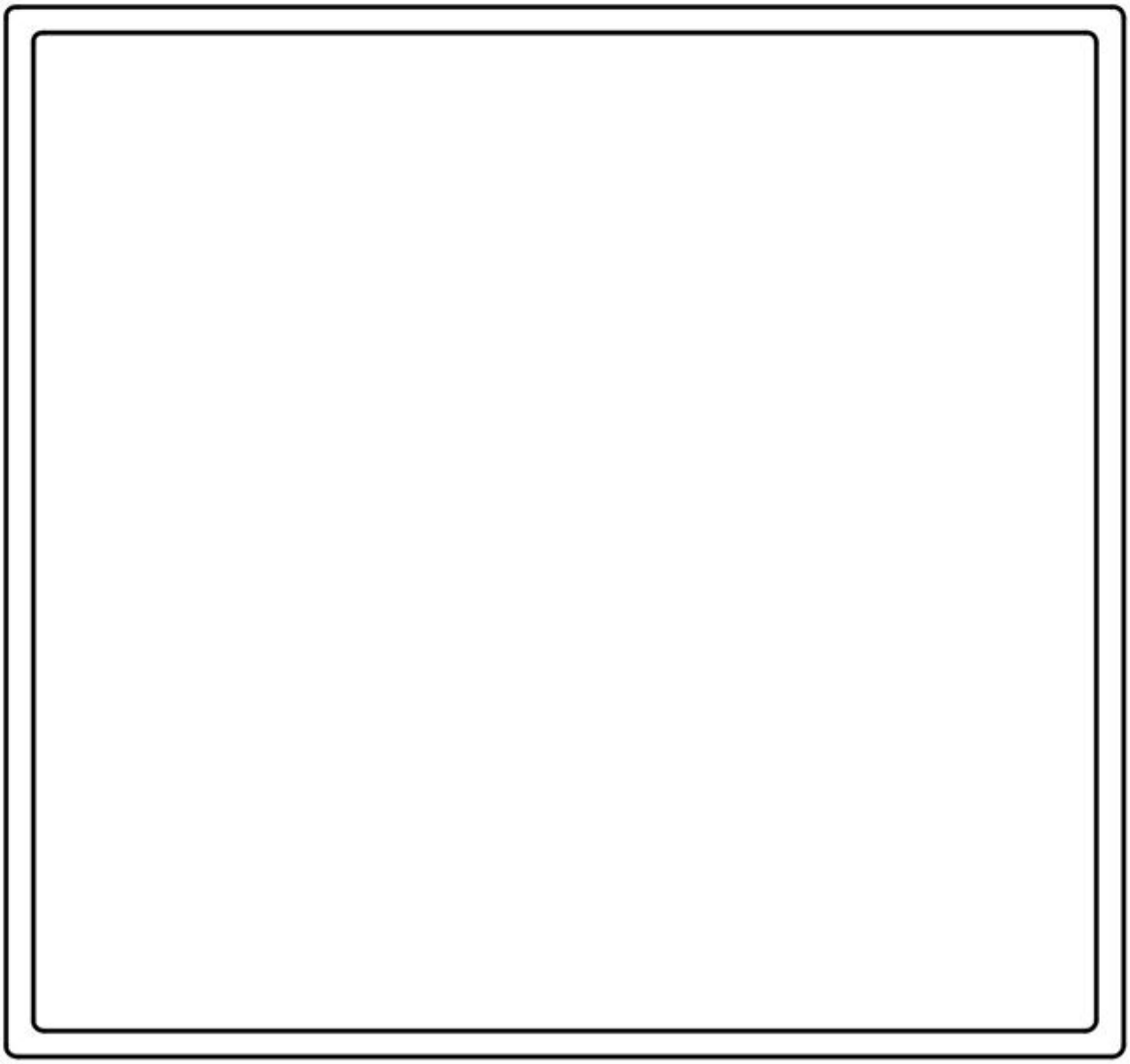

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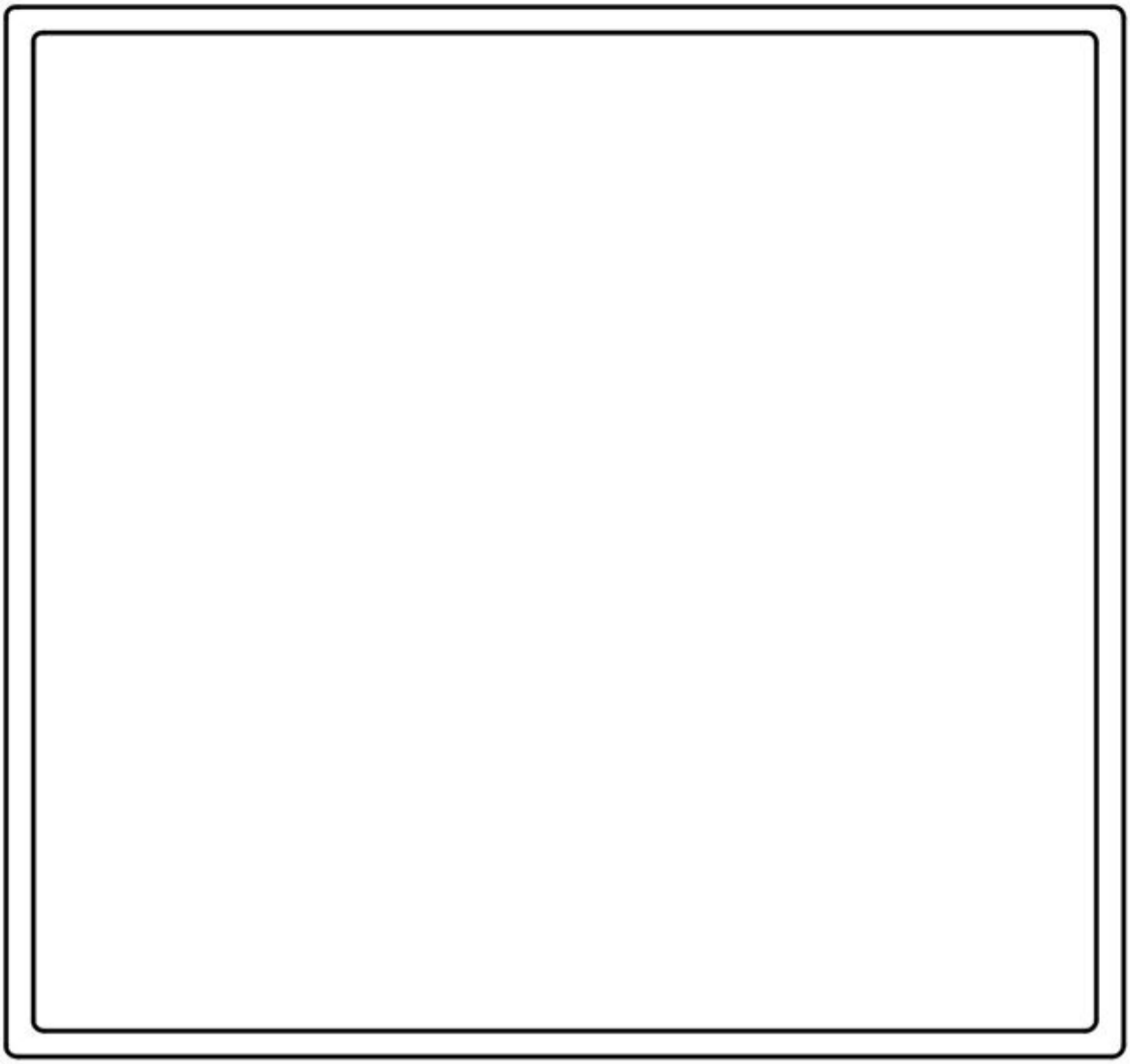

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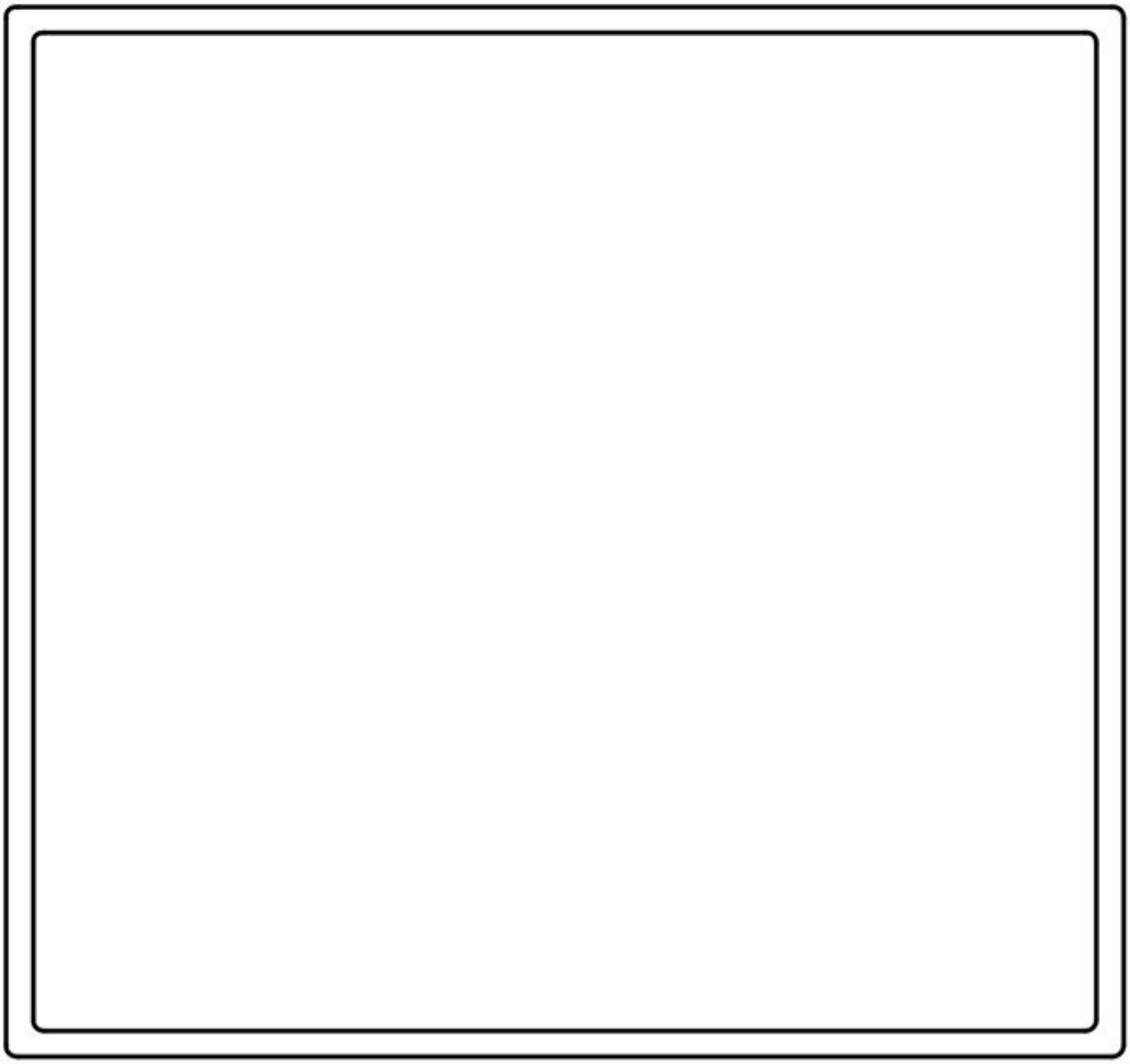

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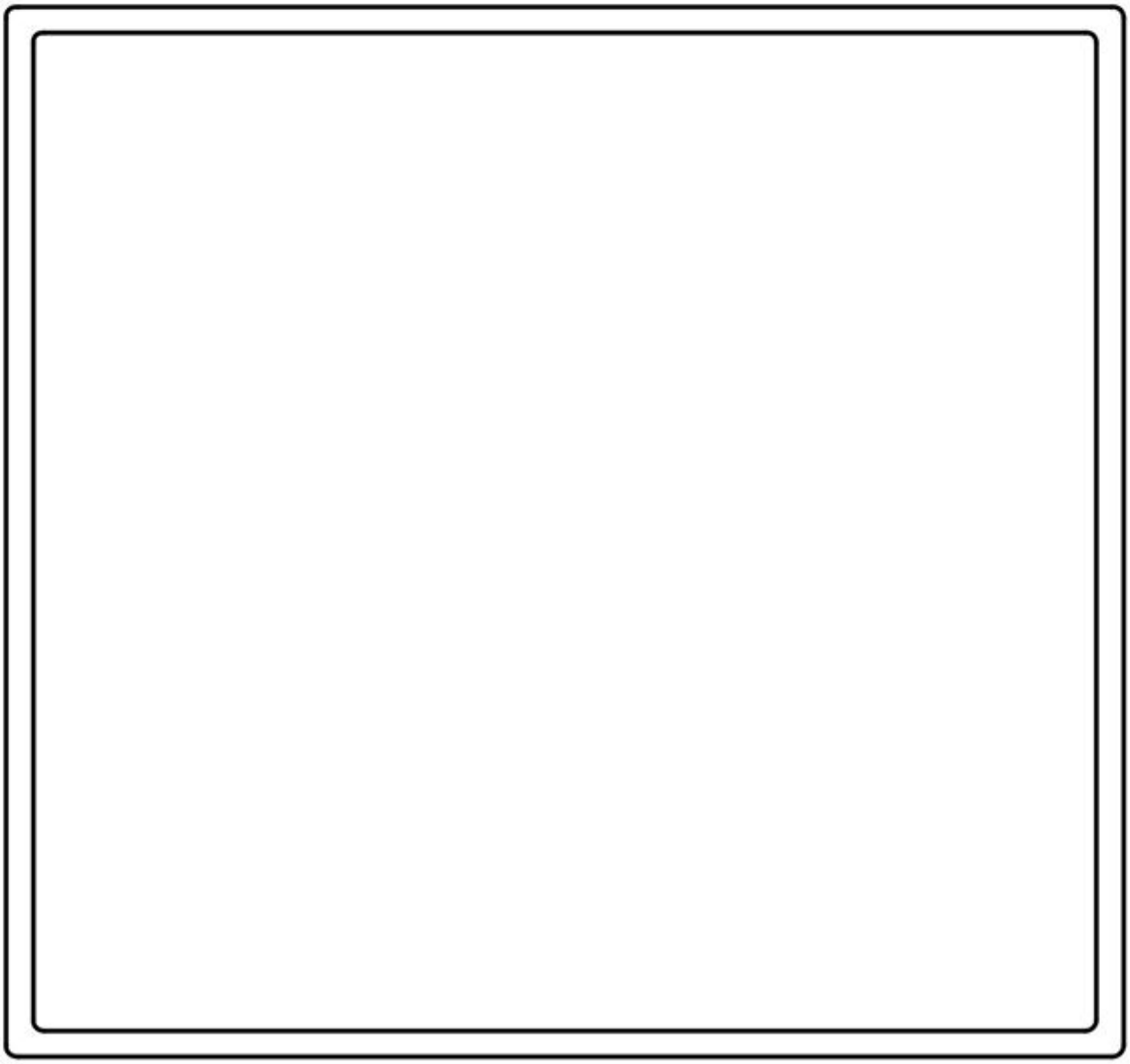

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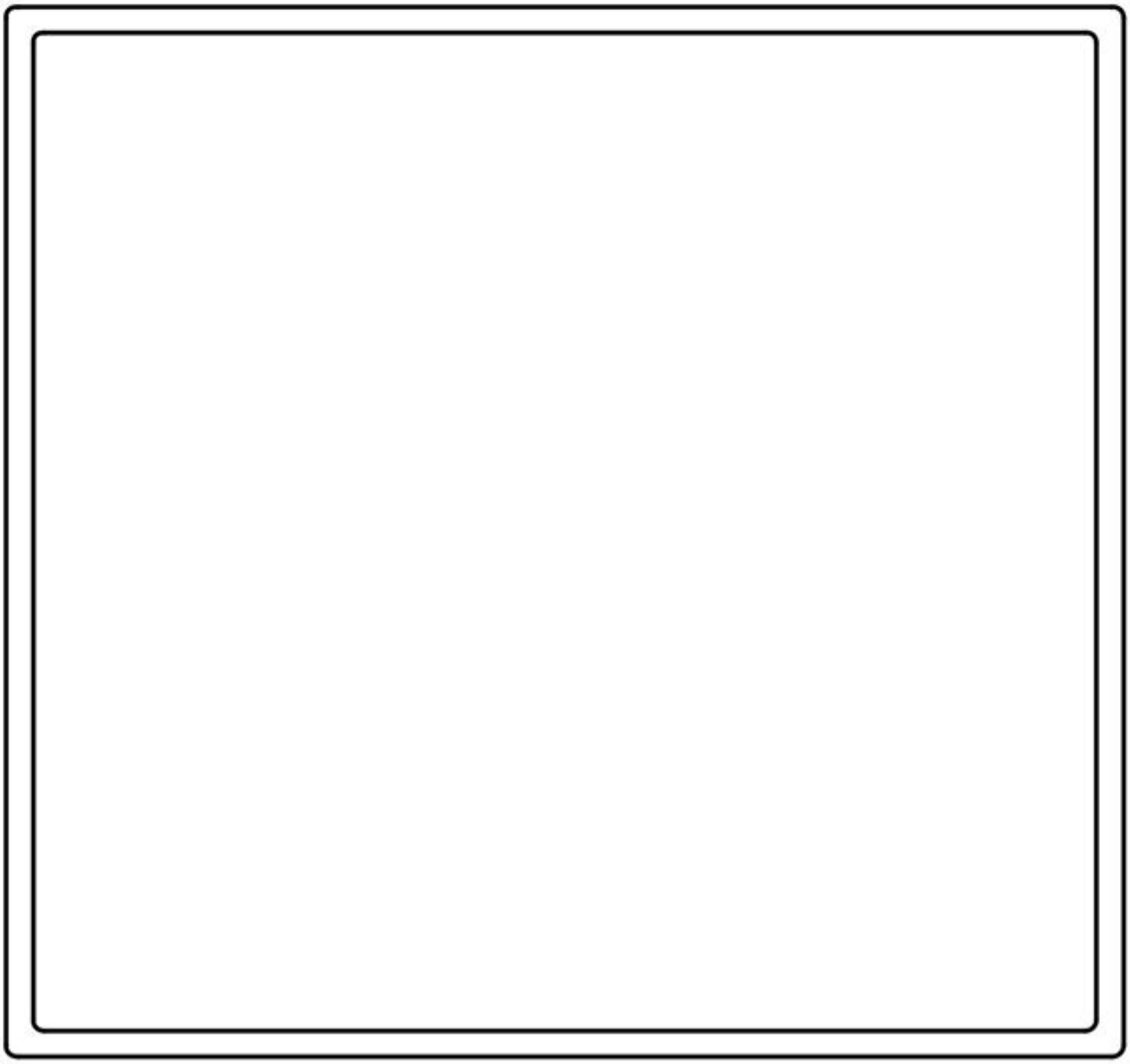

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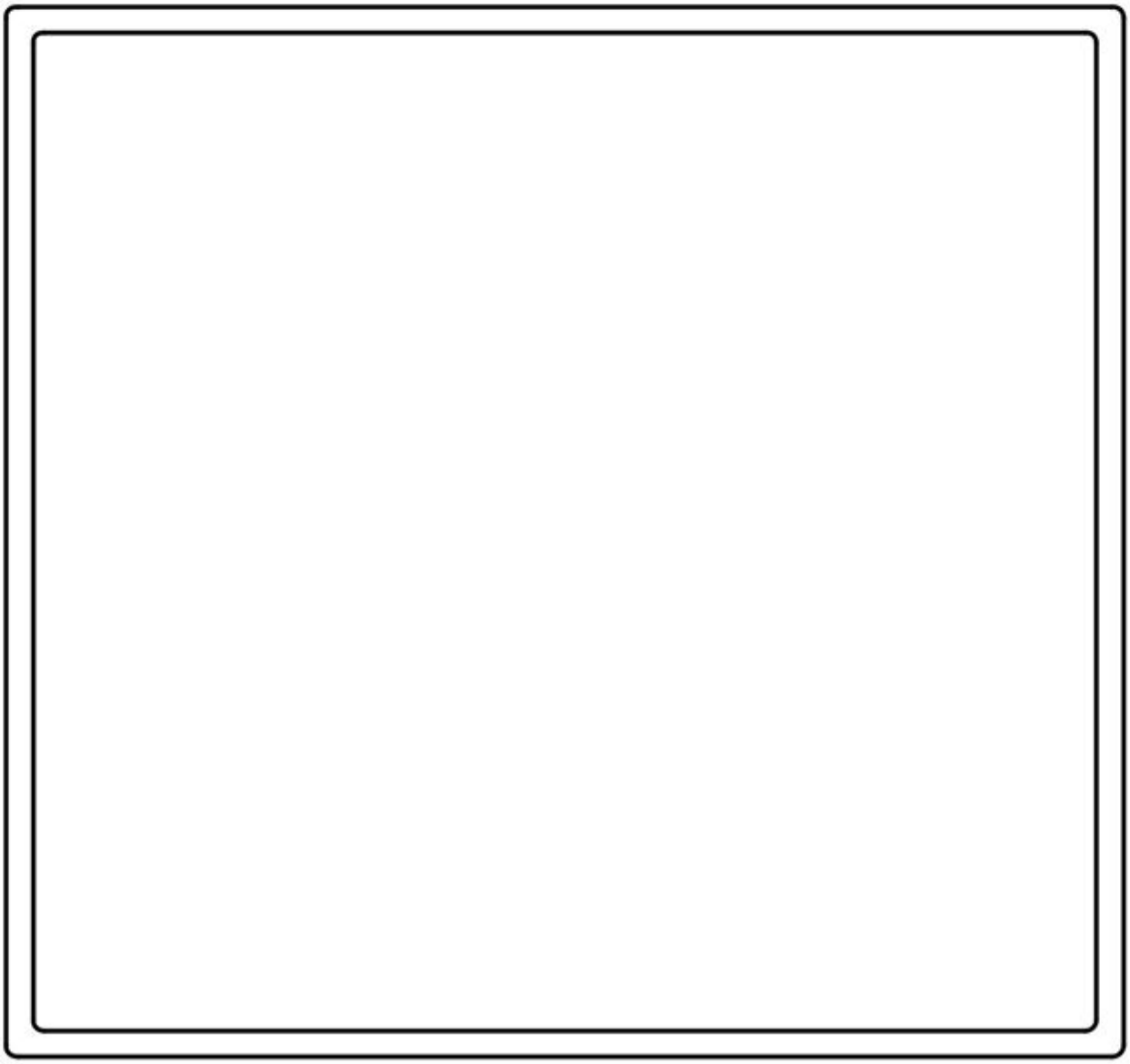

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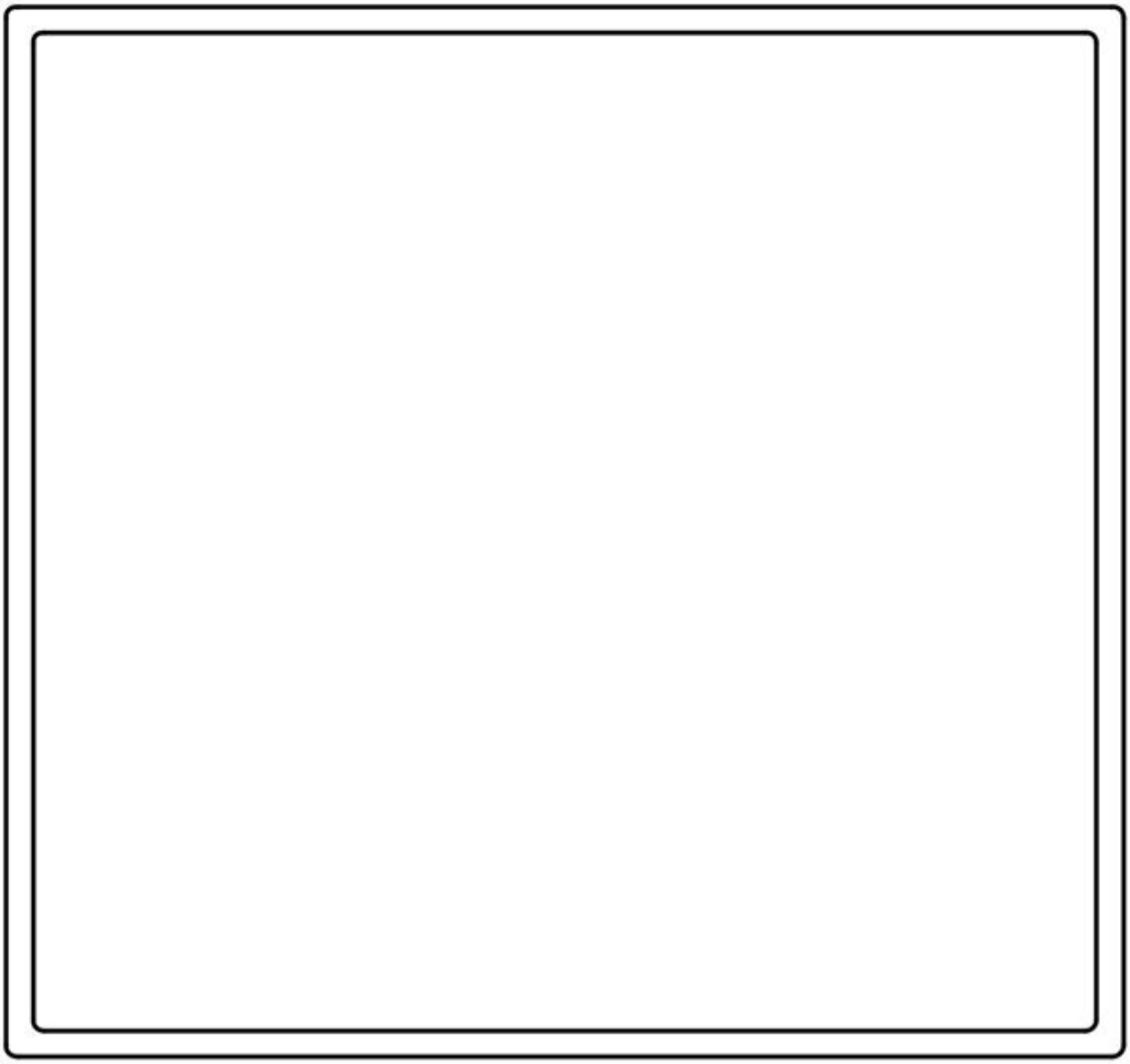

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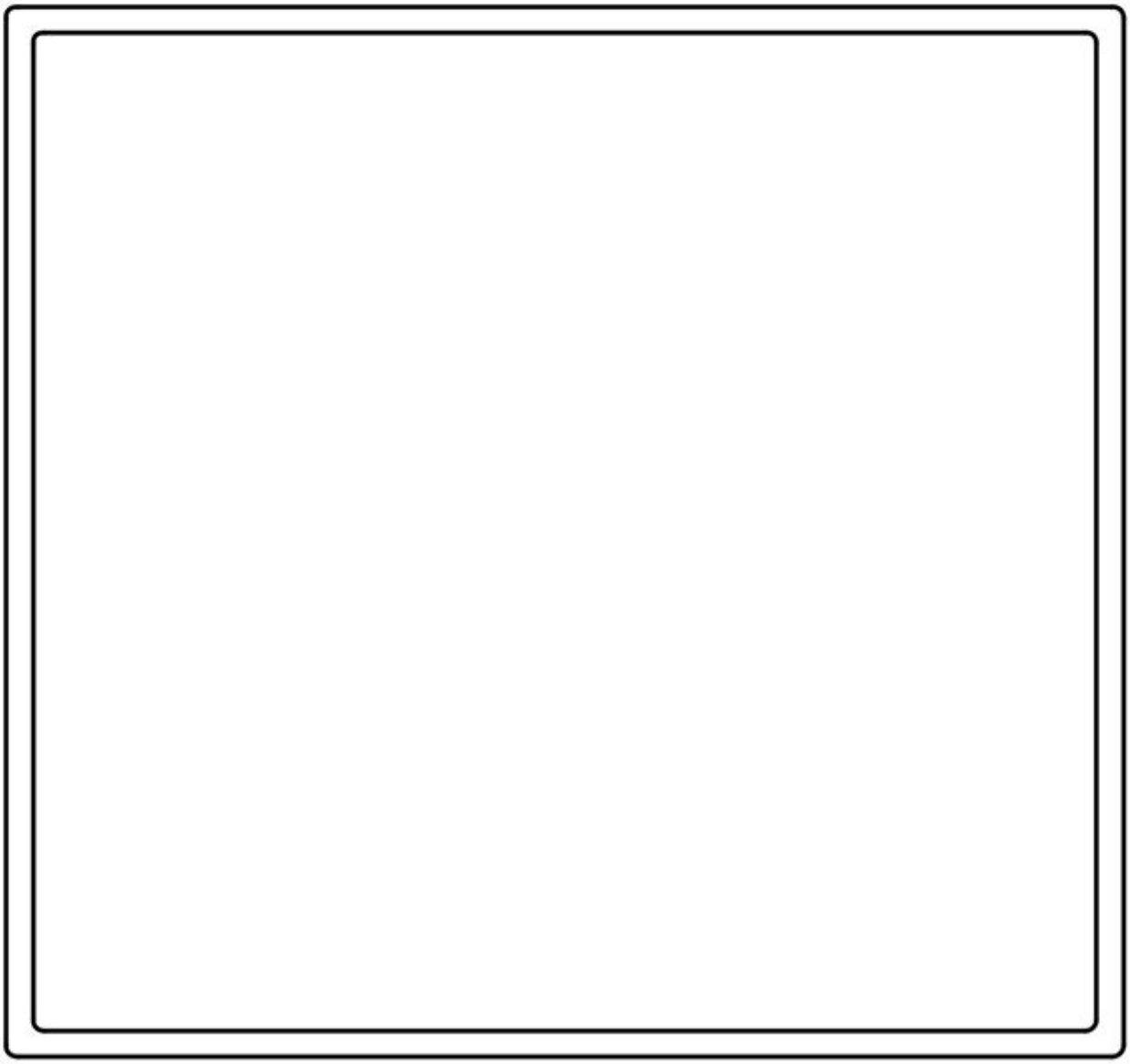

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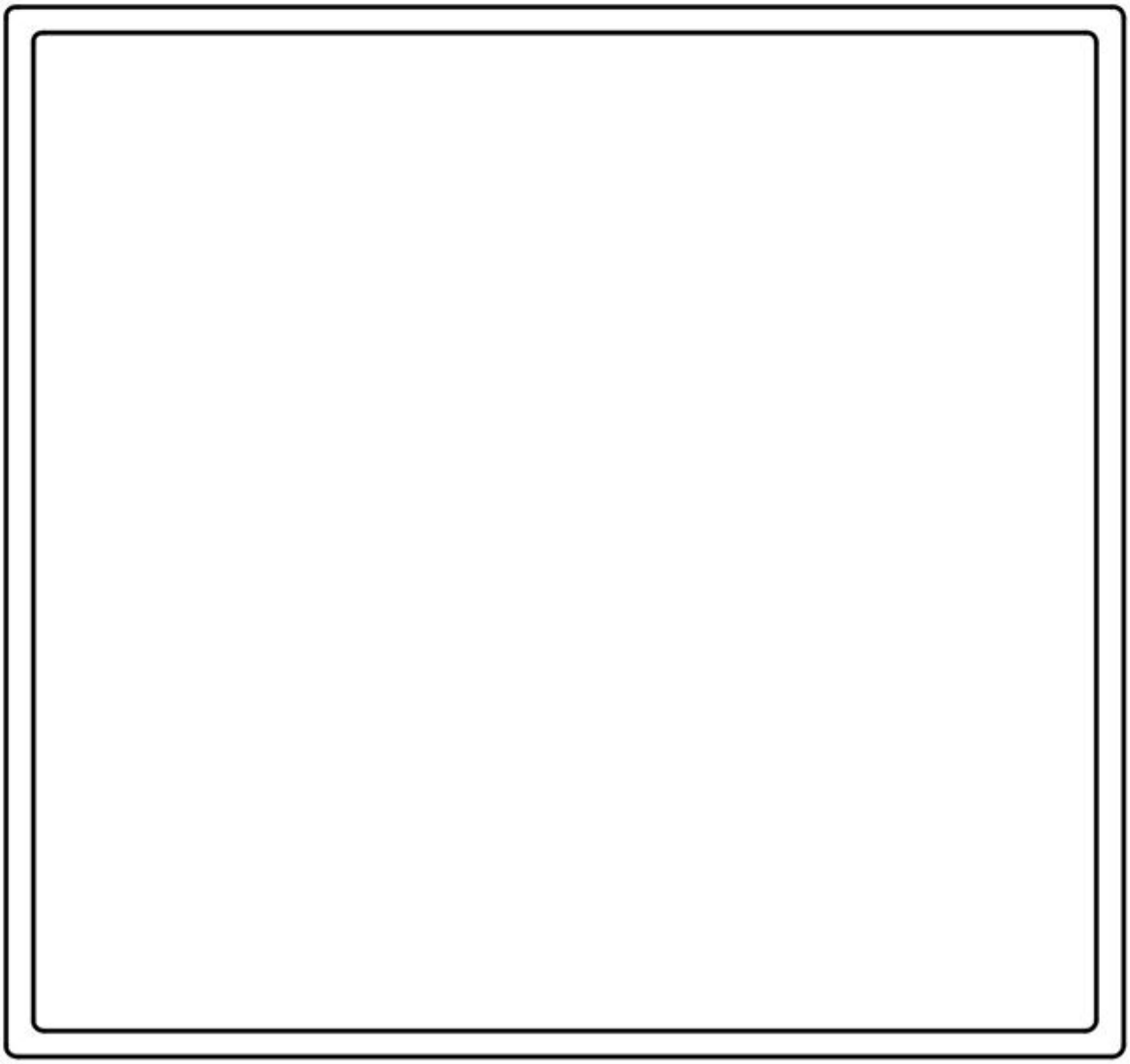

Unit 6 Lesson 9

Nested Loops with Frozen

Resources

Main Activity Notes

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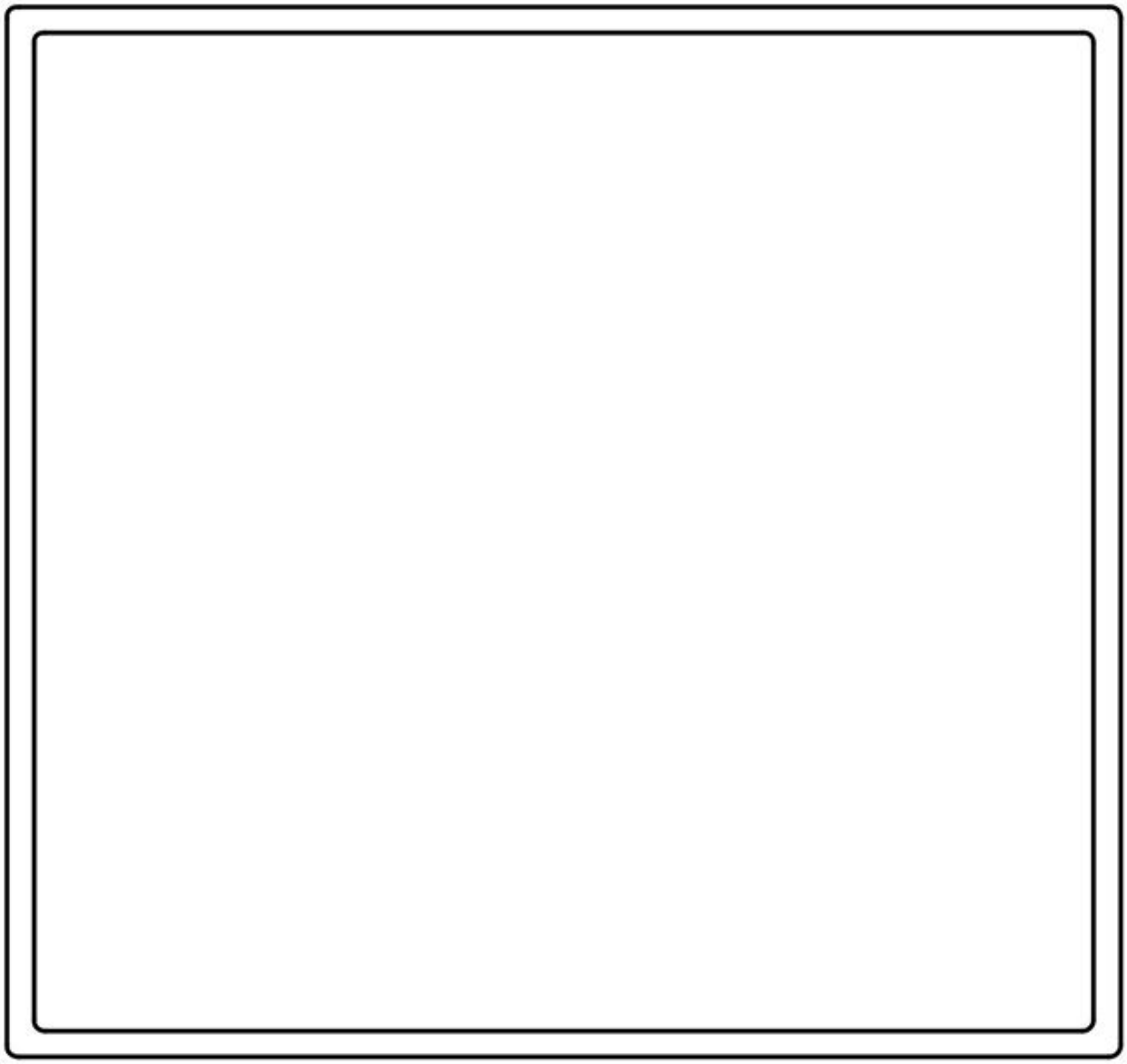

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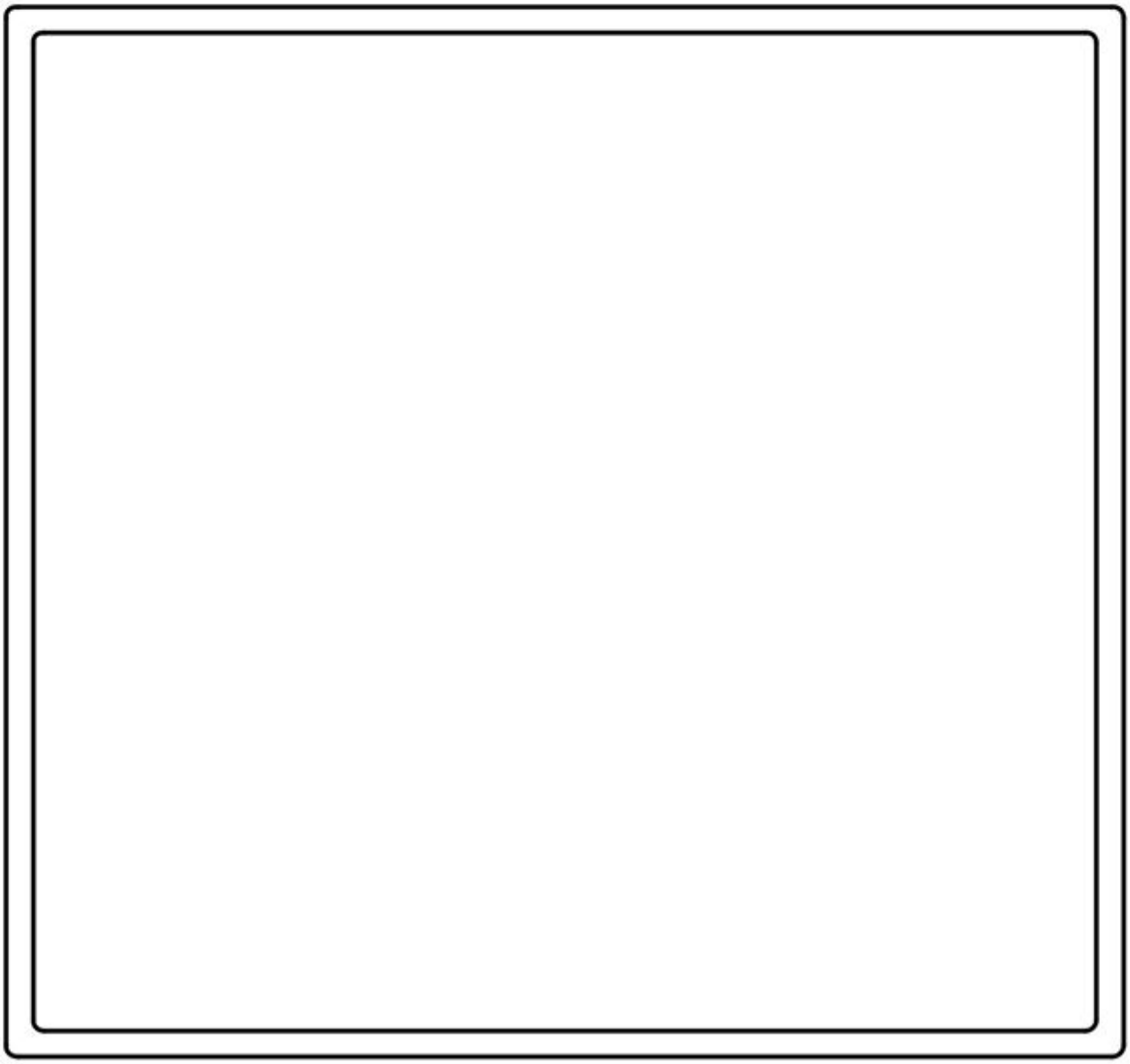

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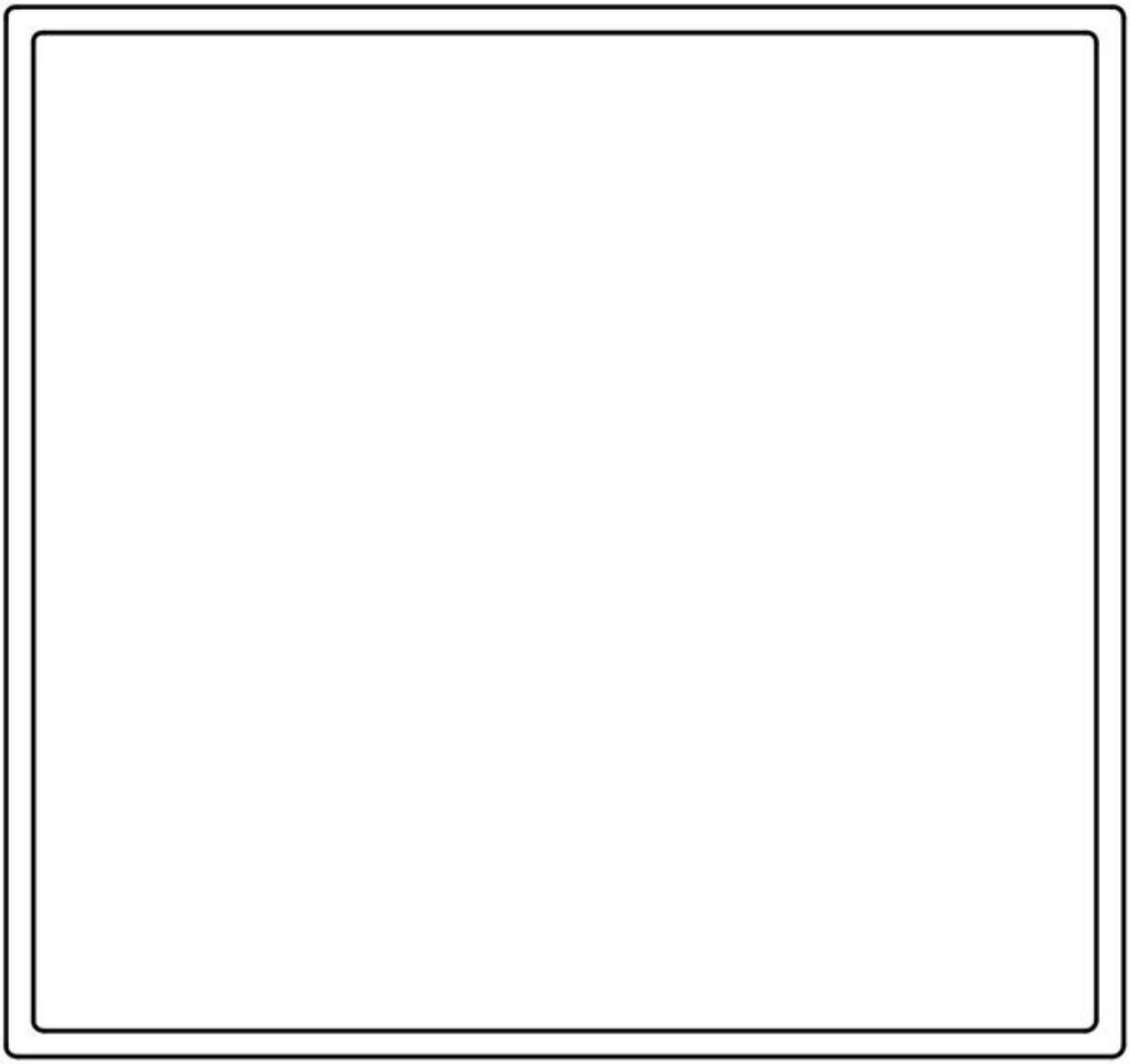

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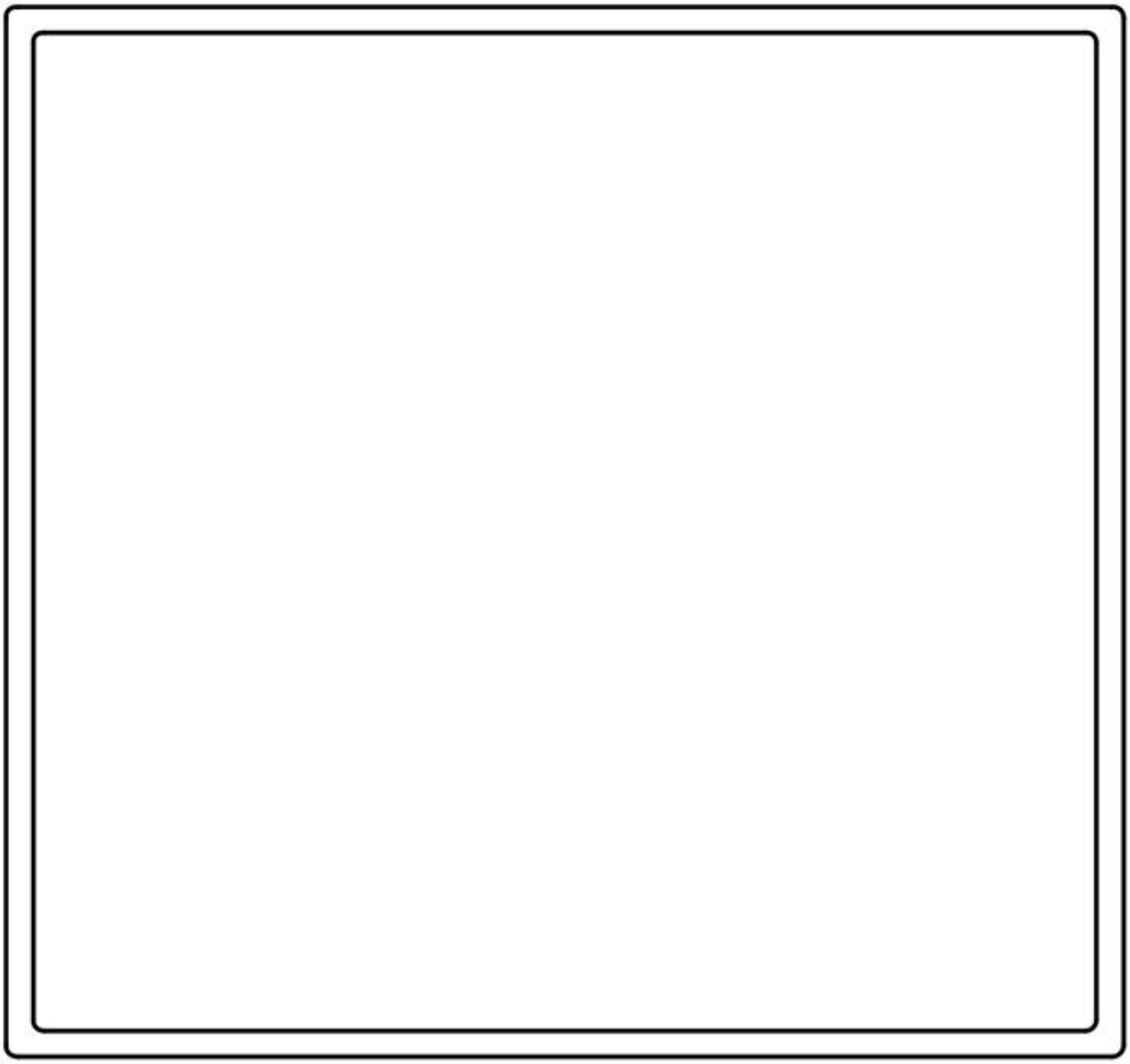

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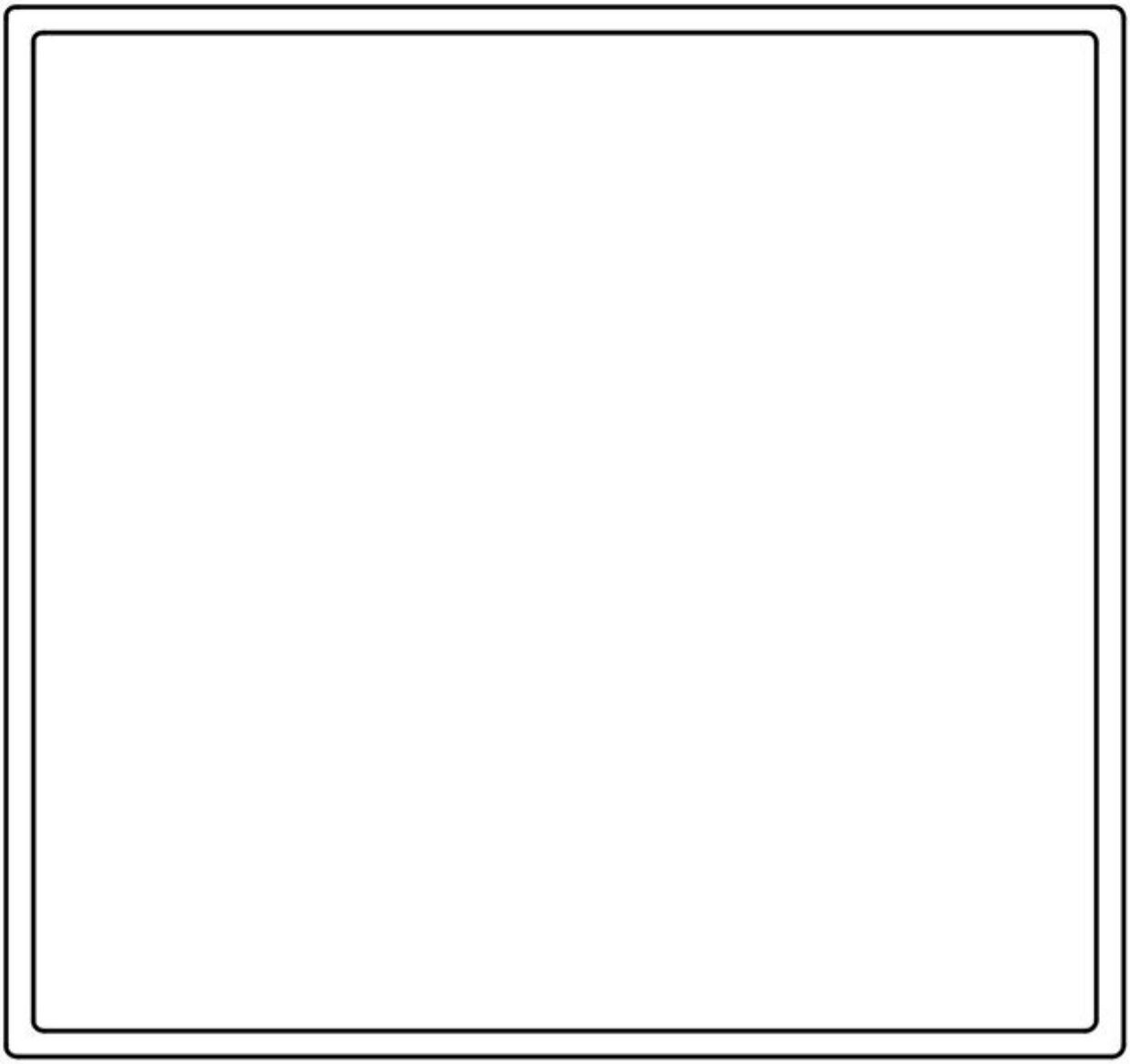

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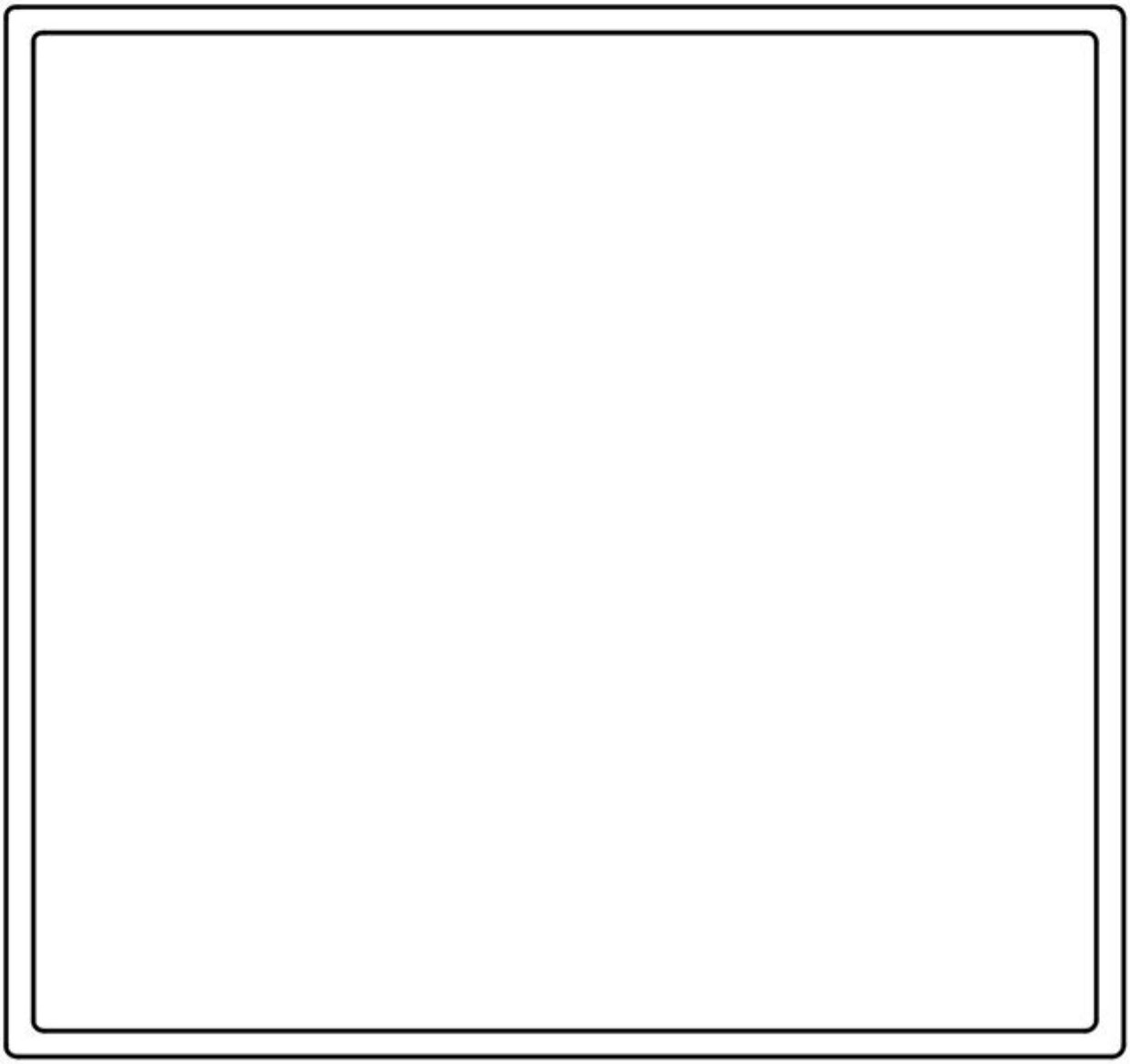

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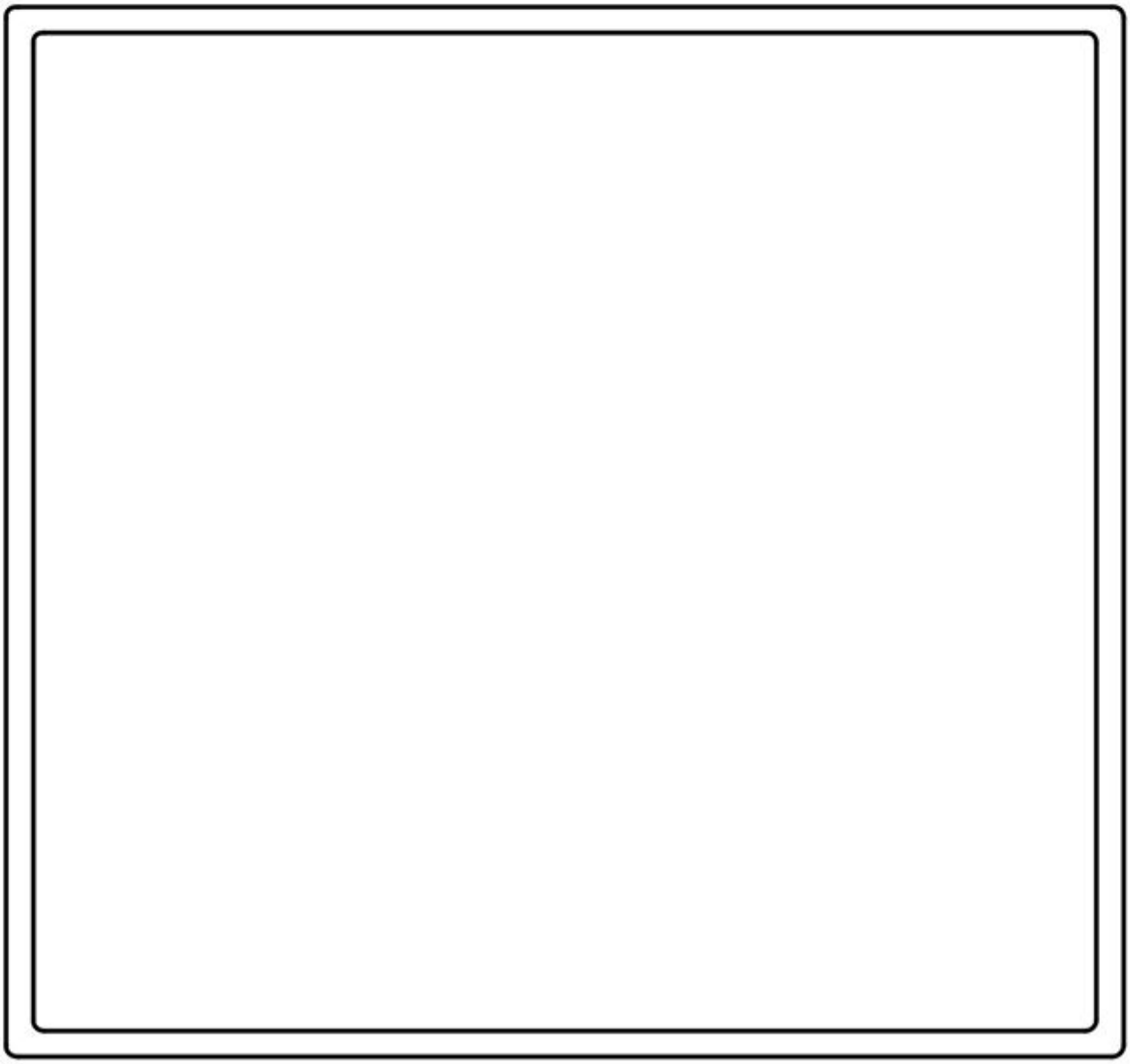

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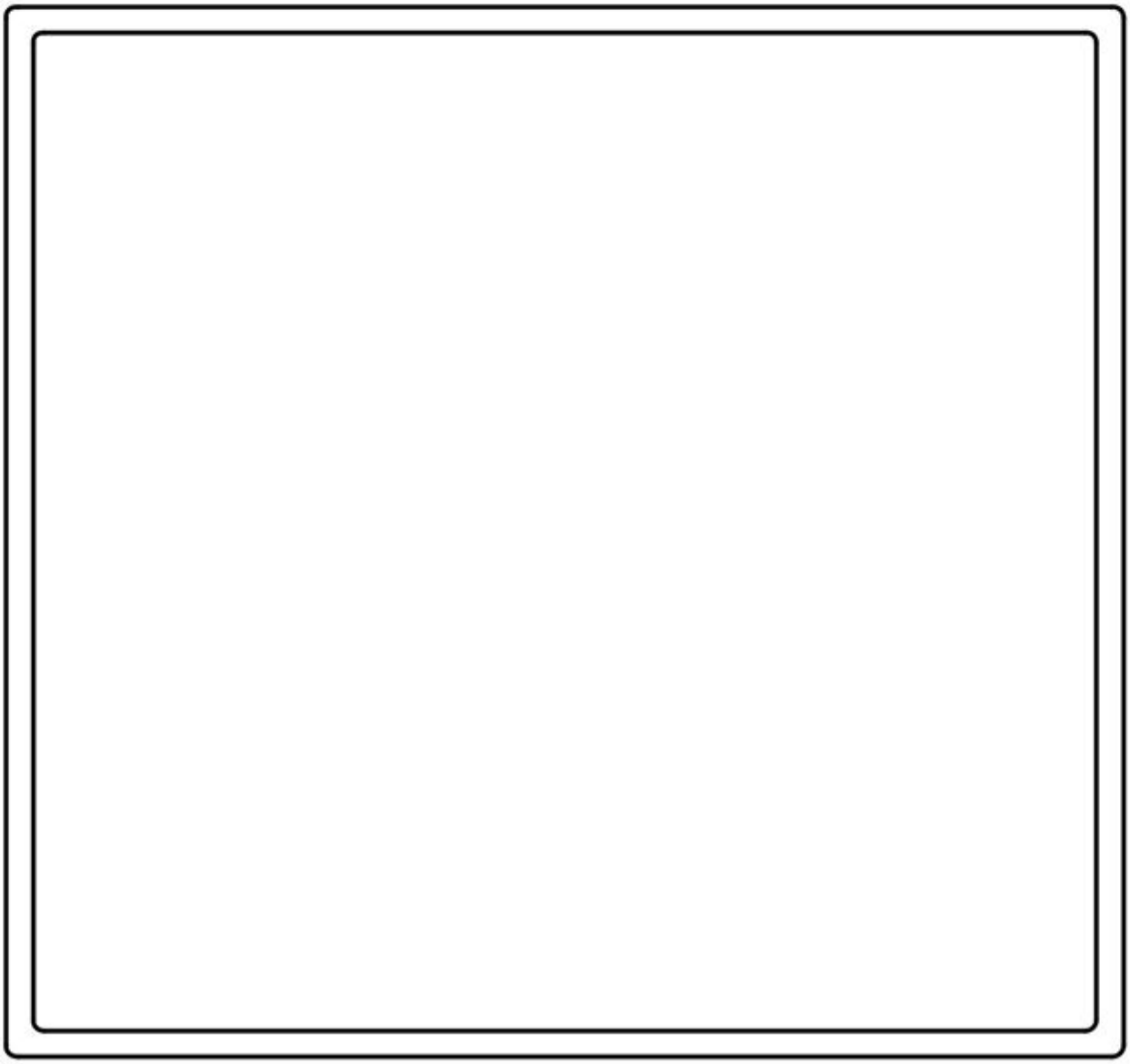

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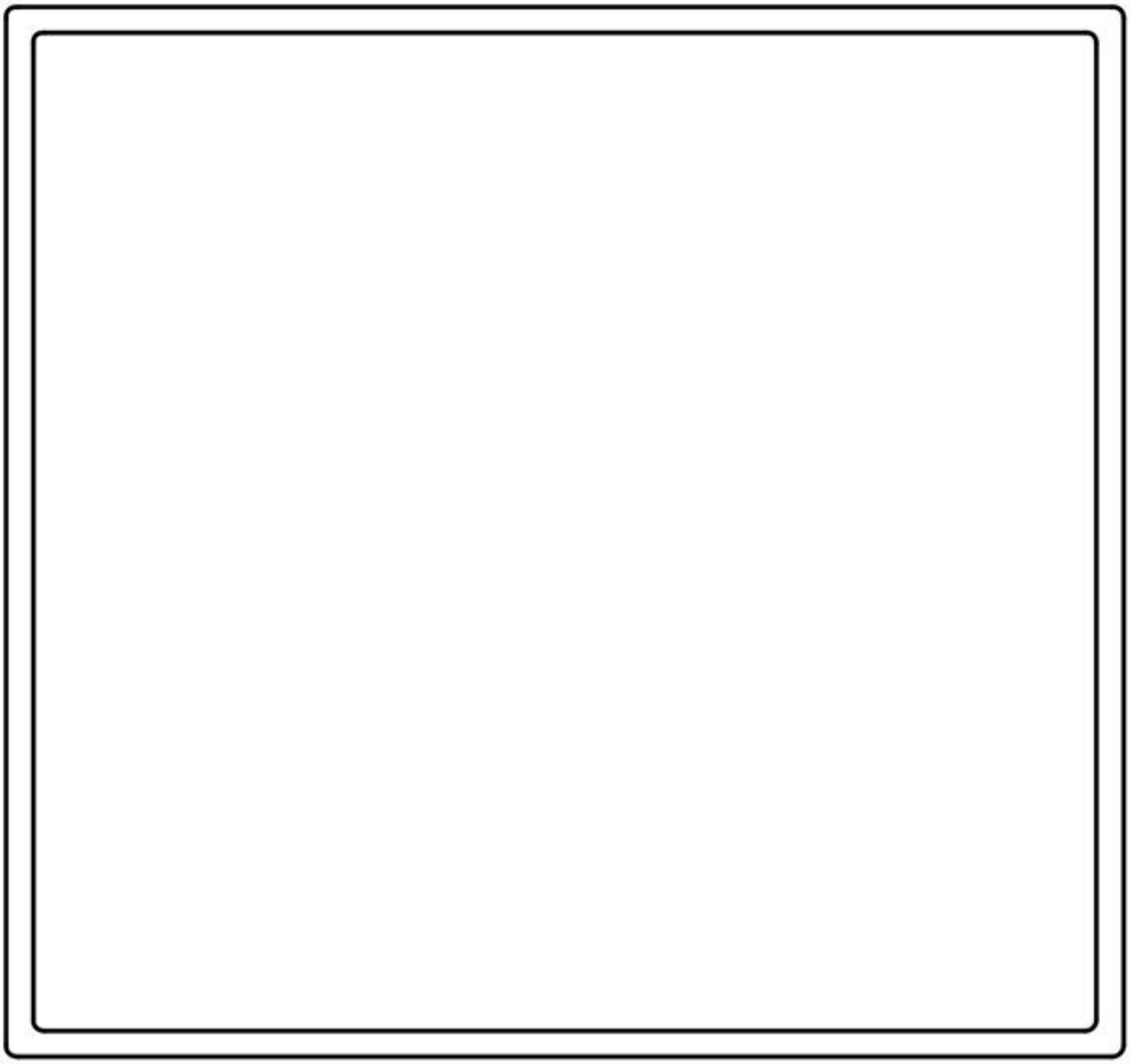

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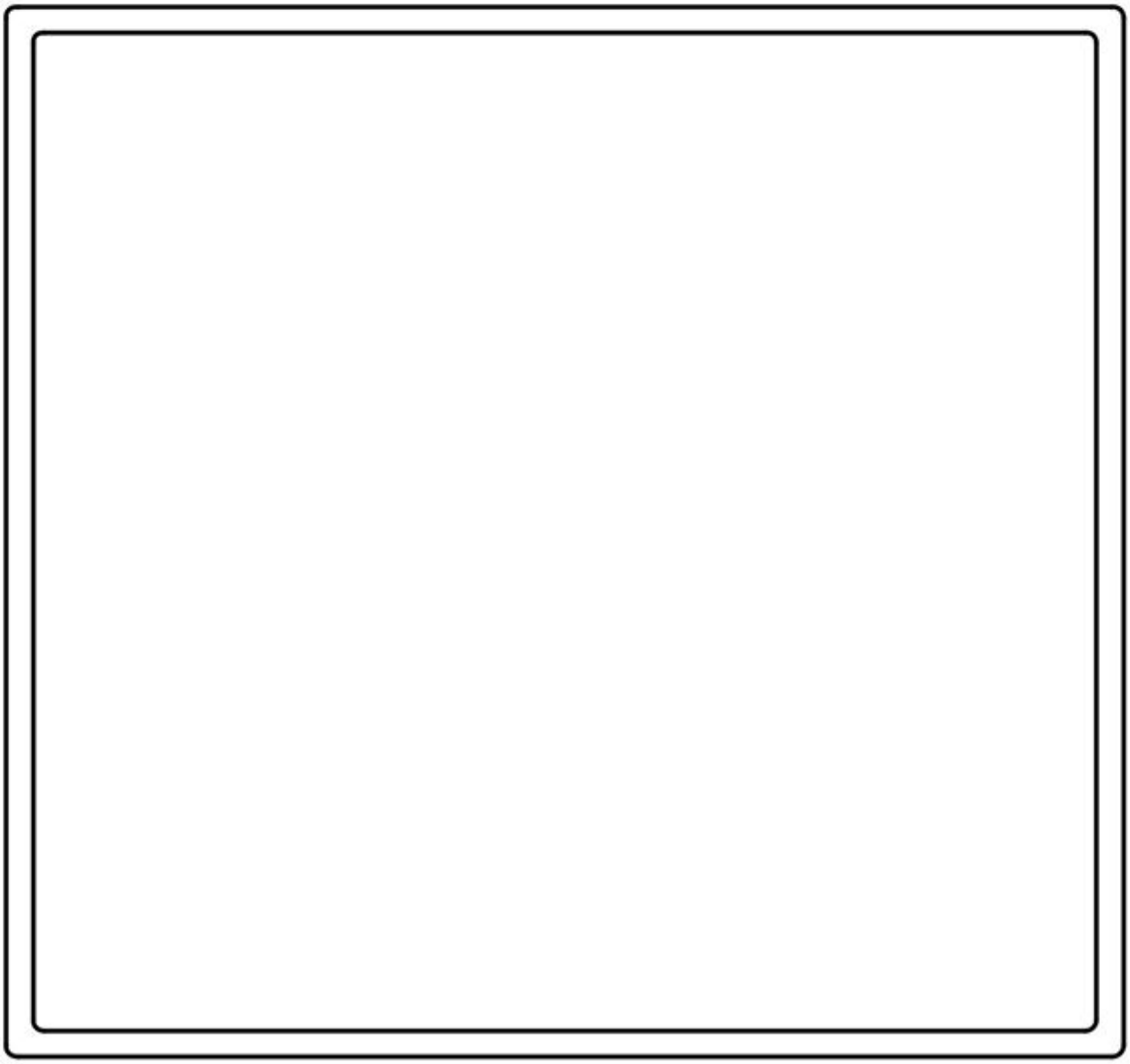

Unit 6 Lesson 10

Algorithms: Tangrams

Resources

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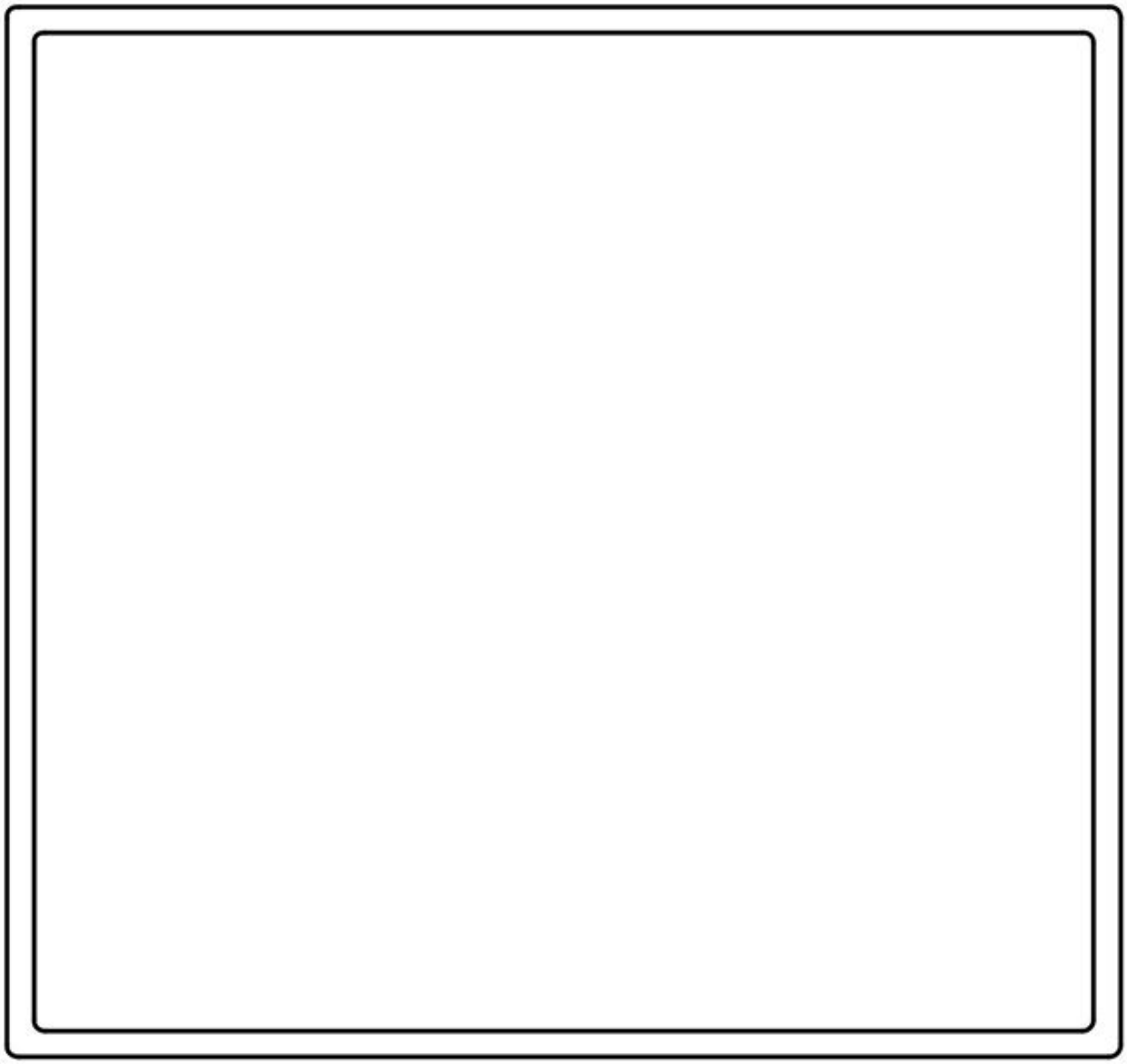

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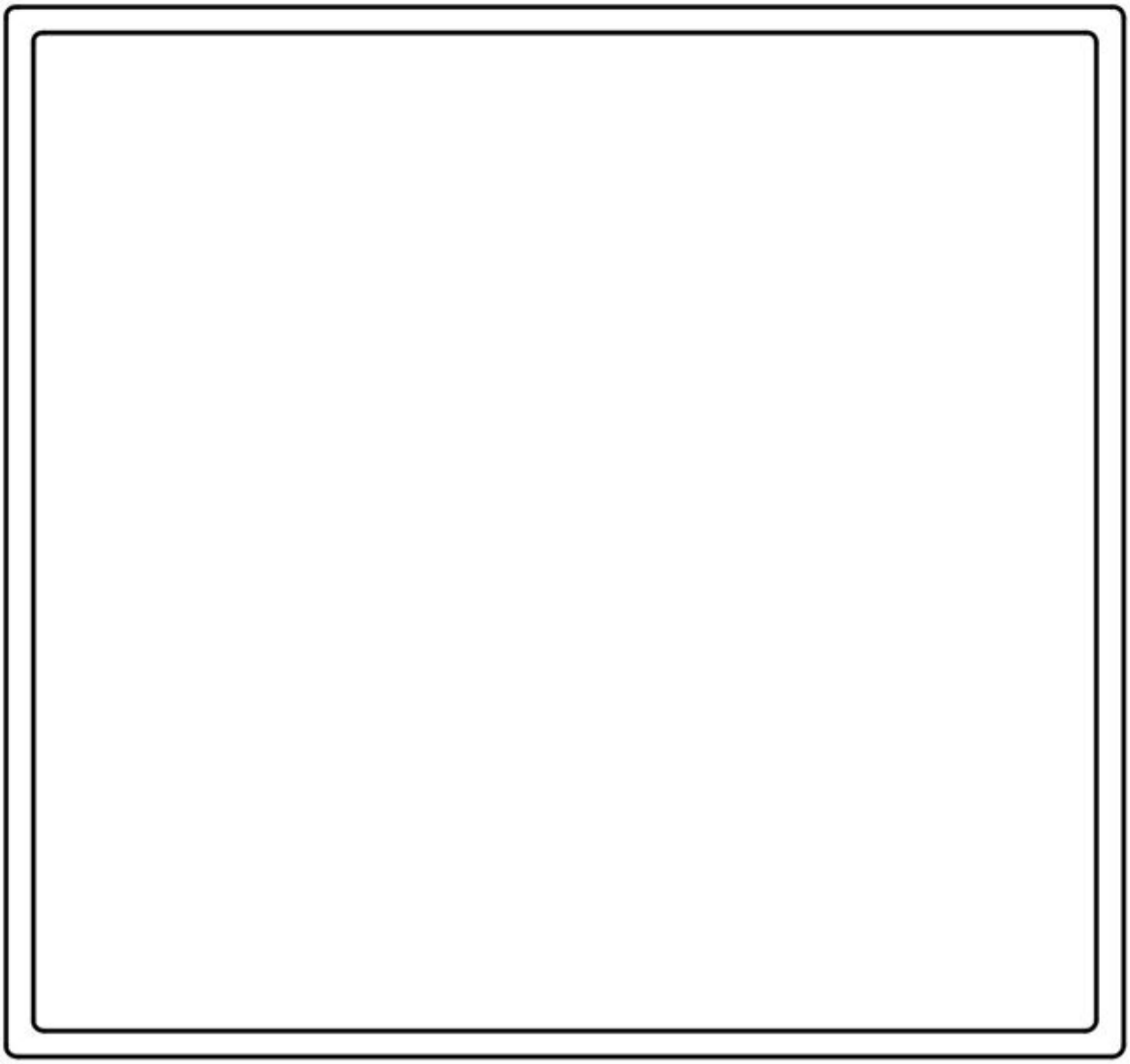

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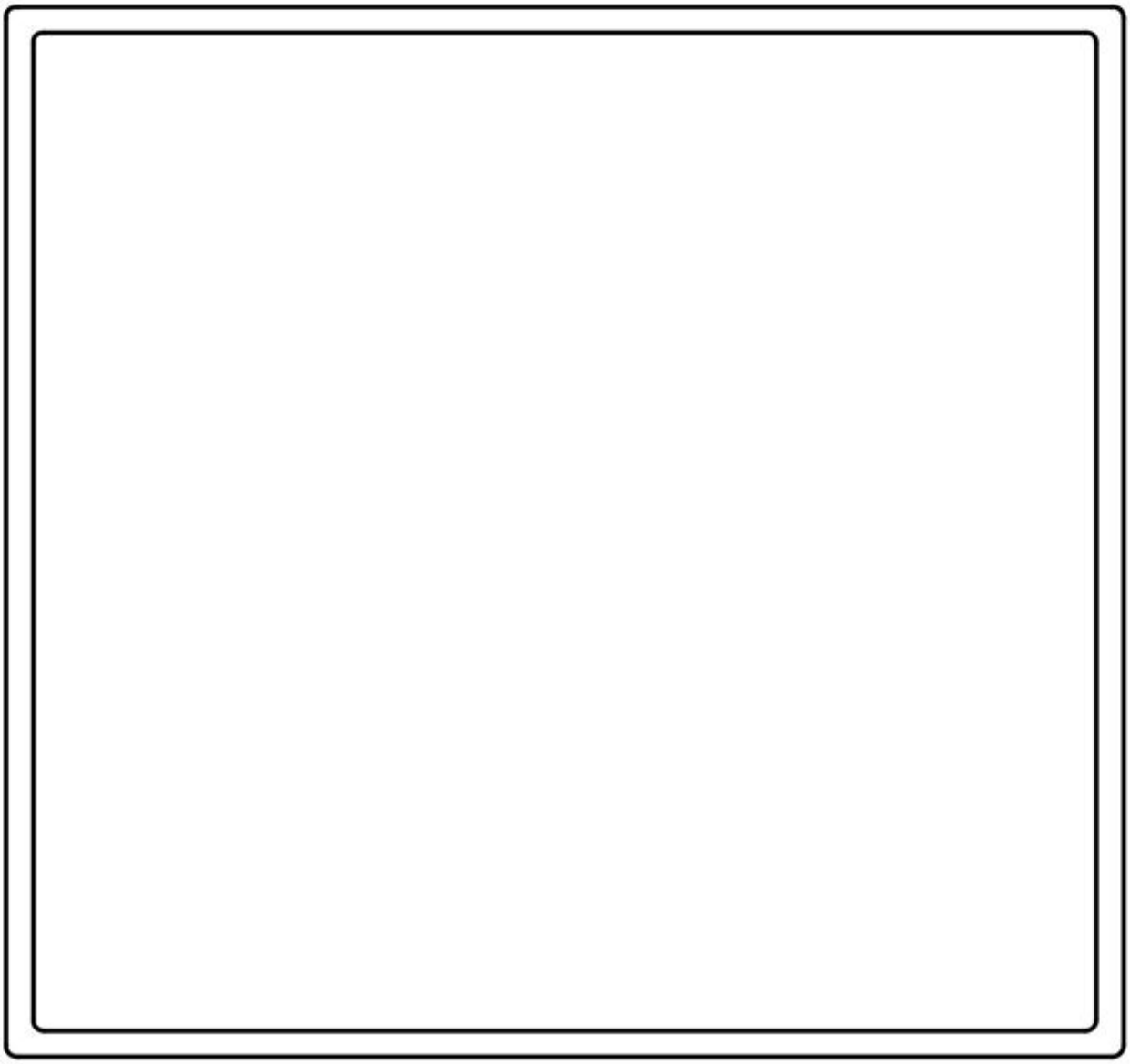

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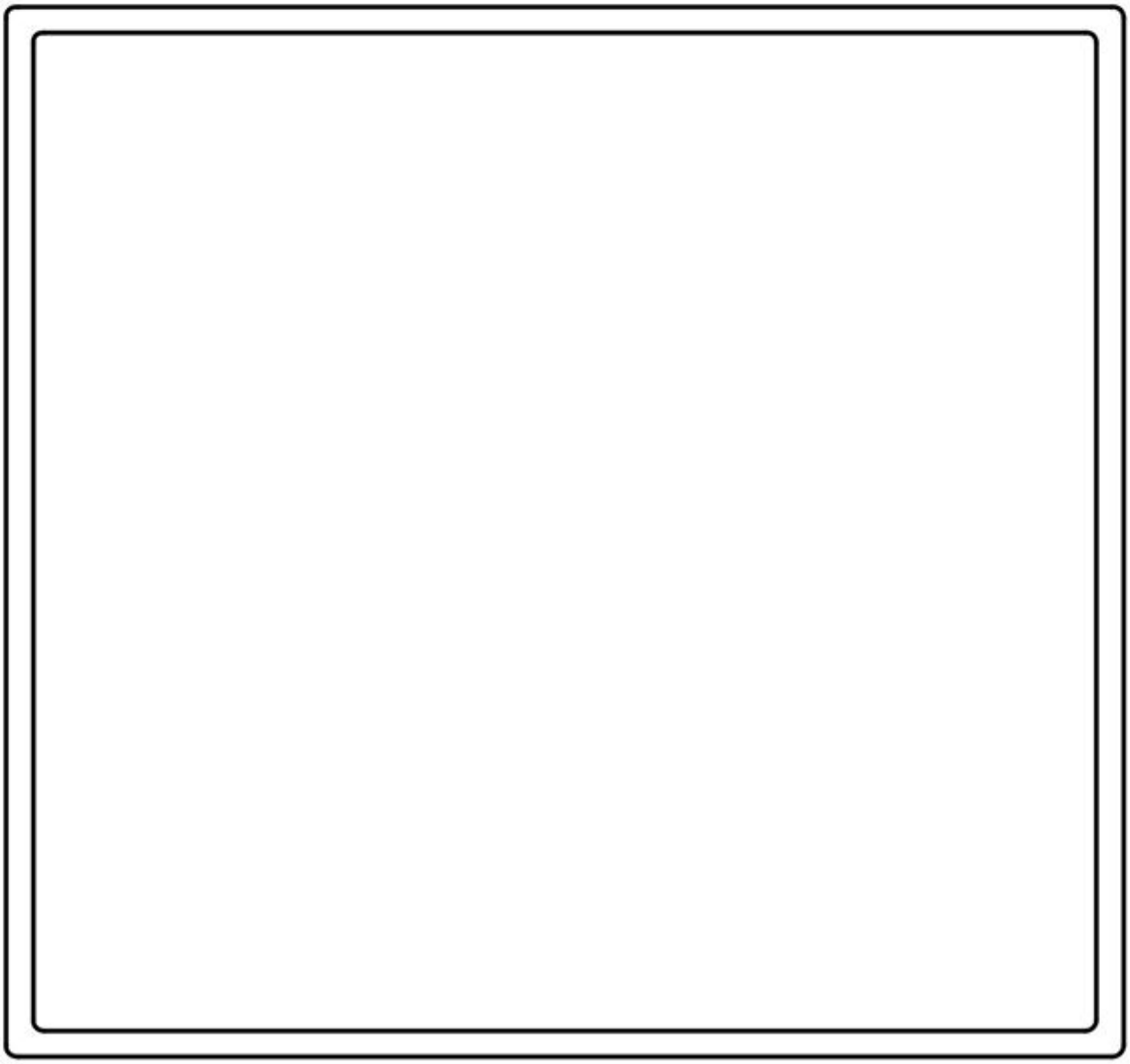

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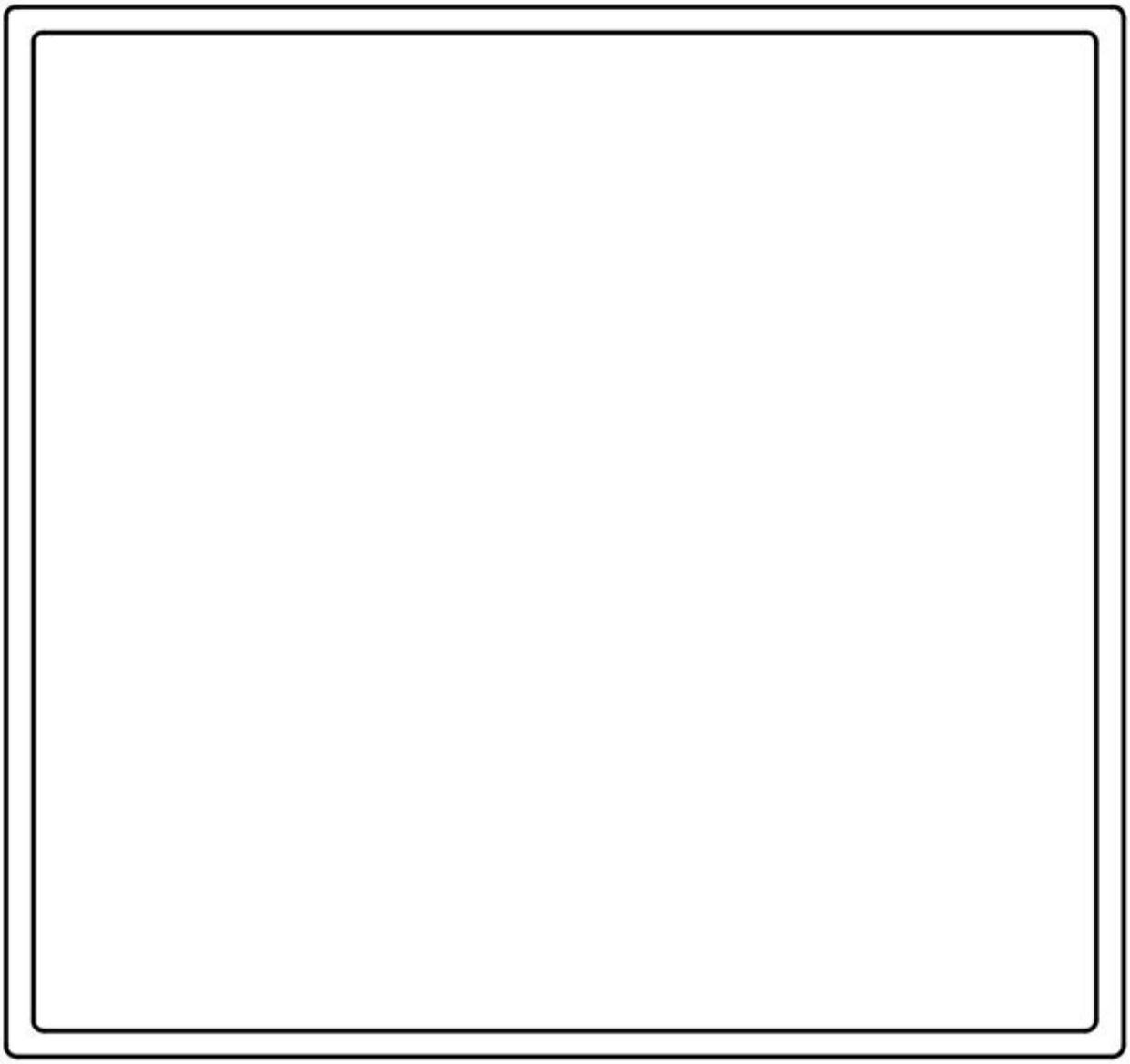

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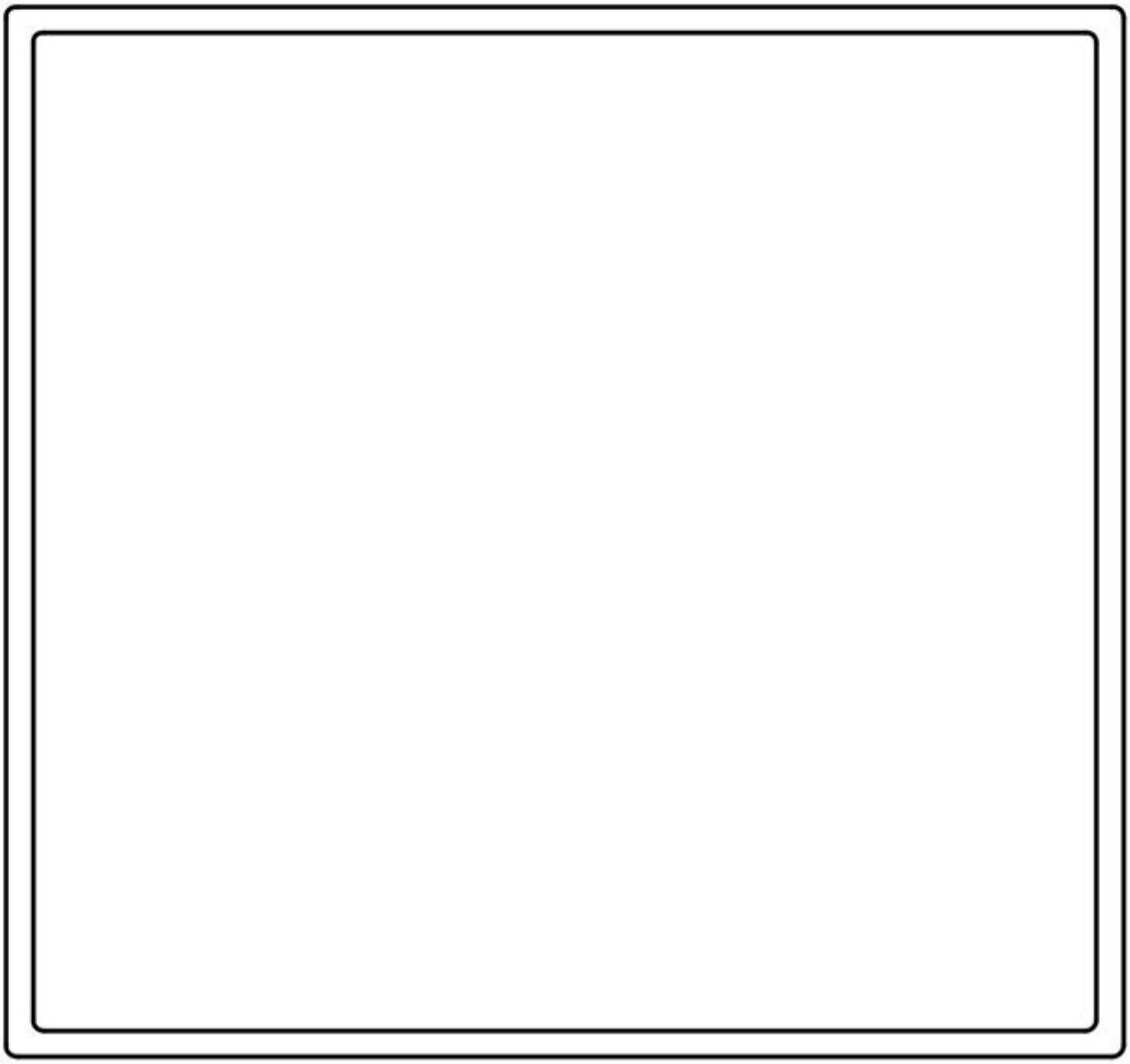

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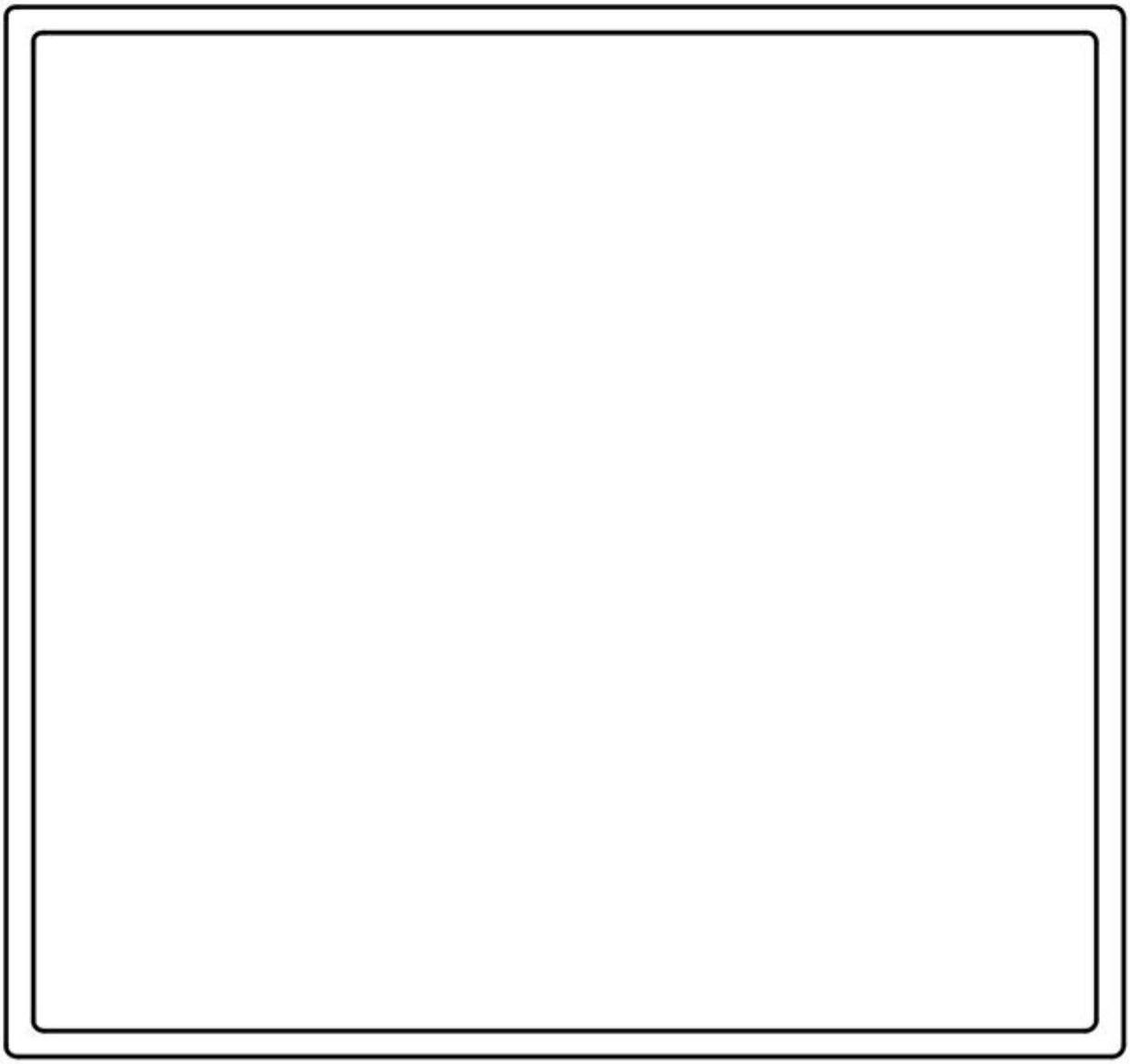

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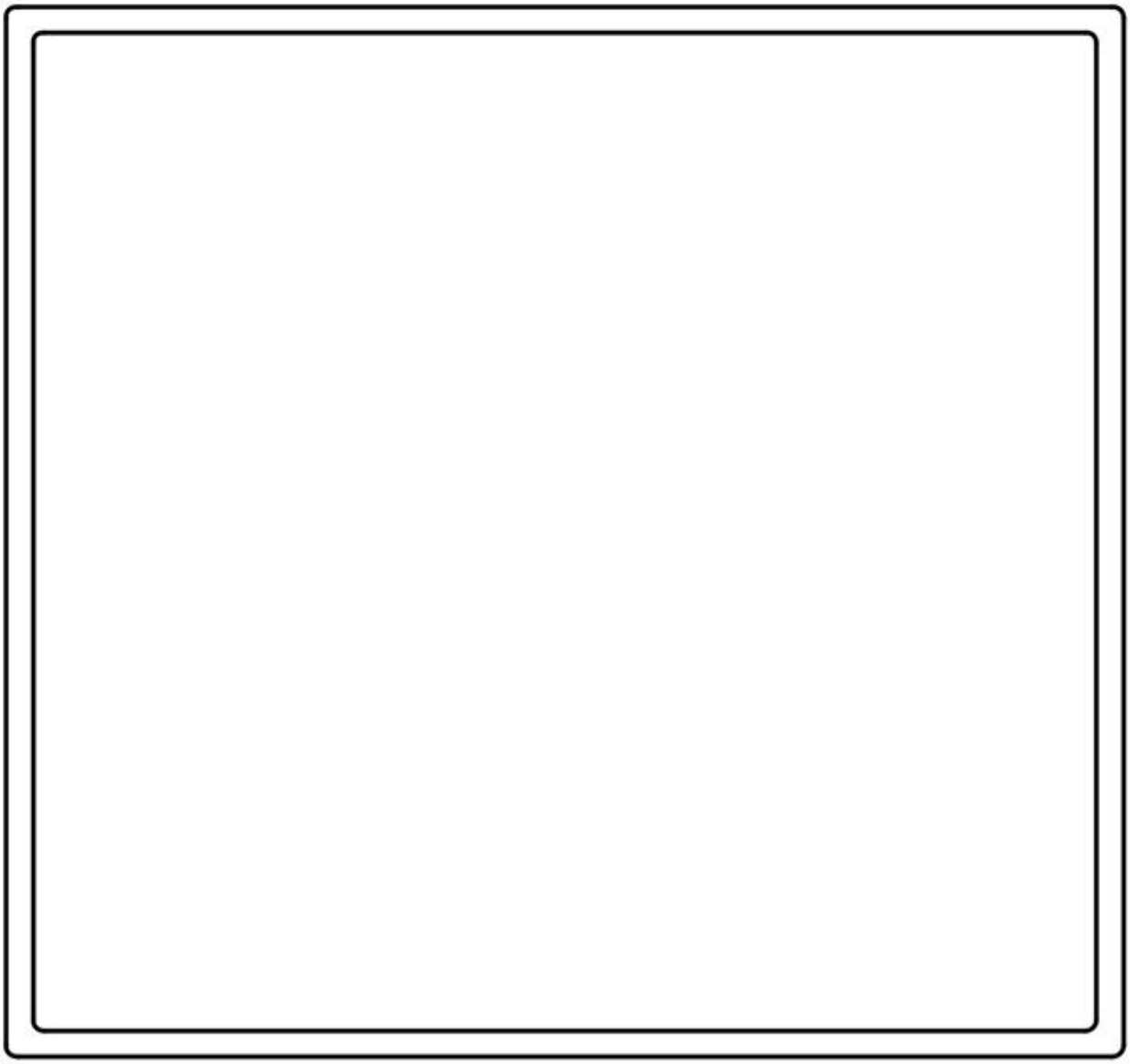

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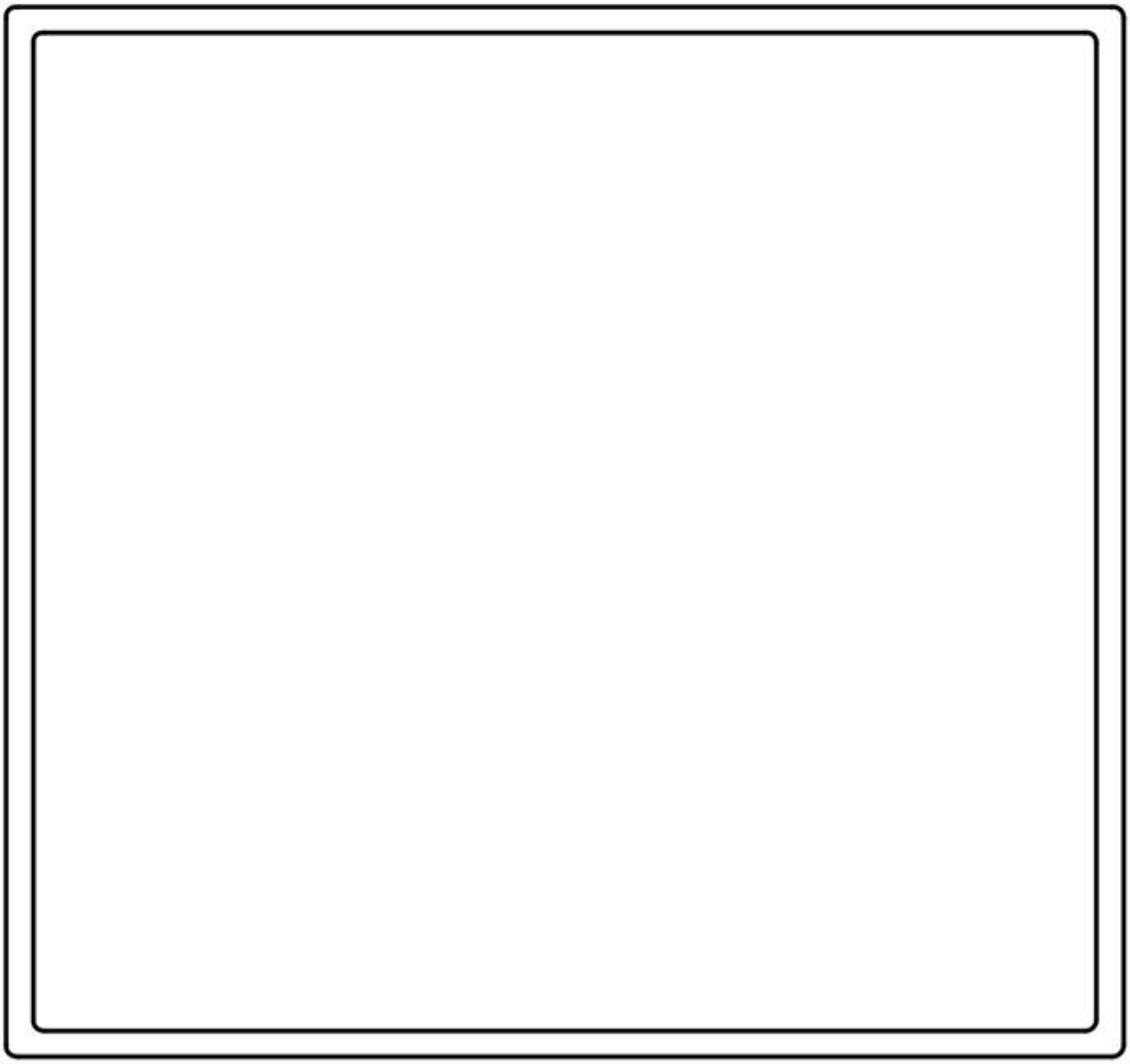

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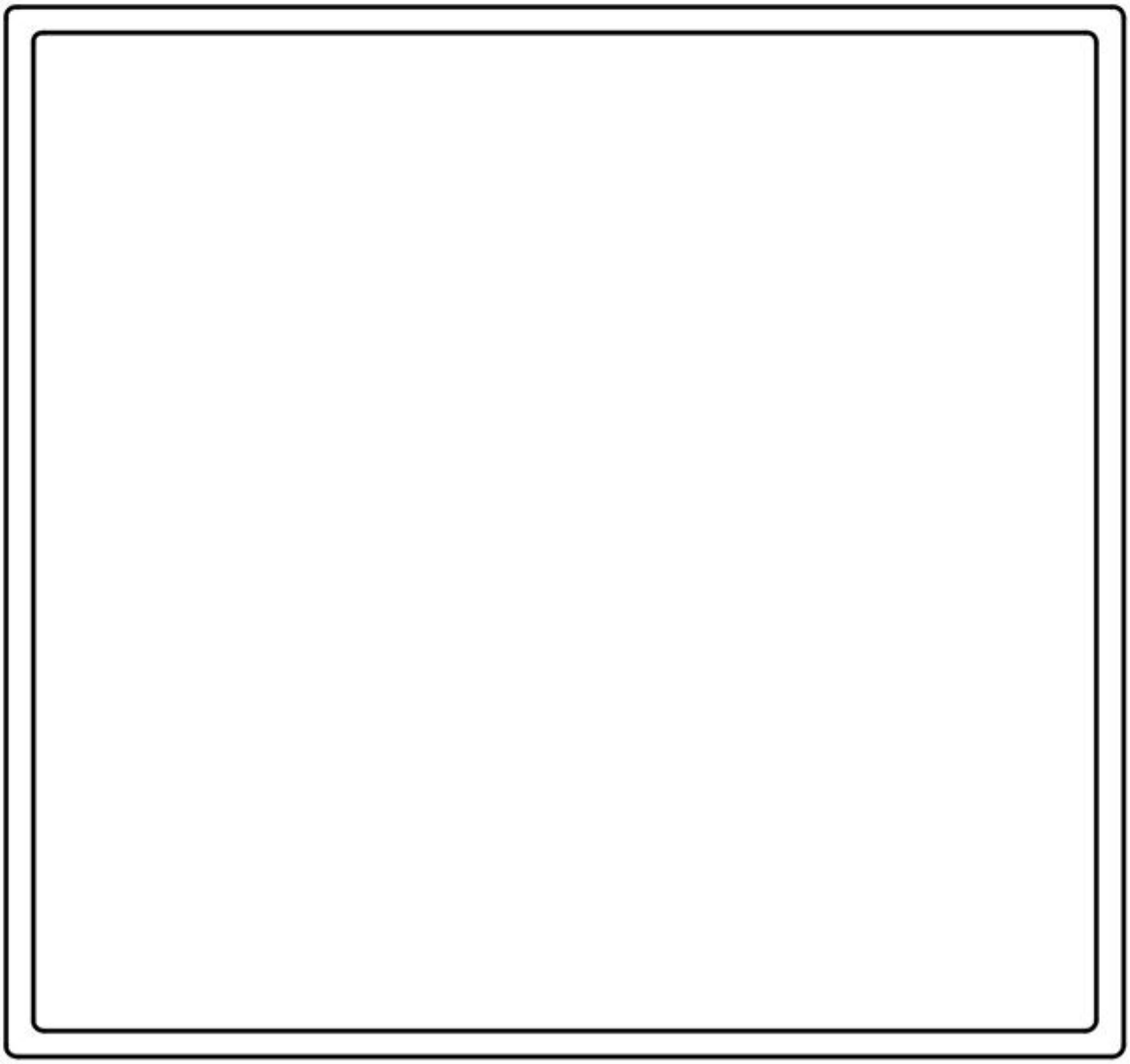

Unit 6 Lesson 11

Introduction to Online Puzzles

Resources

Main Activity Notes

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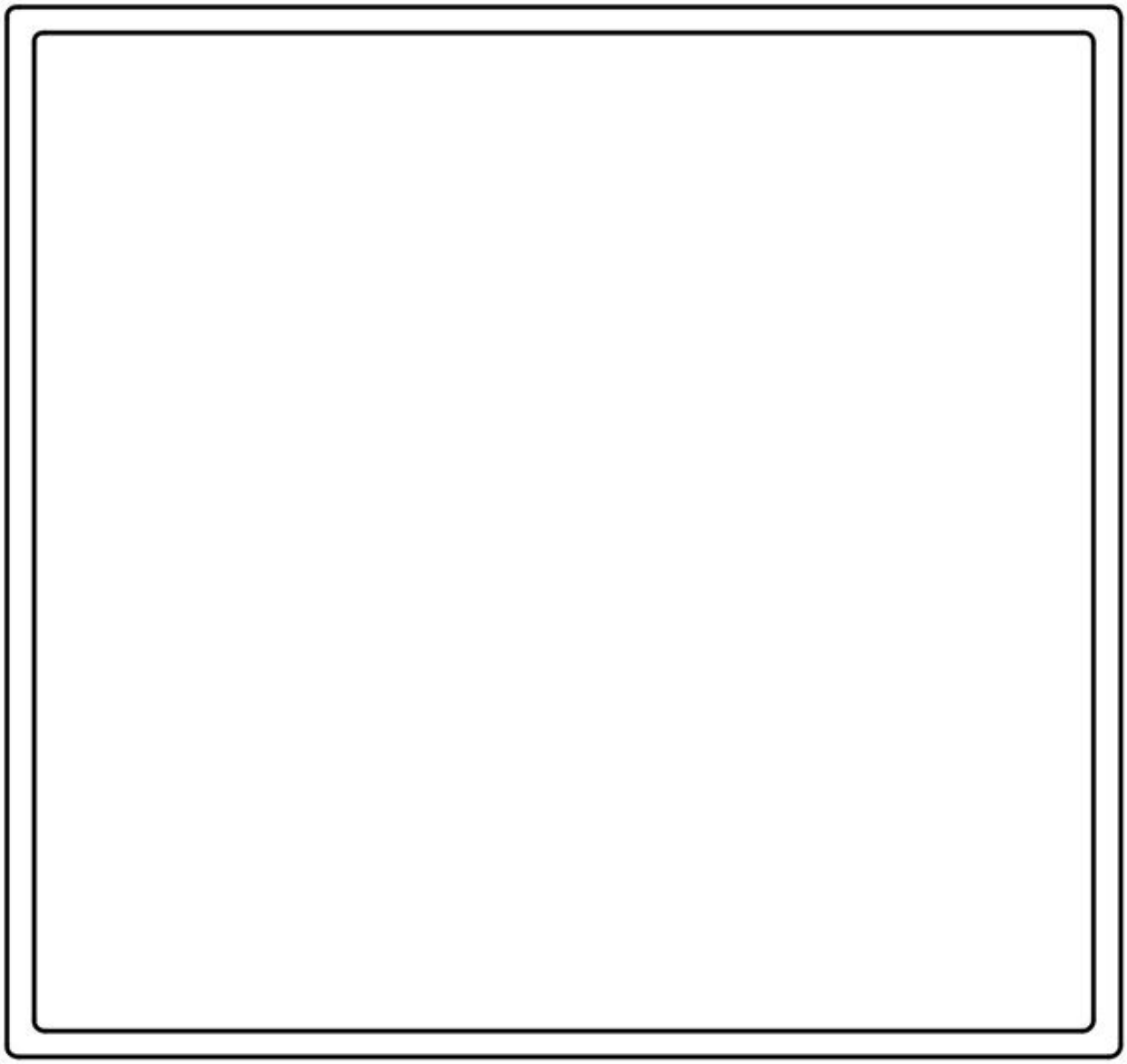

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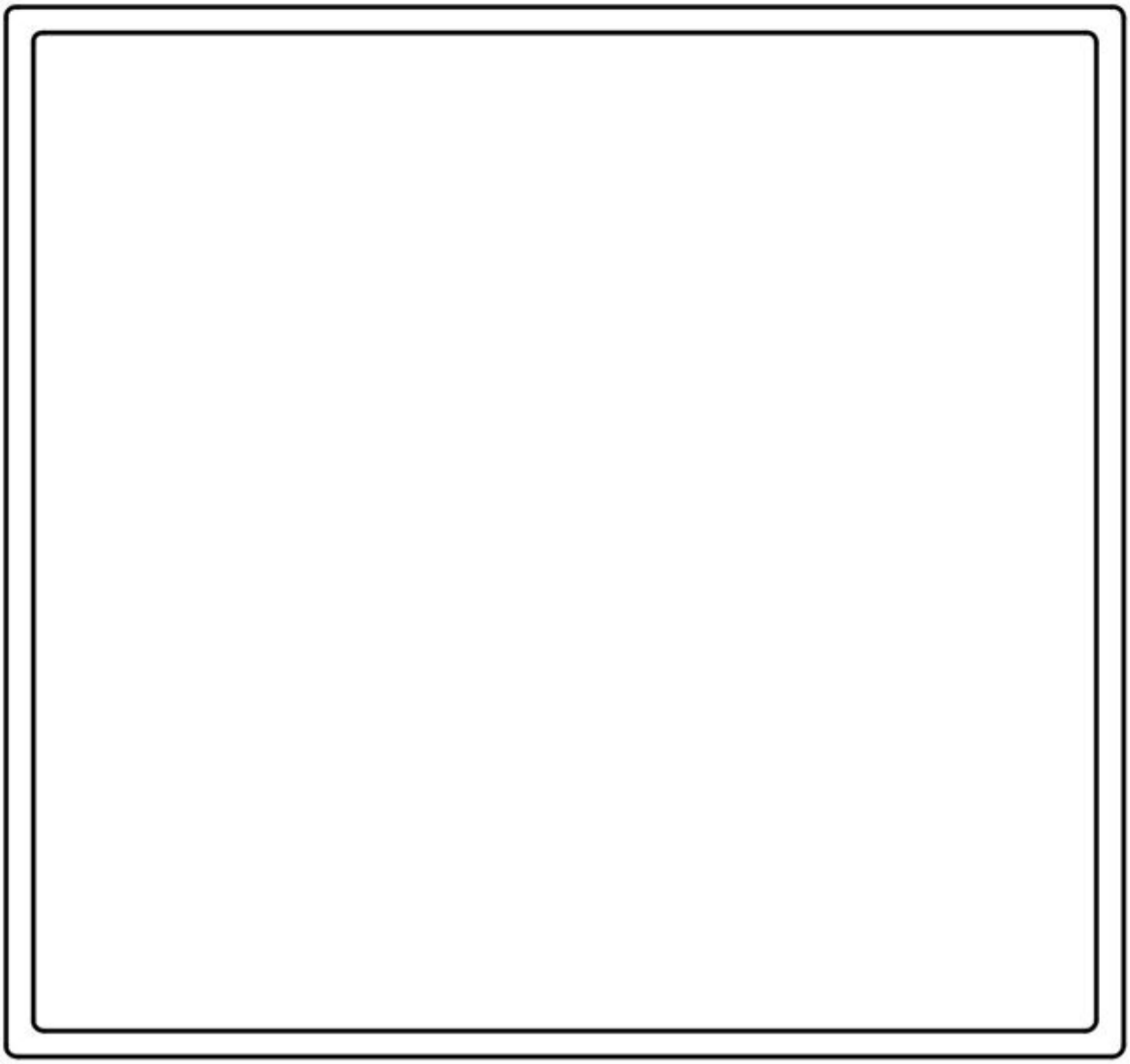

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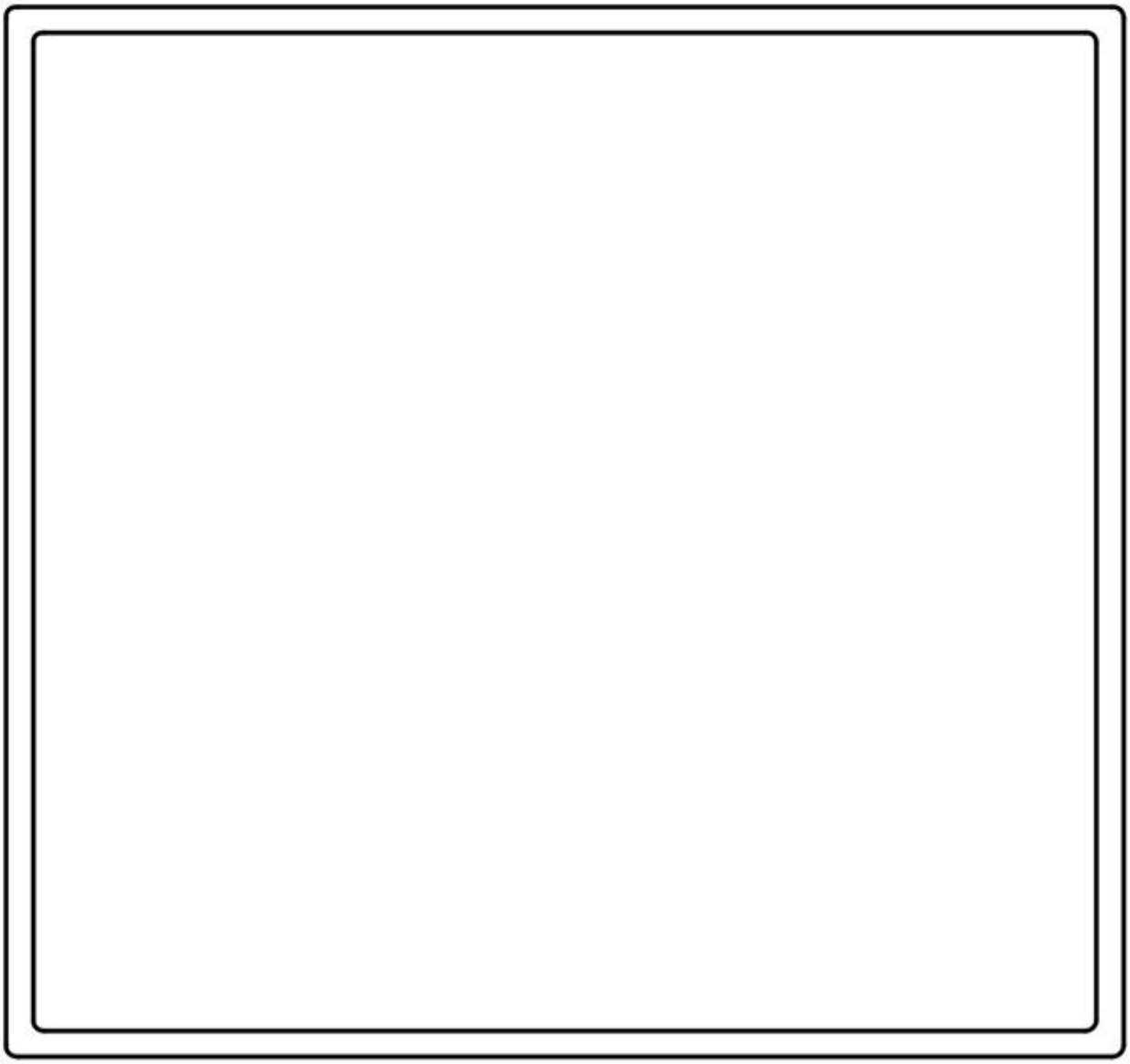

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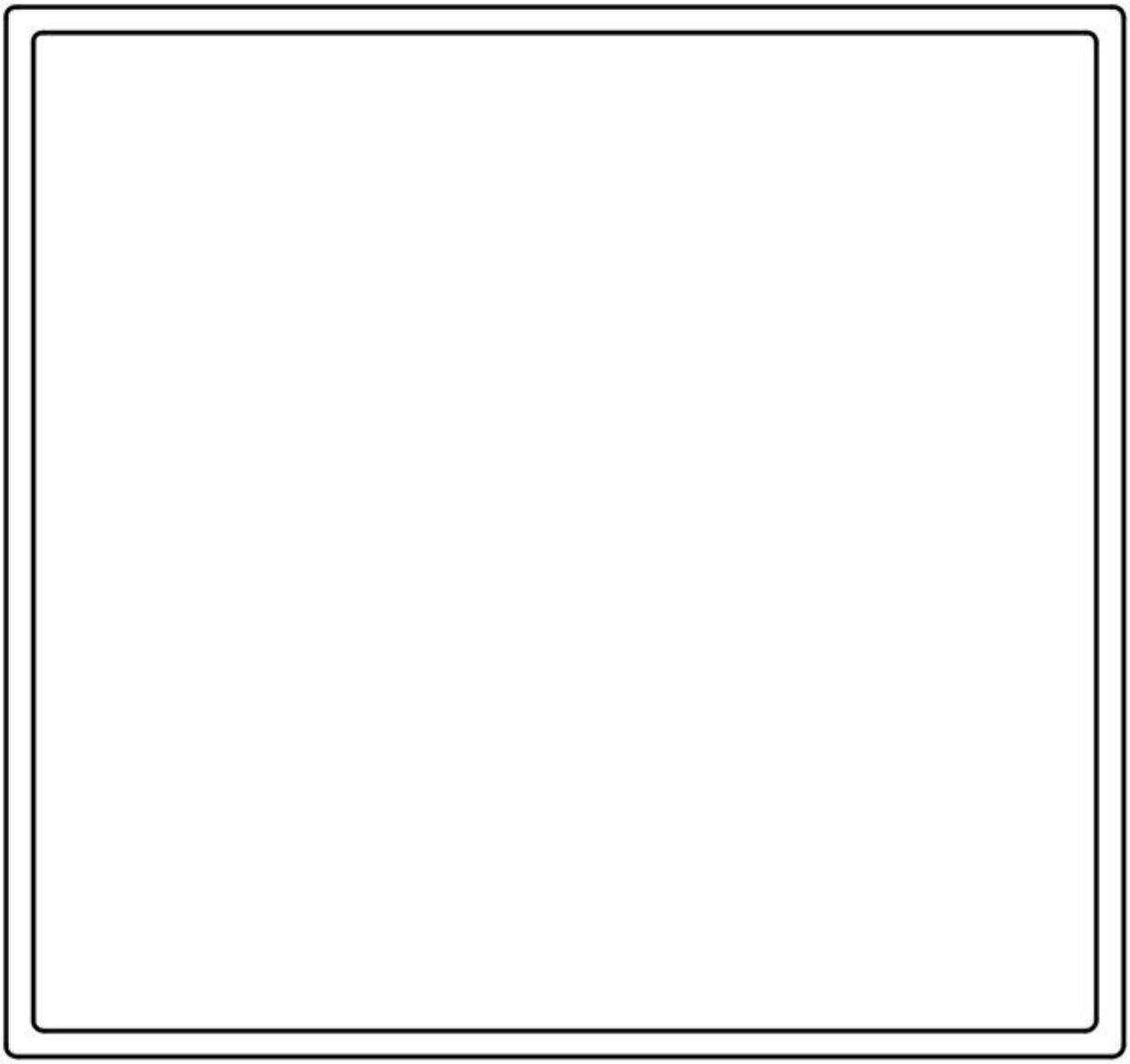

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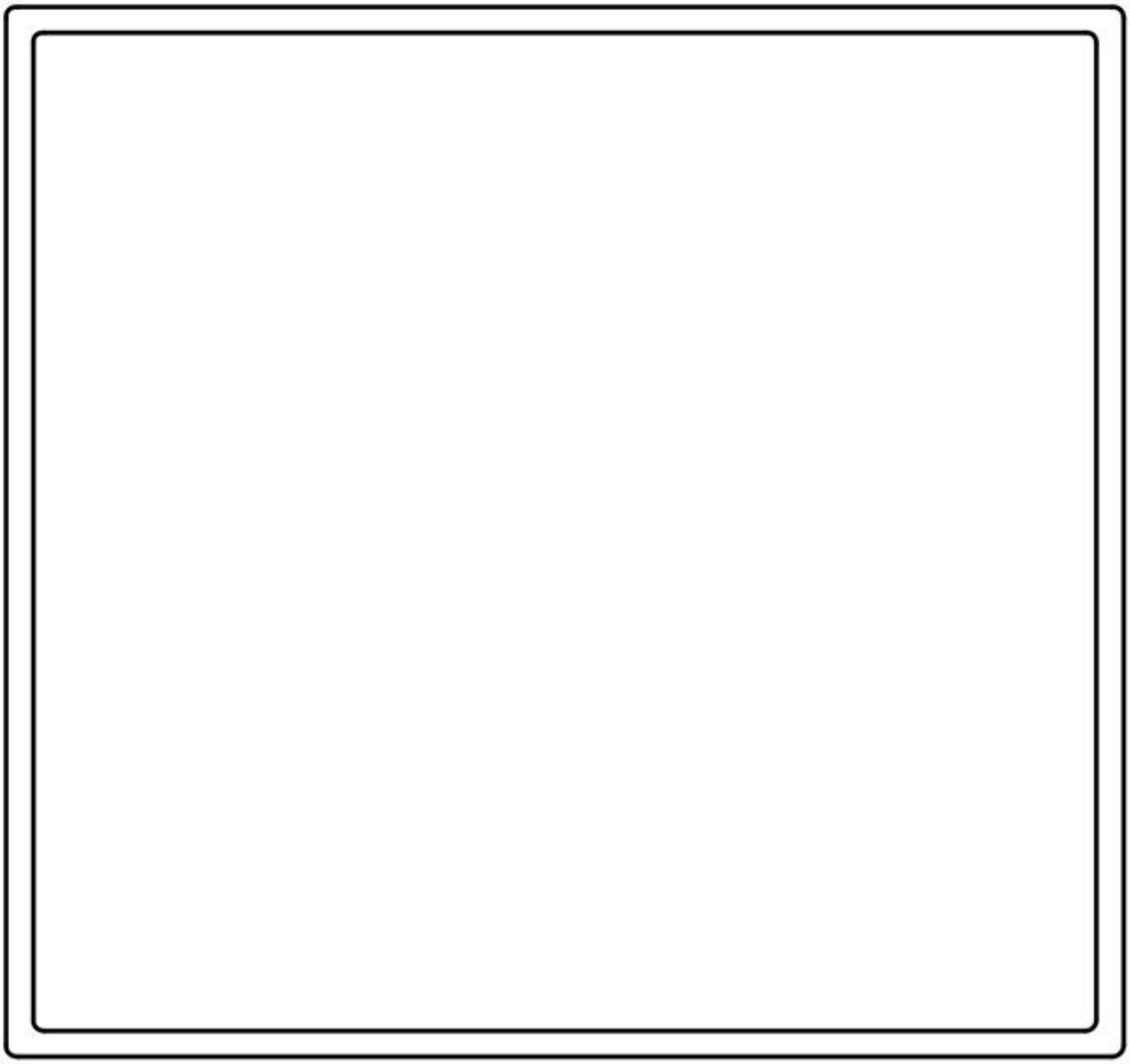

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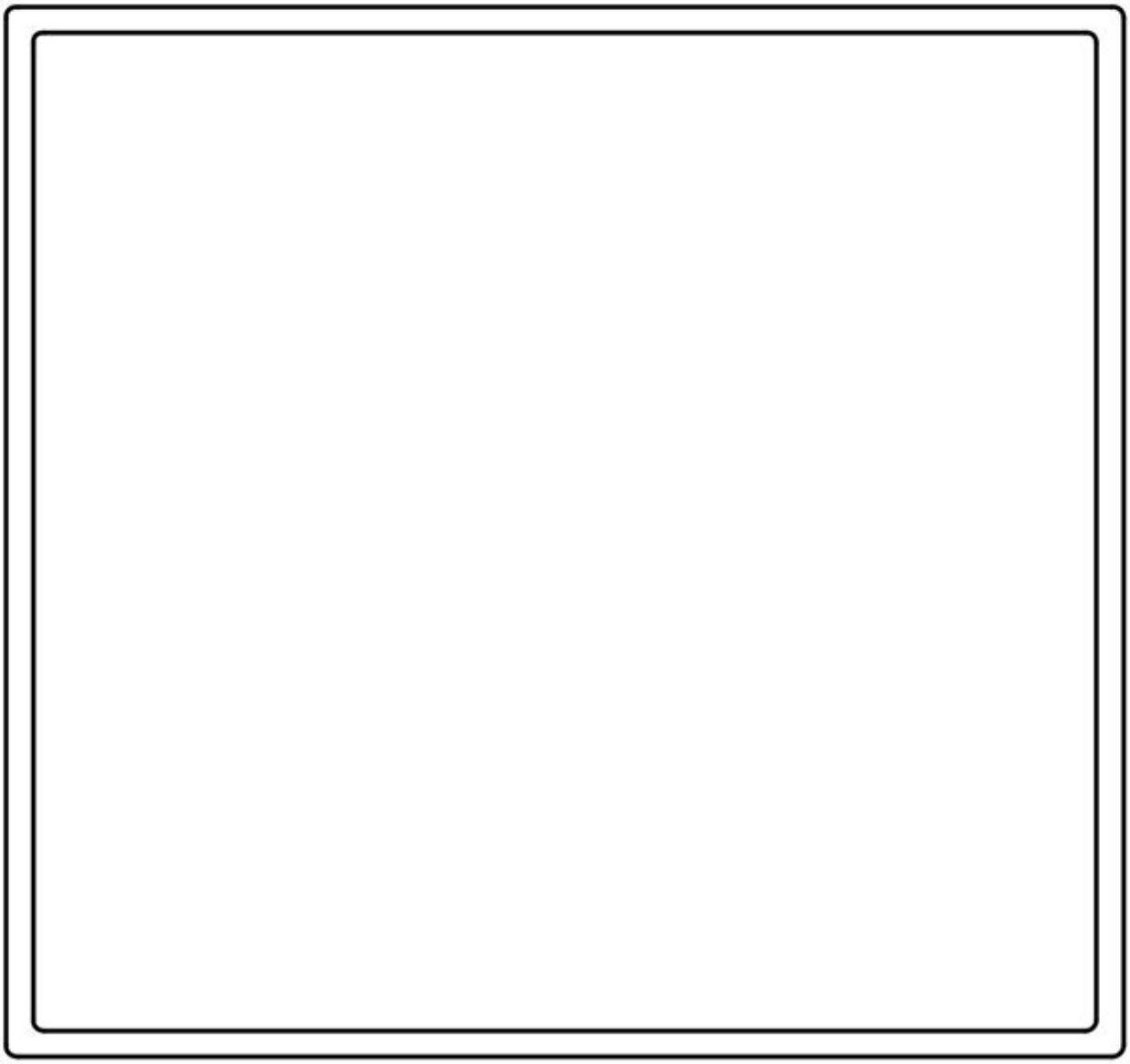

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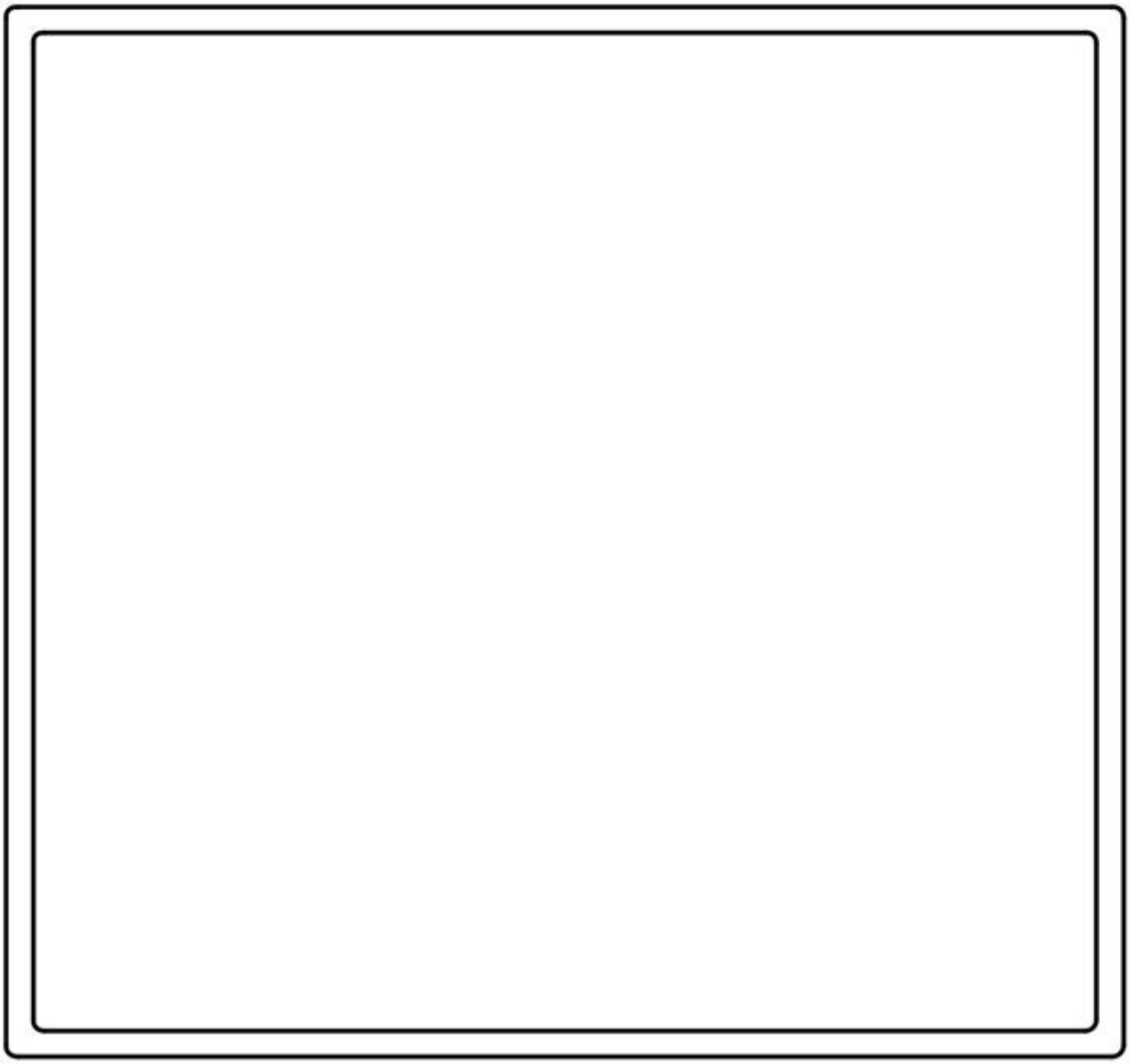

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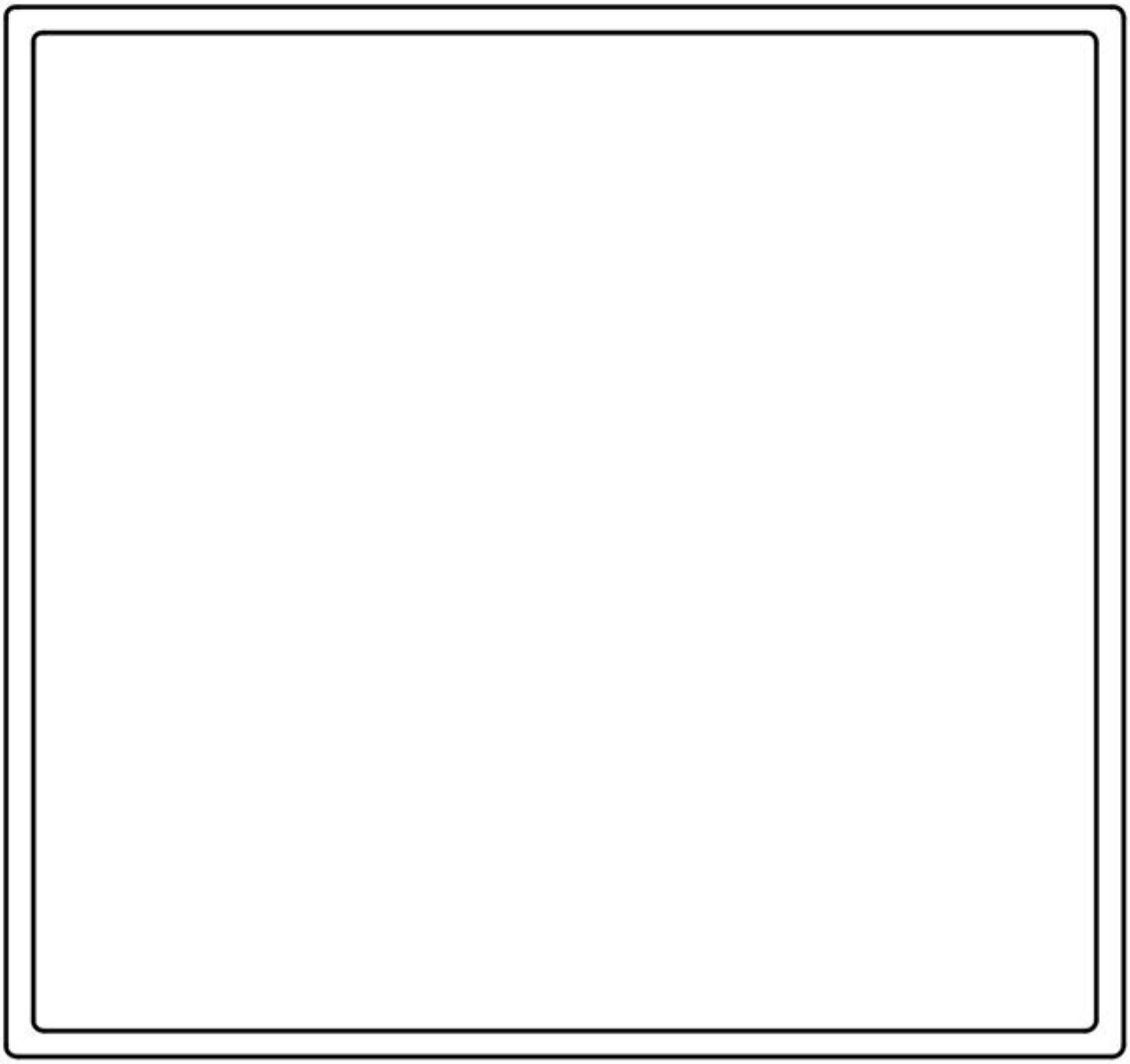

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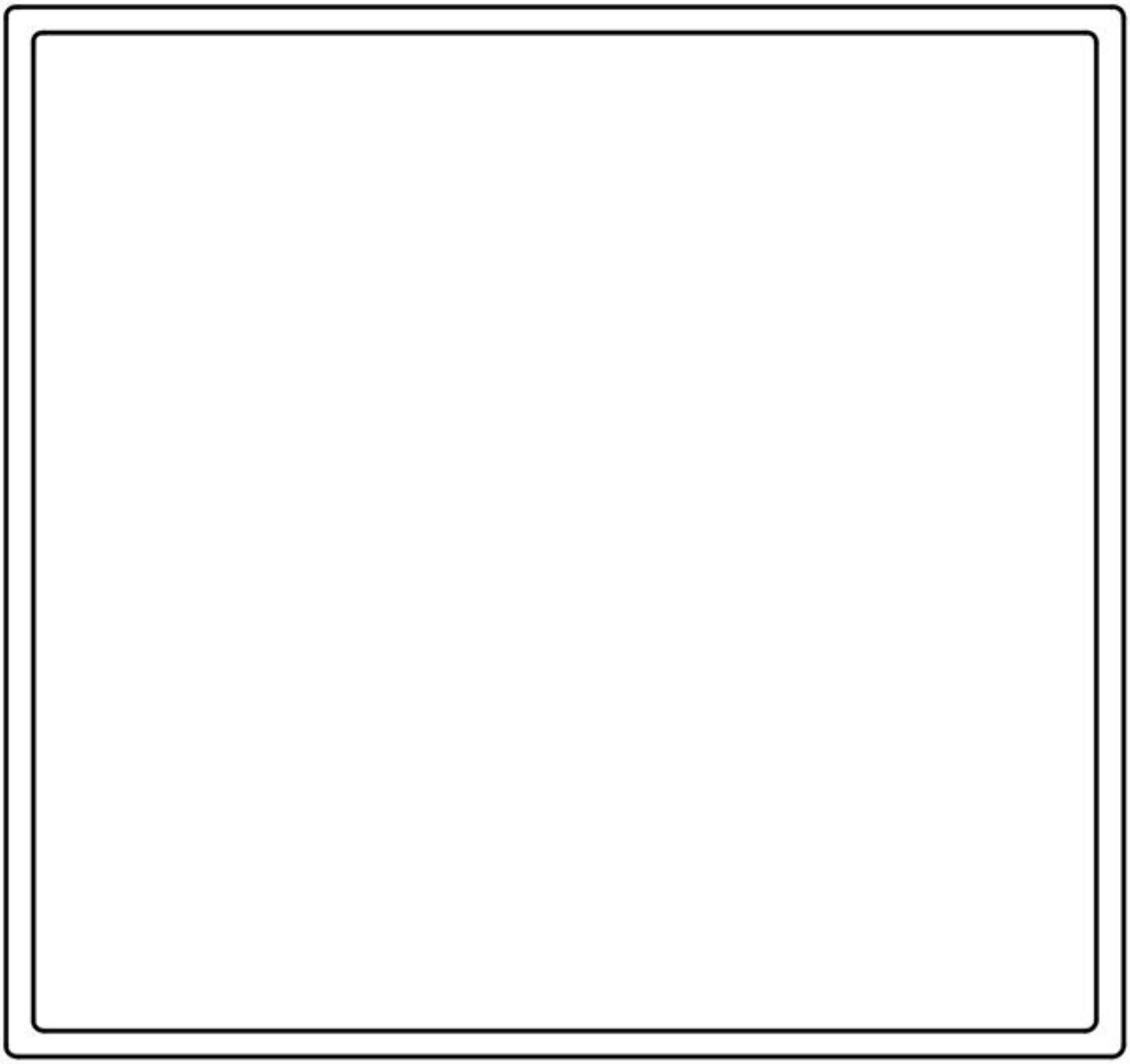

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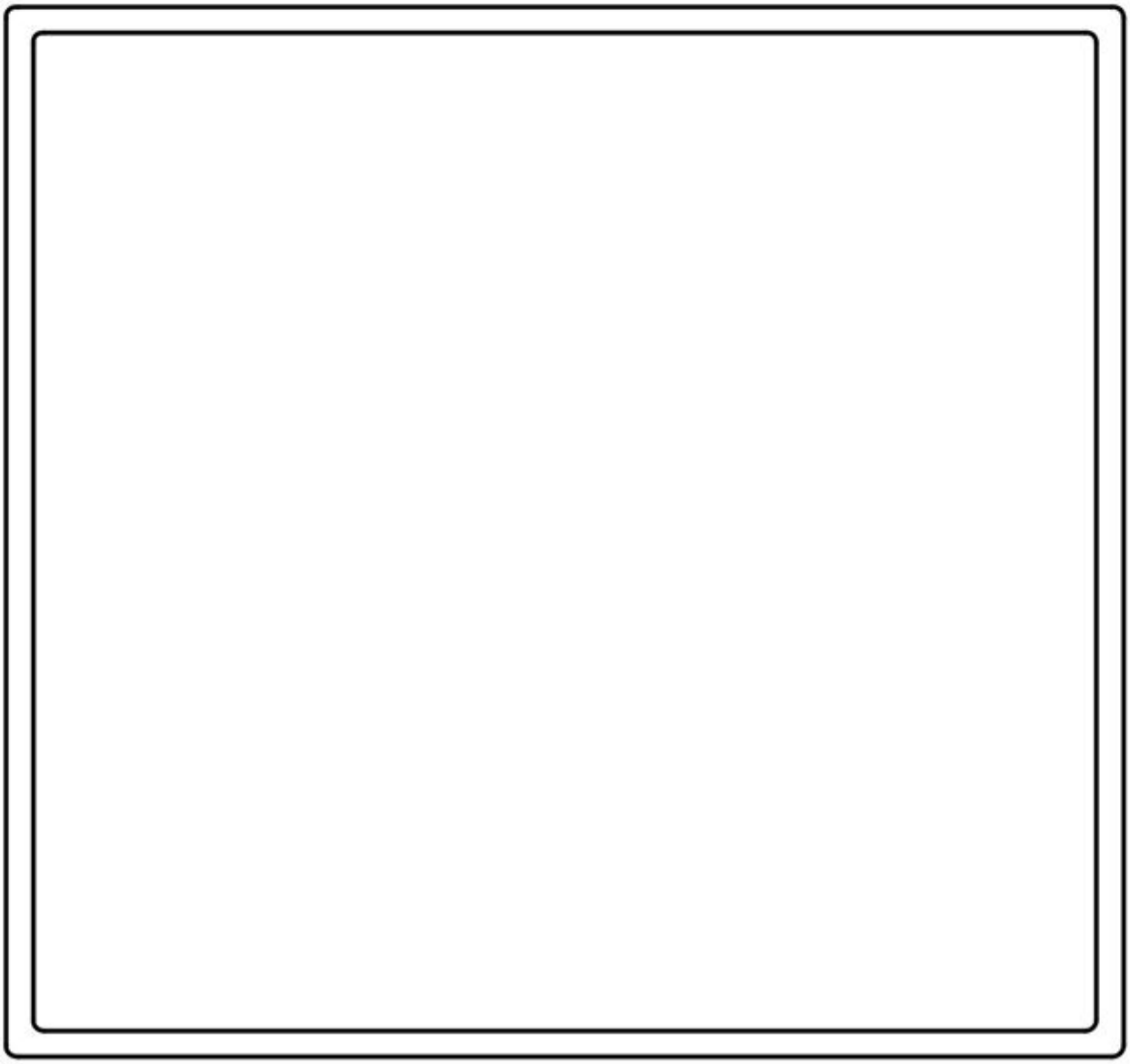

Unit 6 Lesson 12

Digital Citizenship

Resources

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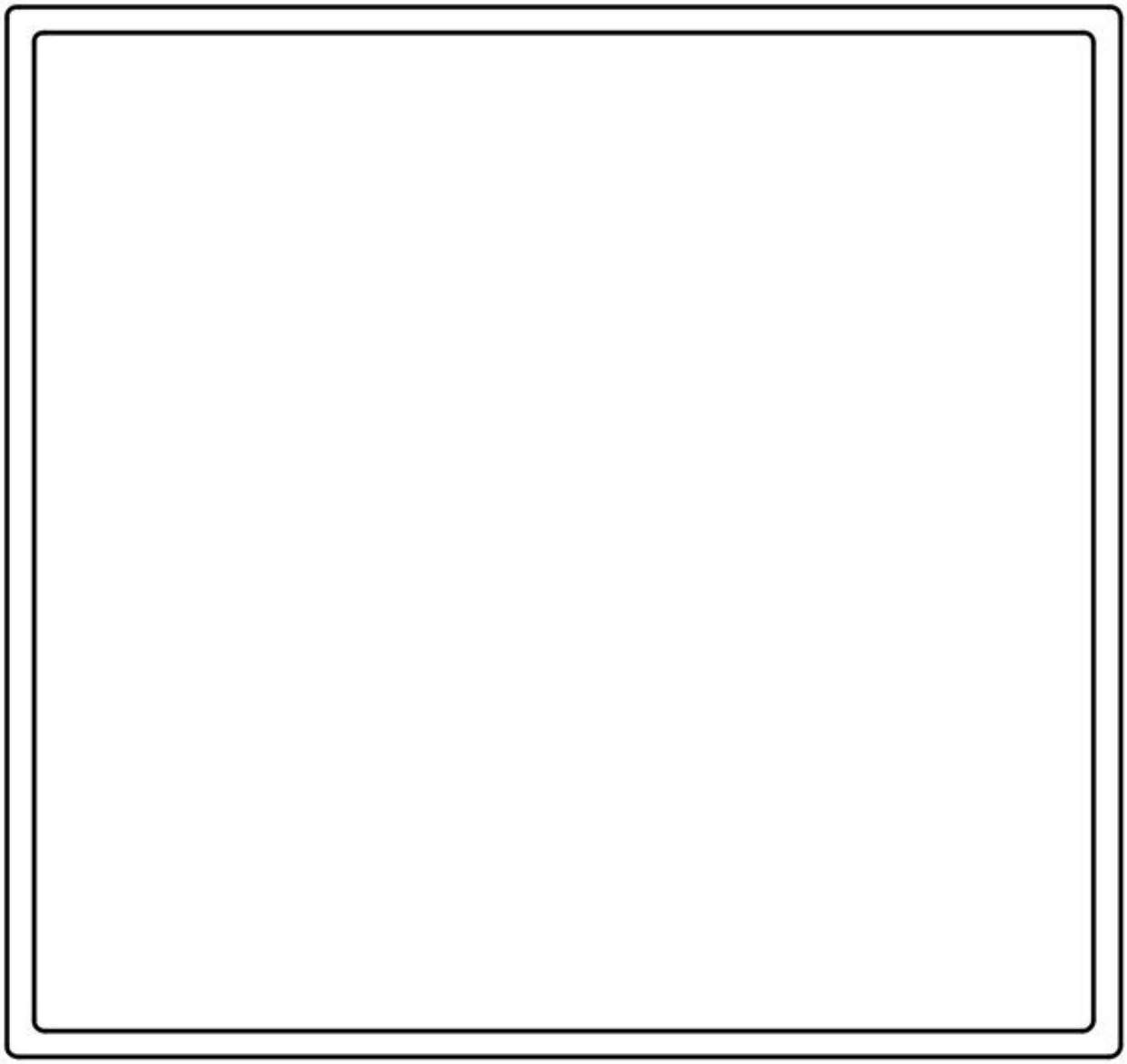

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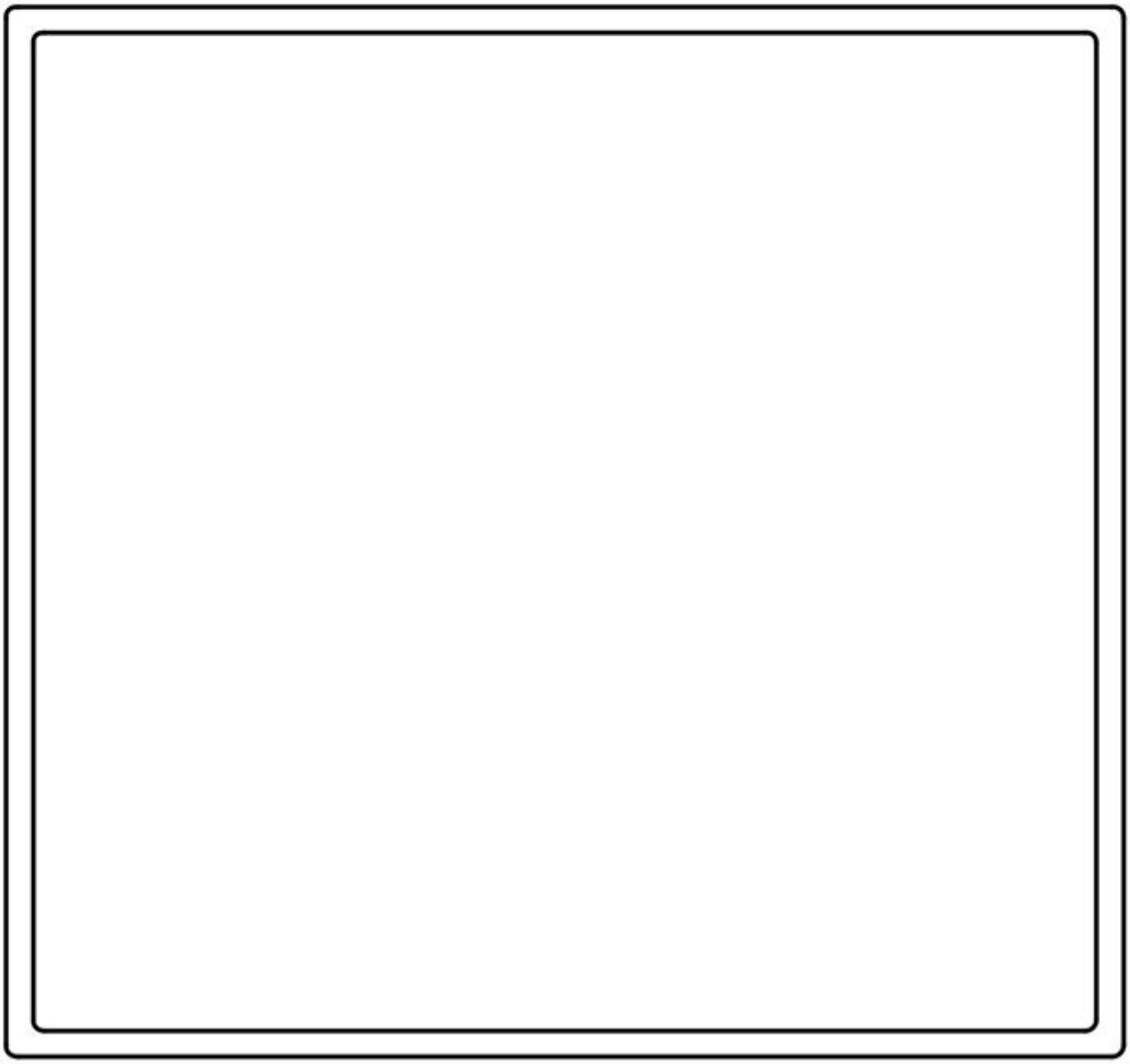

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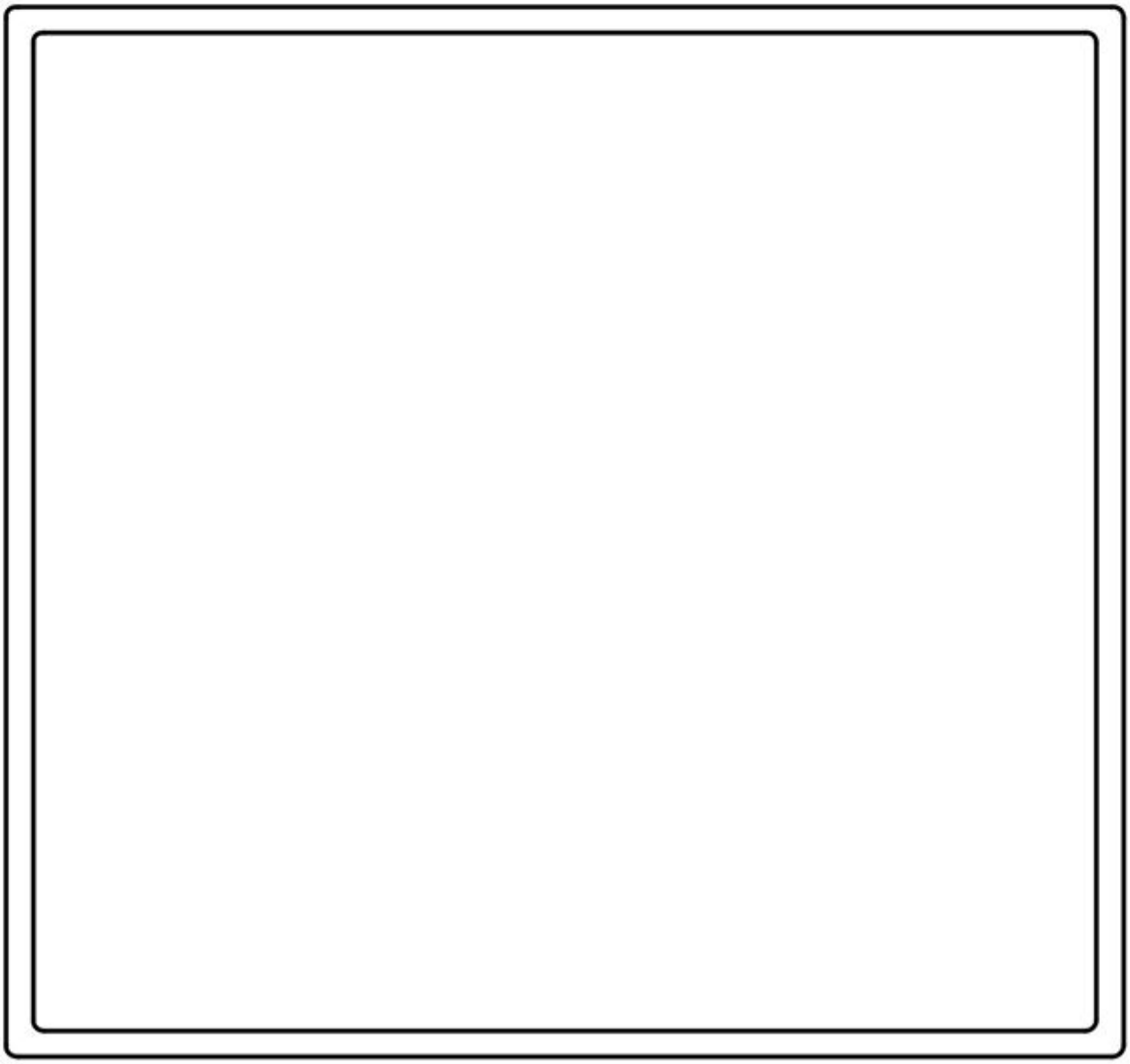

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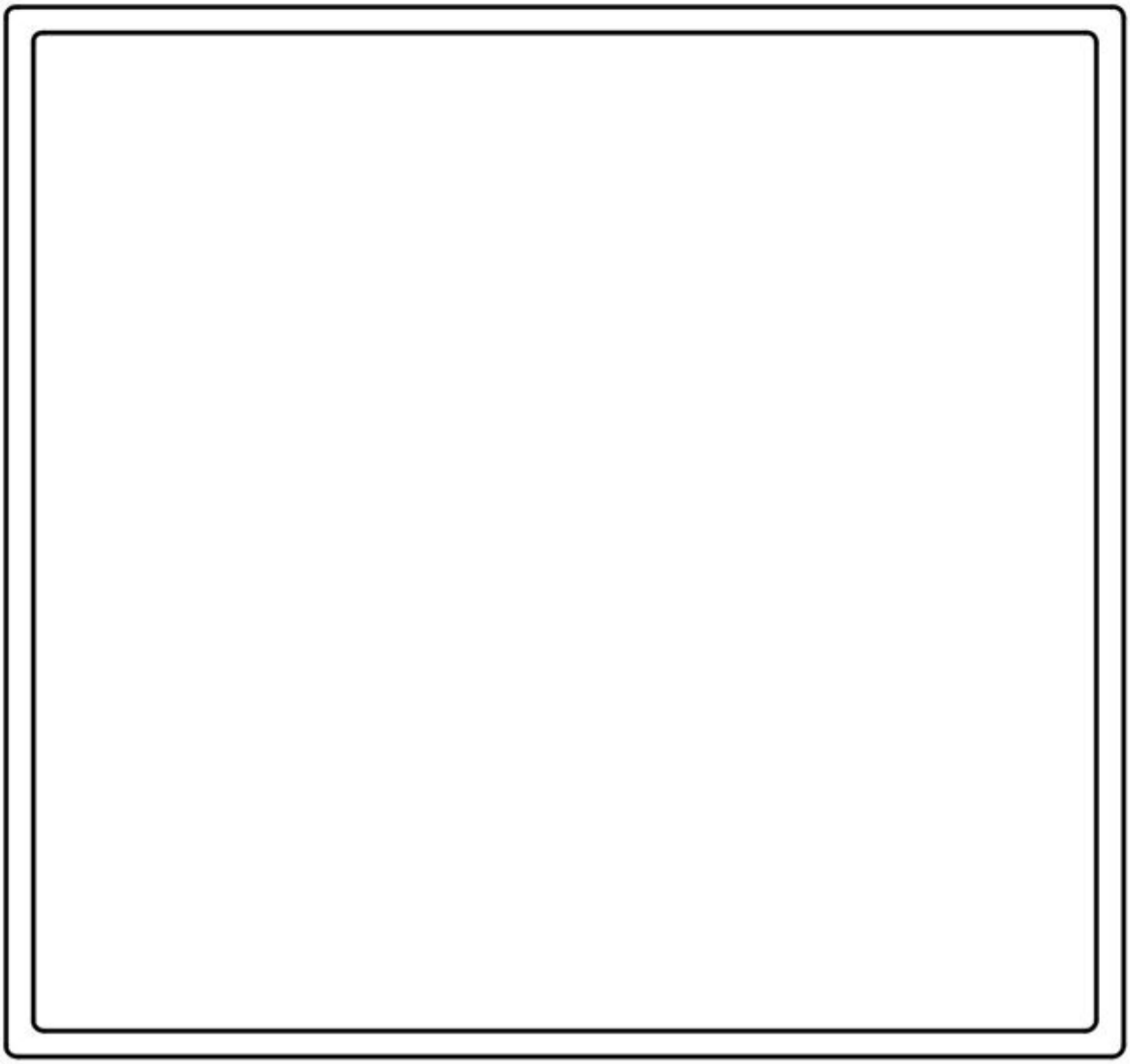

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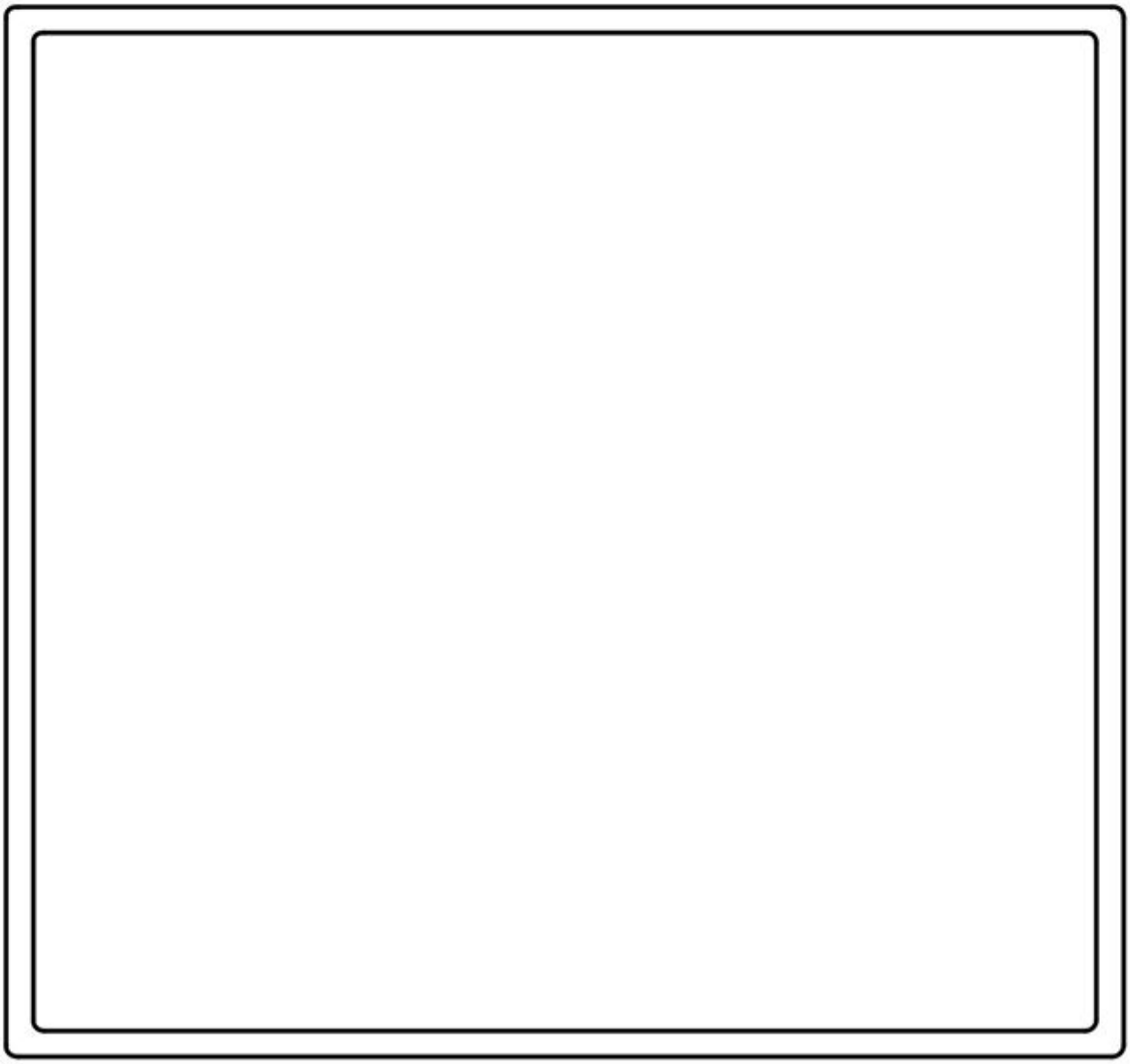

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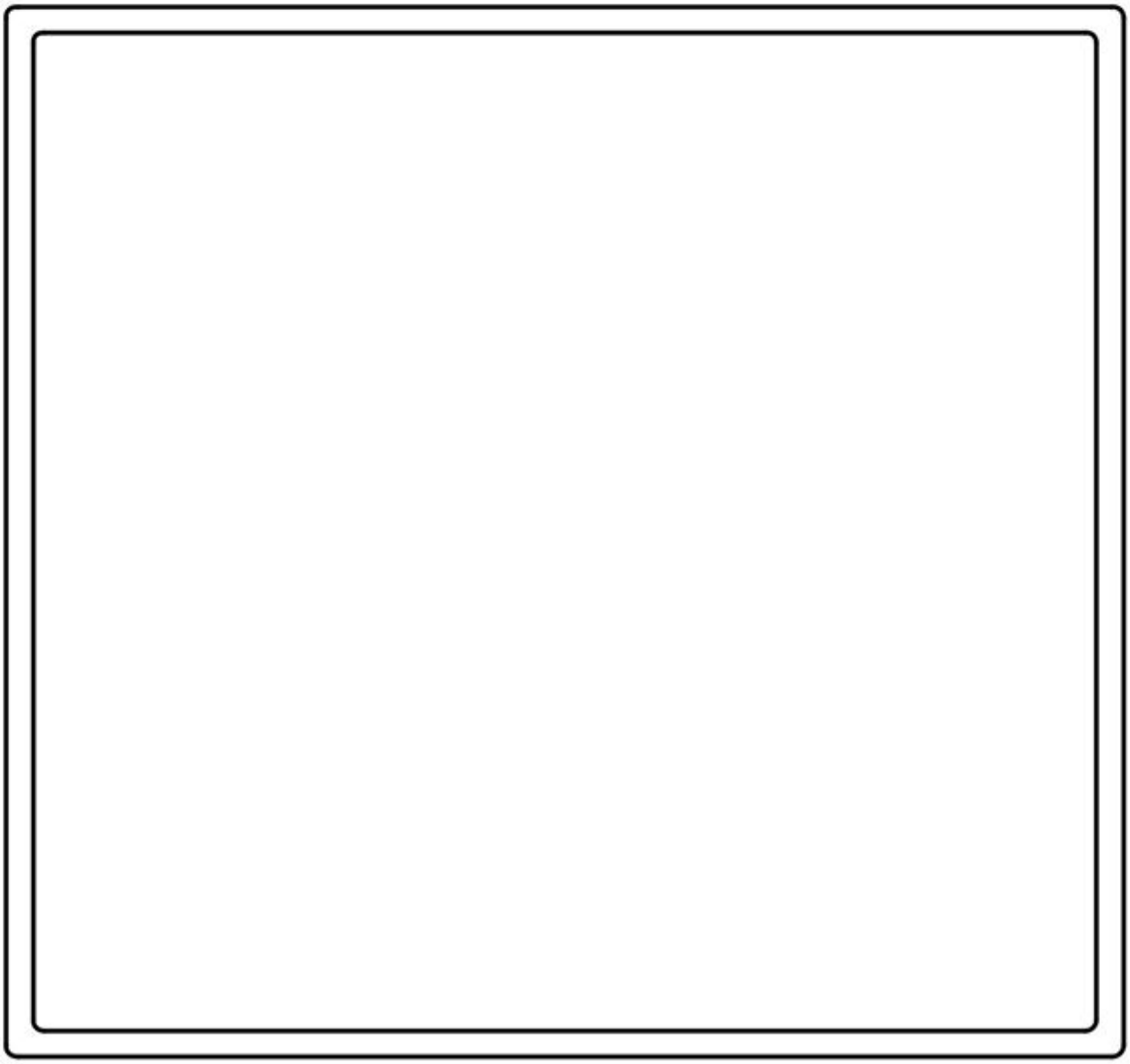

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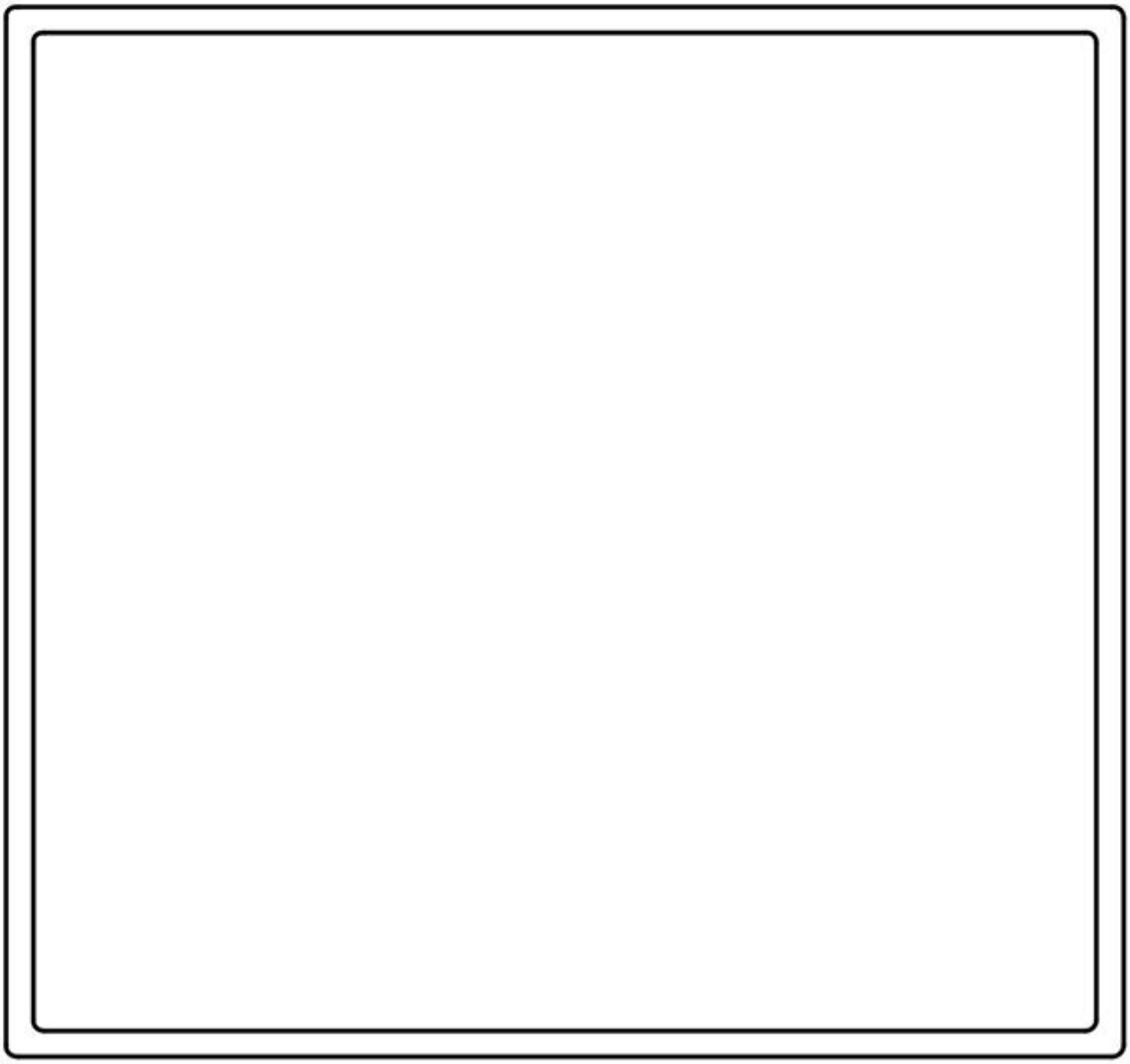

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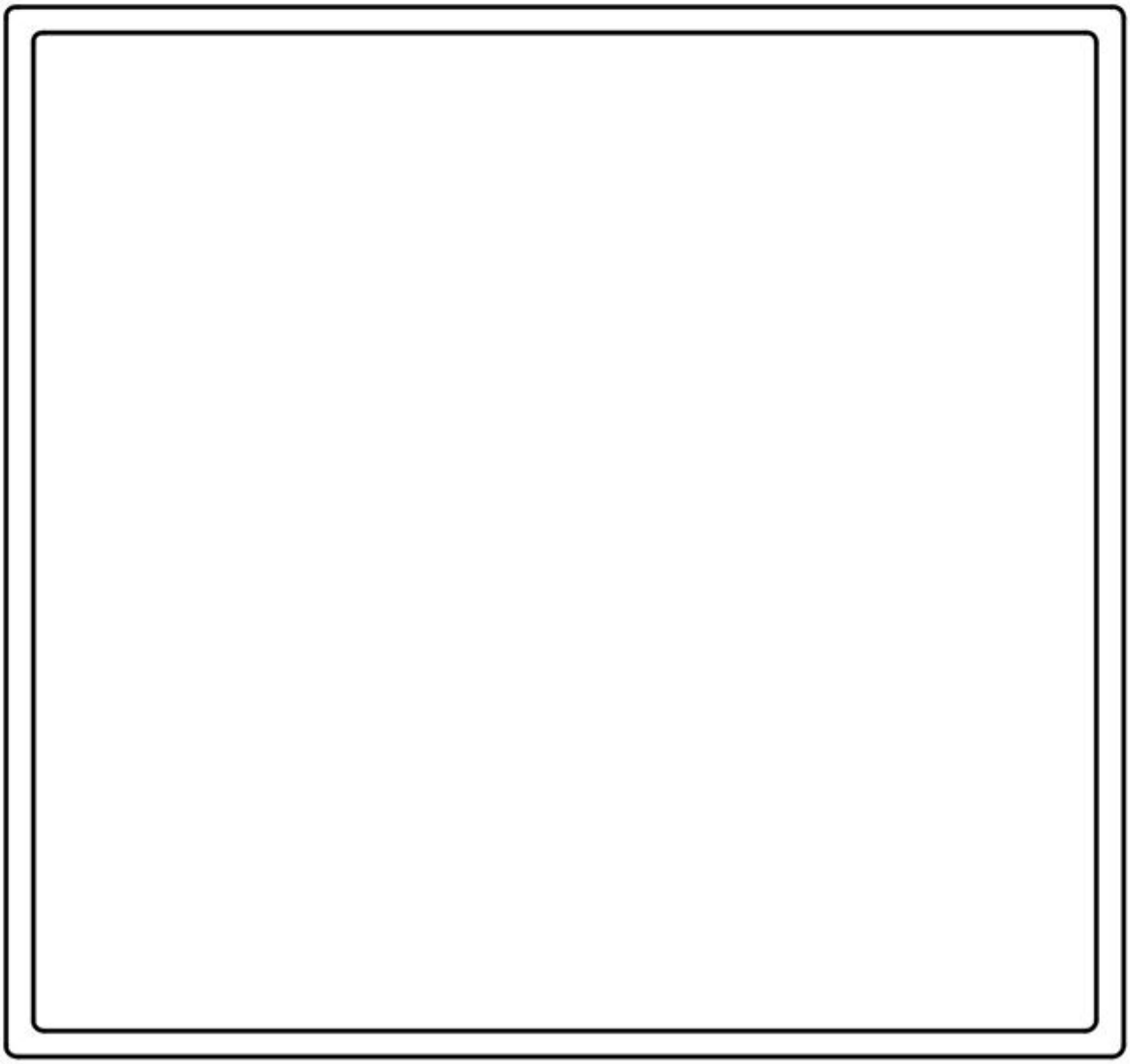

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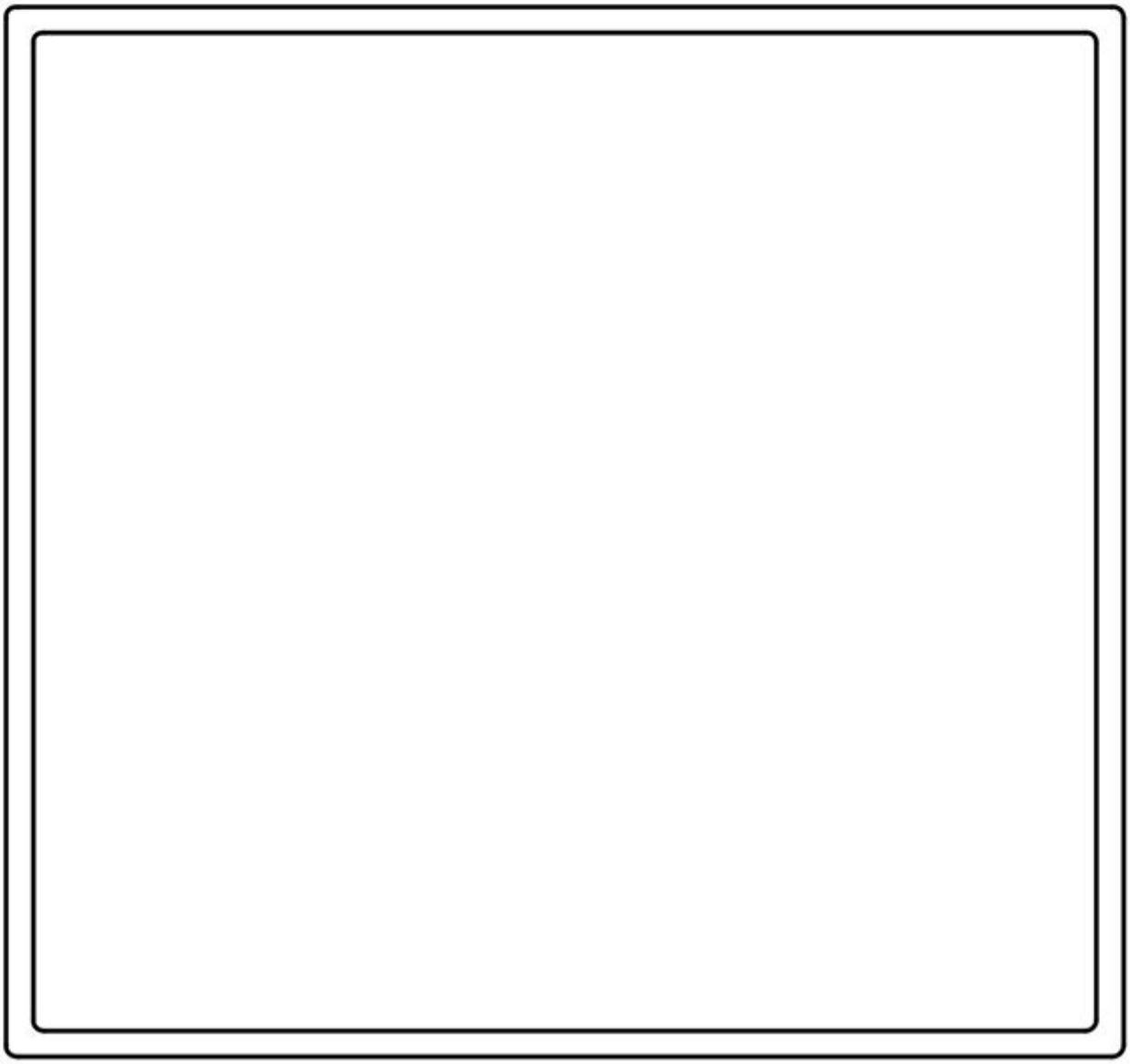

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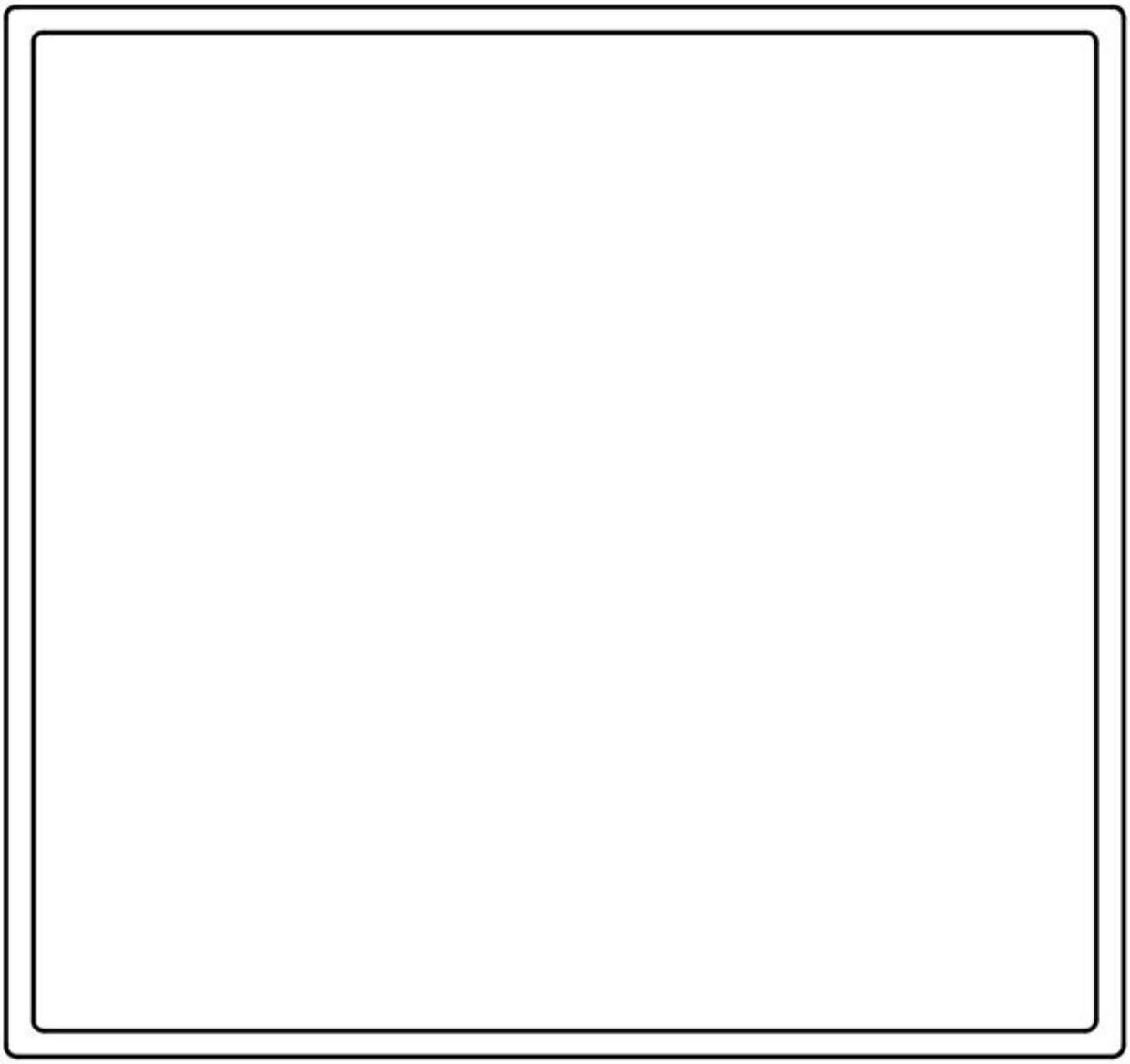

Great

Good

Okay

Bad

Sad

Angry

Frustrated

Confused

Unit 6 Lesson 13

Events in Ice Age

Resources

Main Activity Notes

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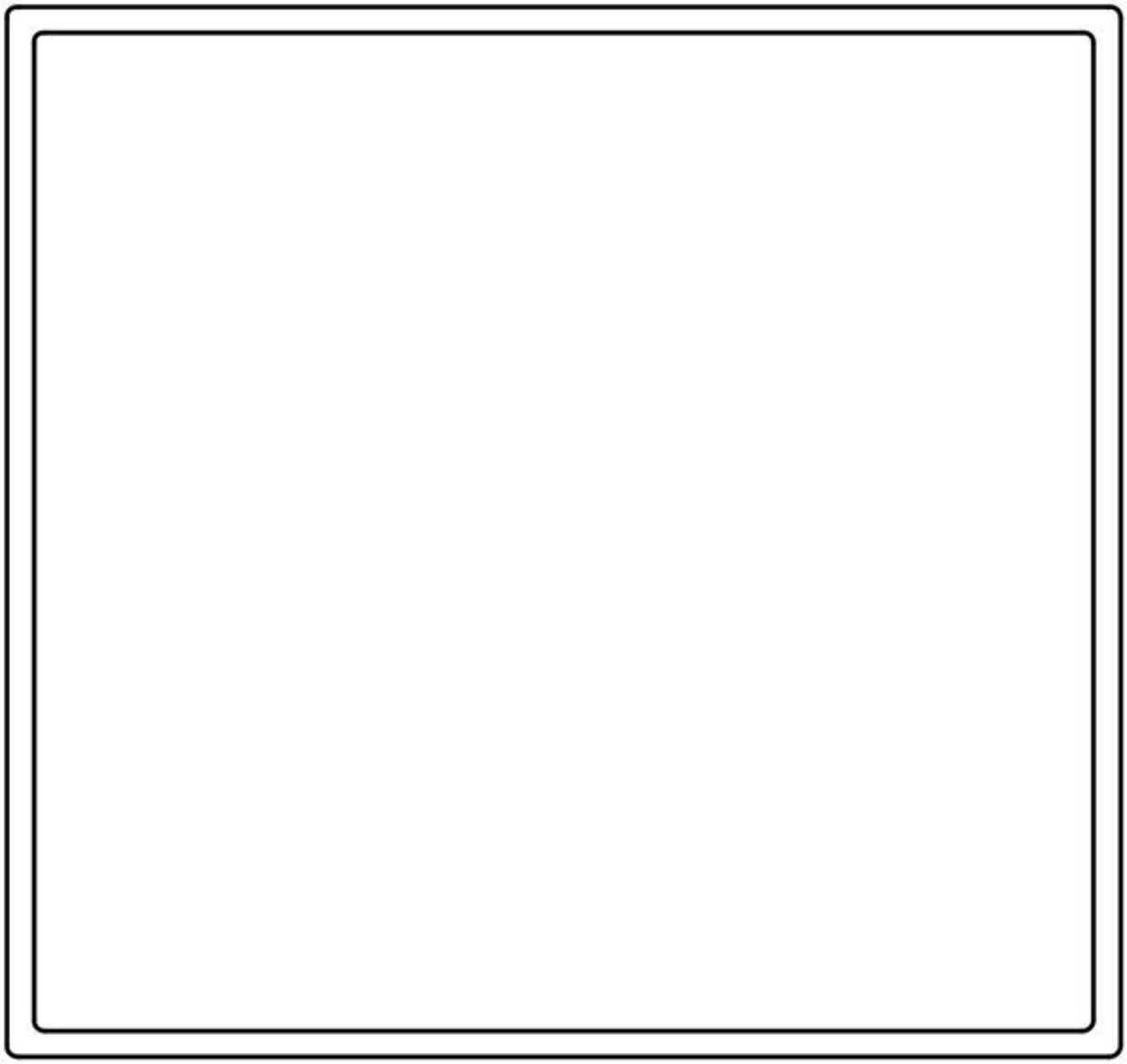

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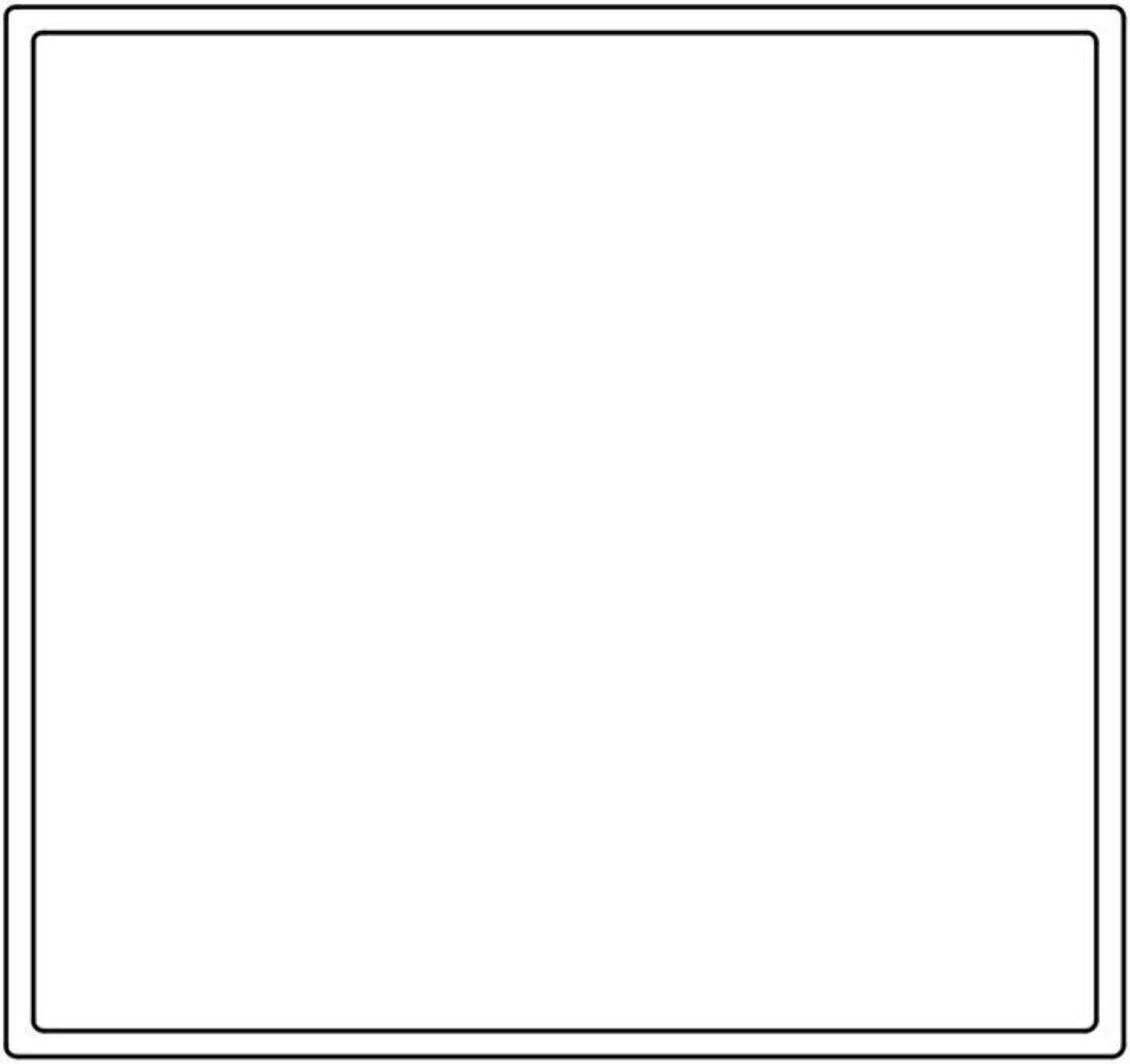

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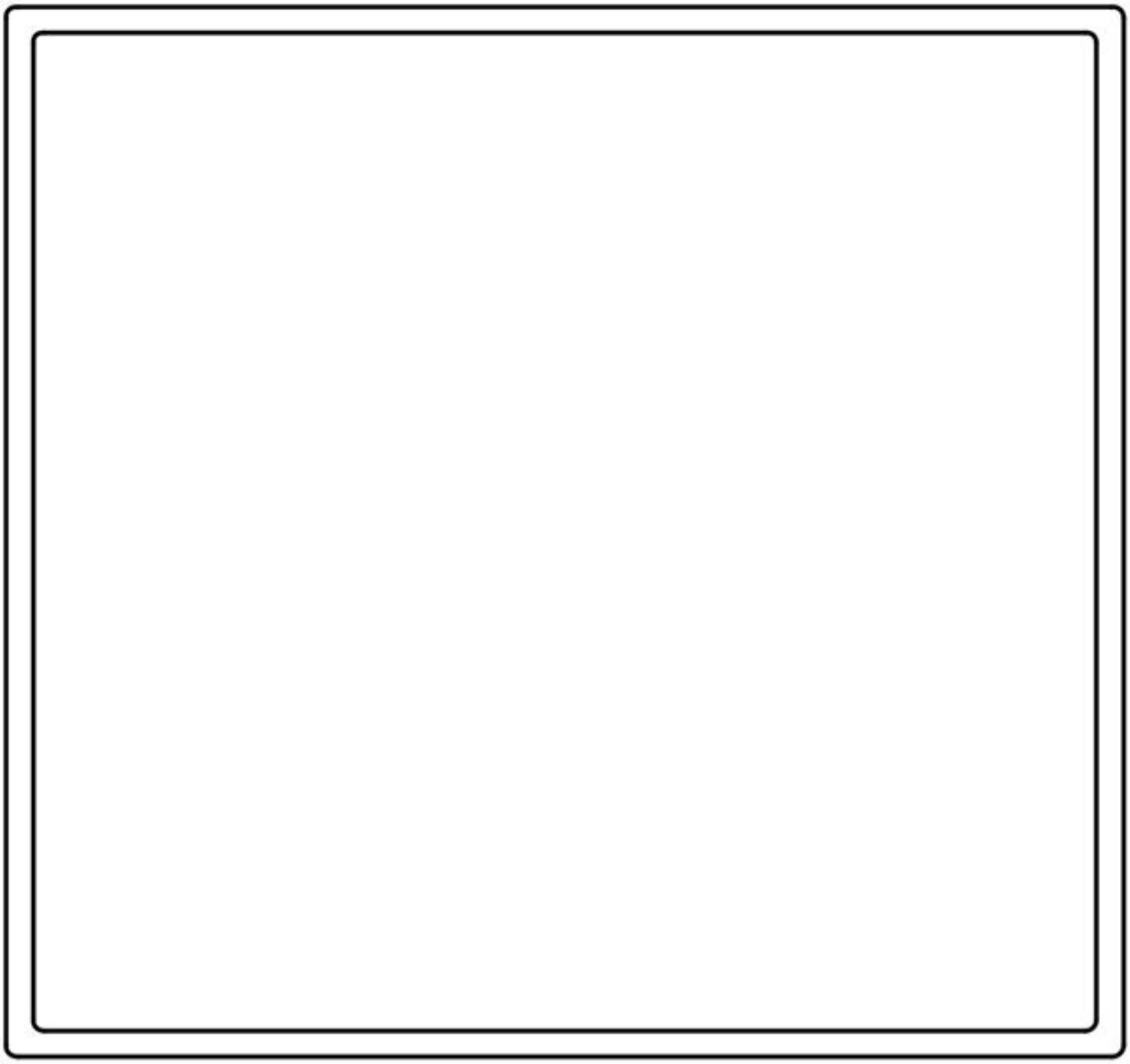

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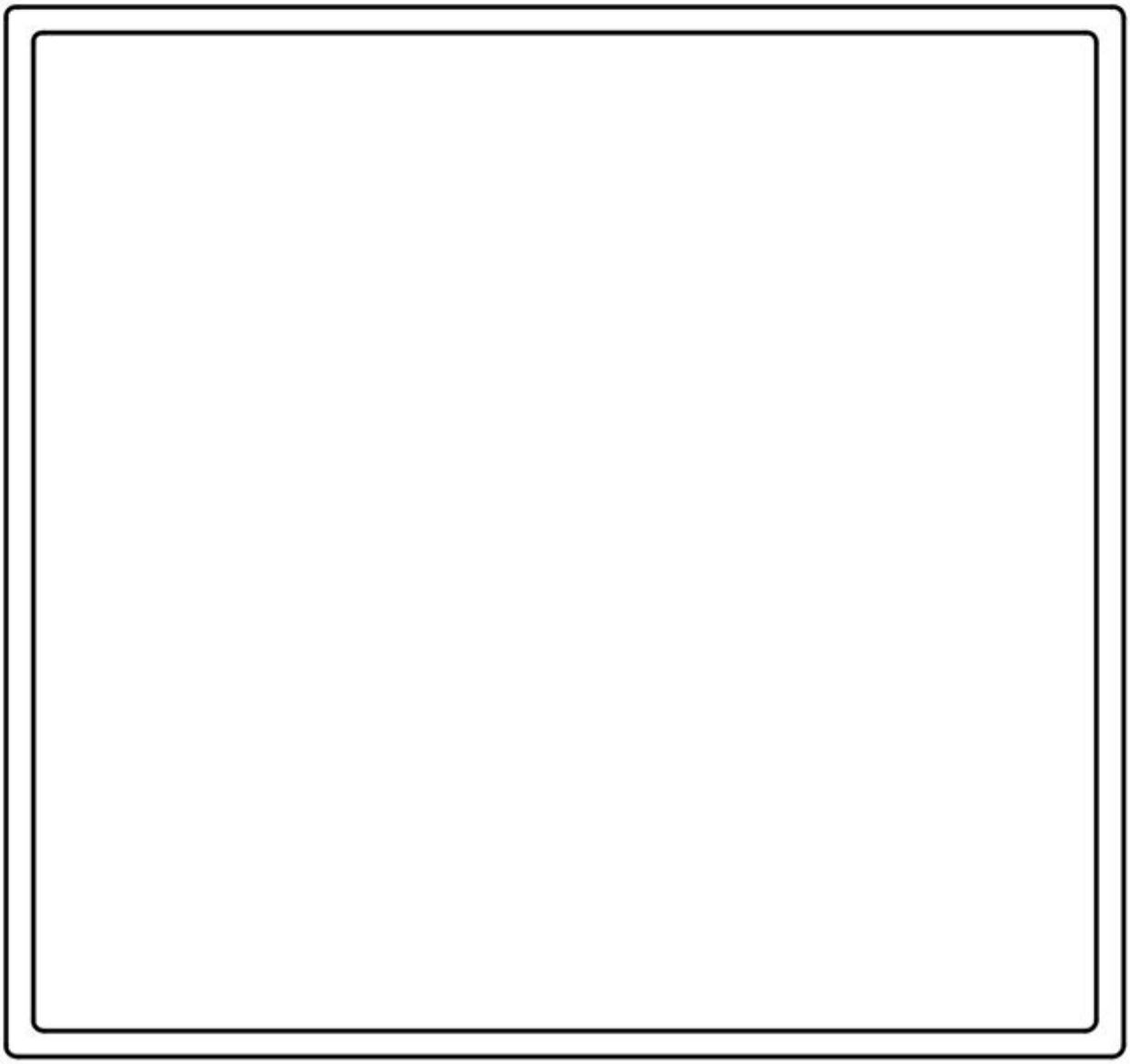

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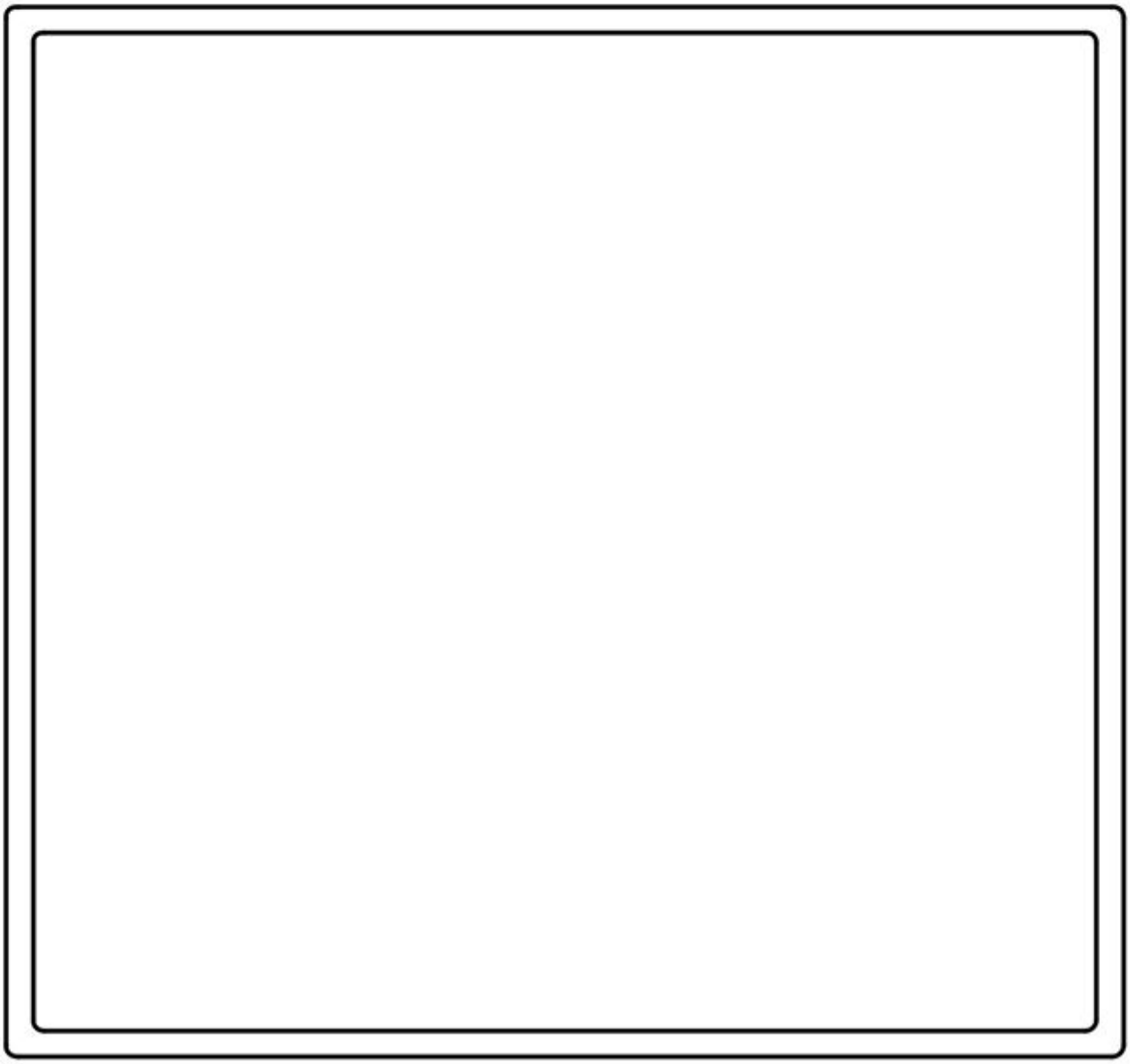

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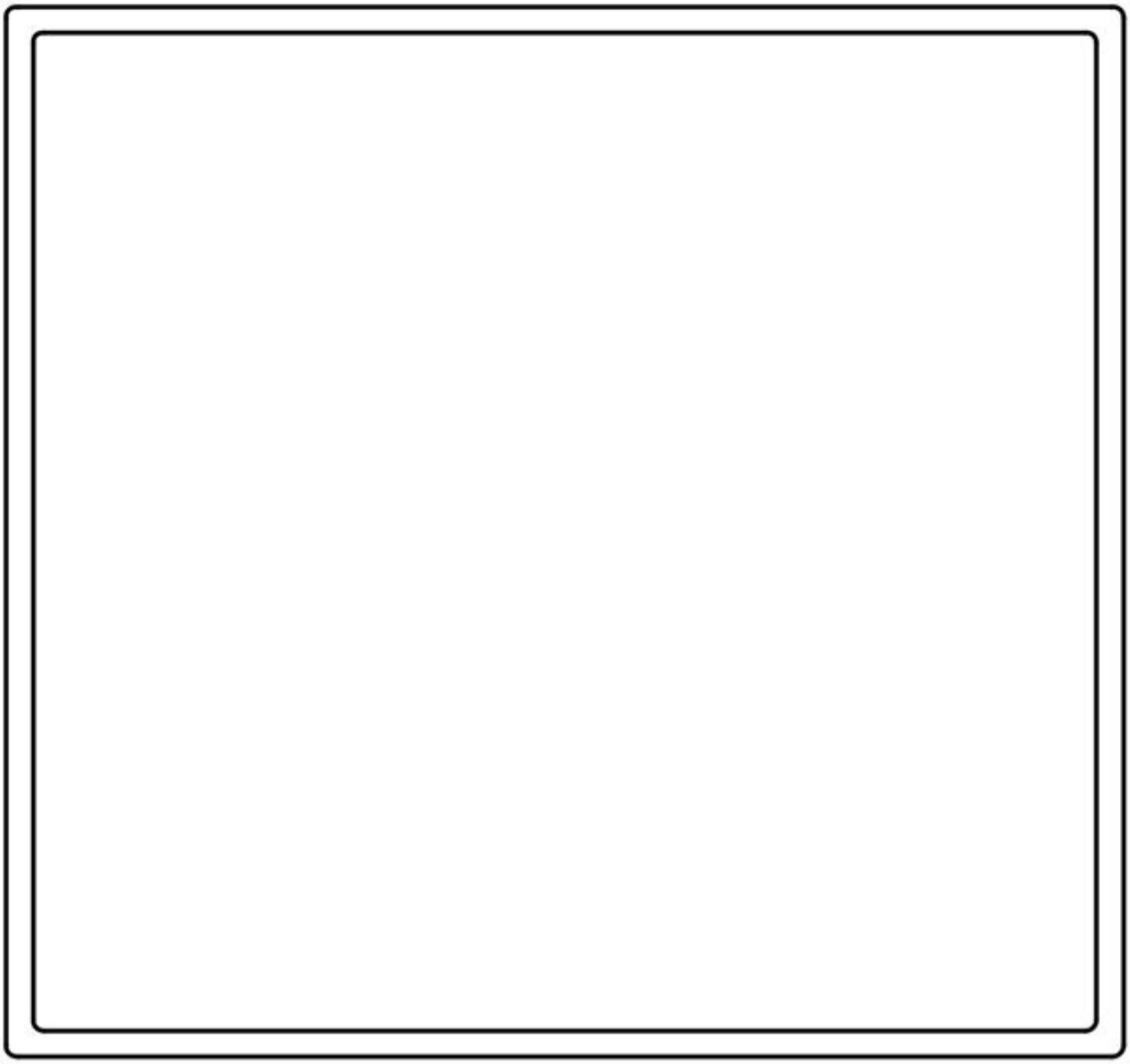

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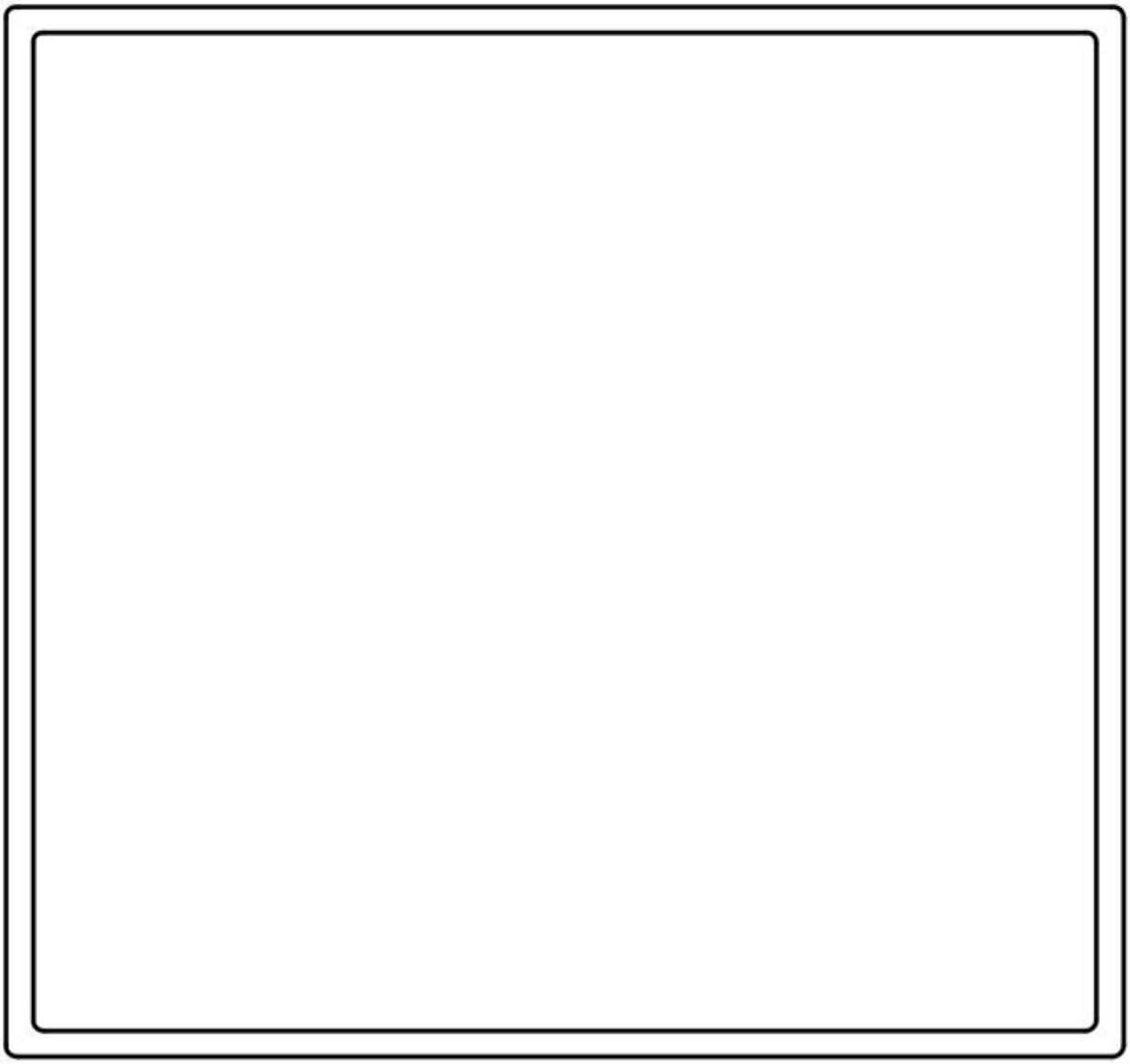

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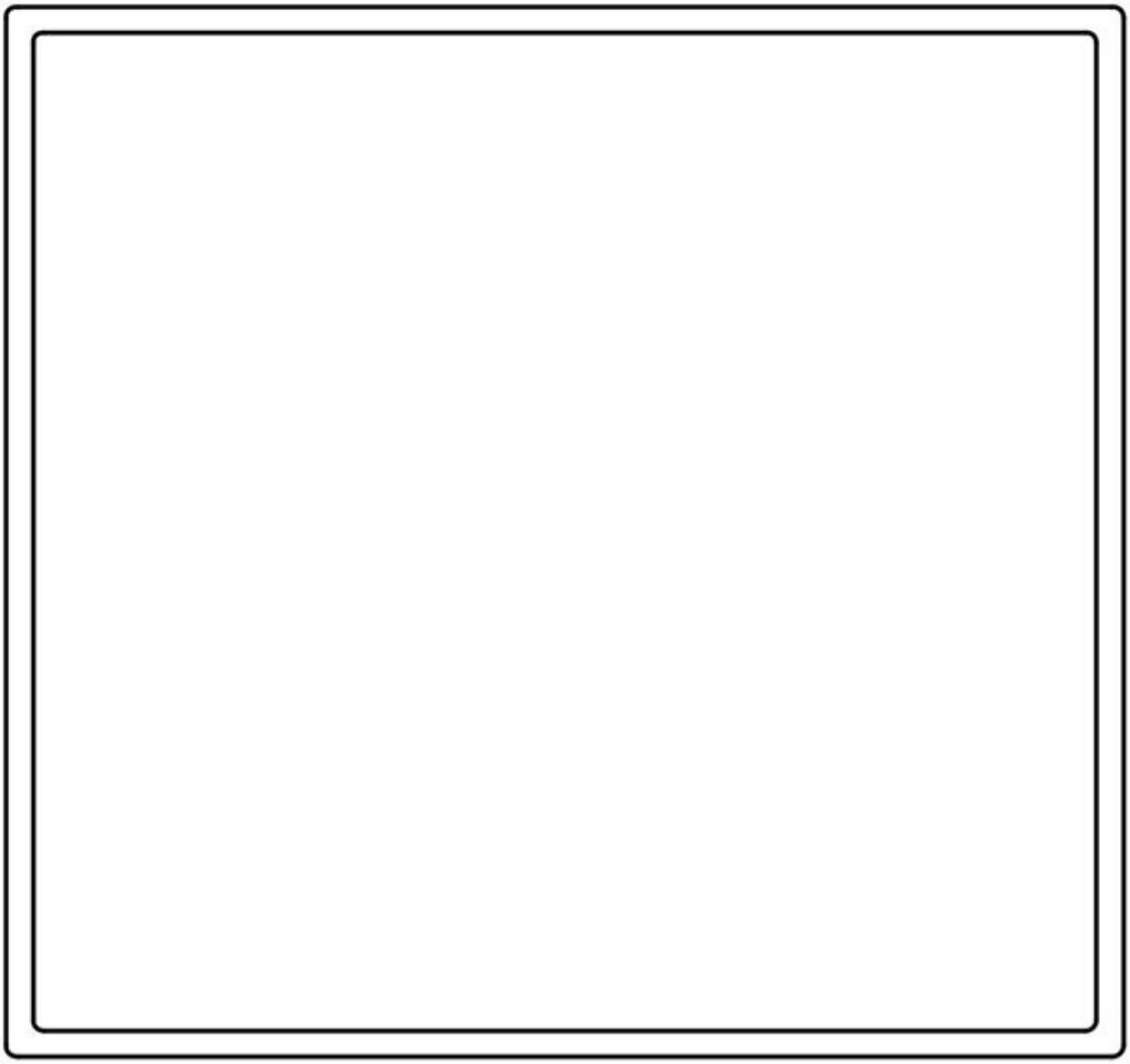

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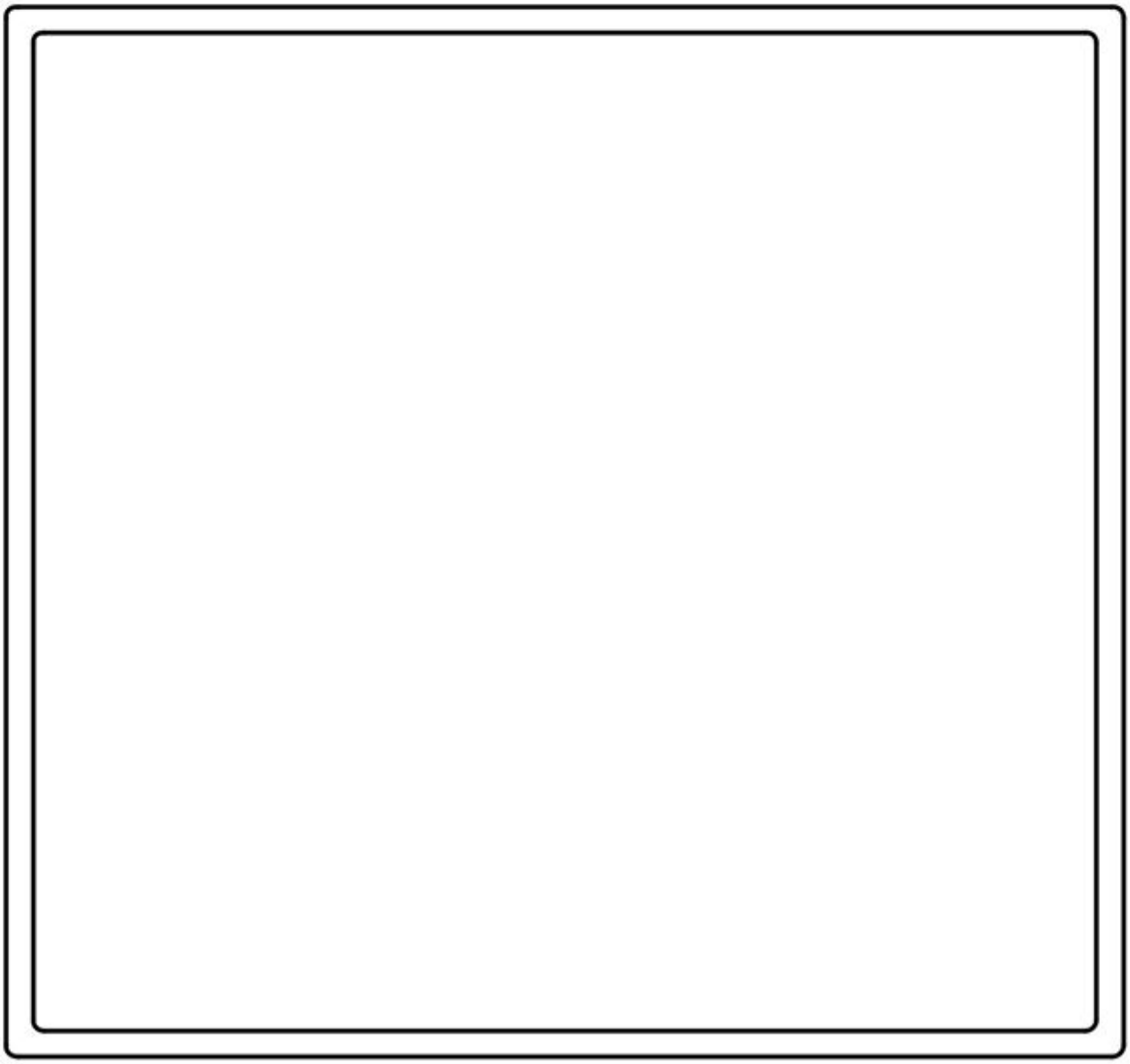

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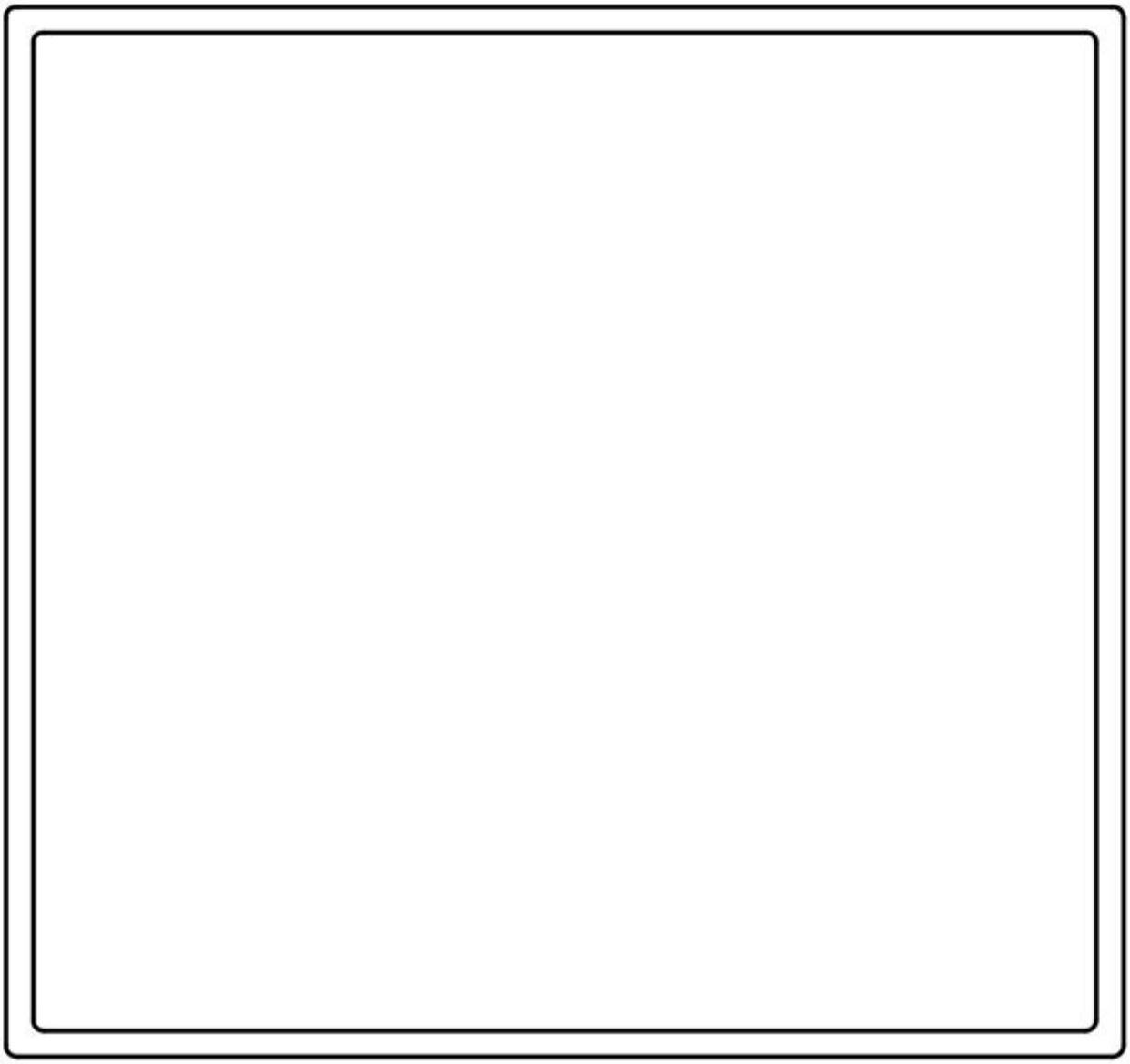

Unit 6 Lesson 14

Conditionals in Minecraft

Resources

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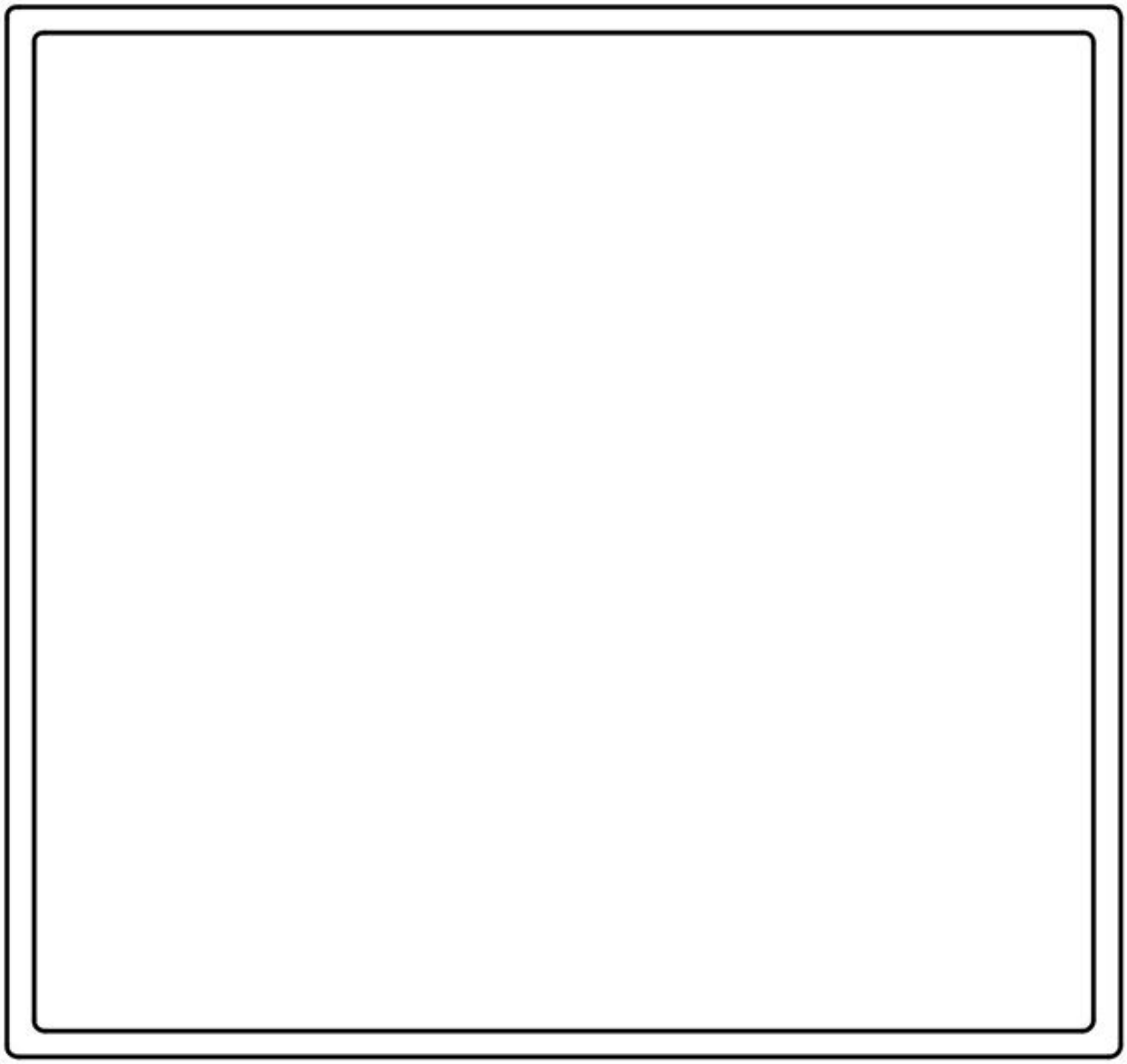

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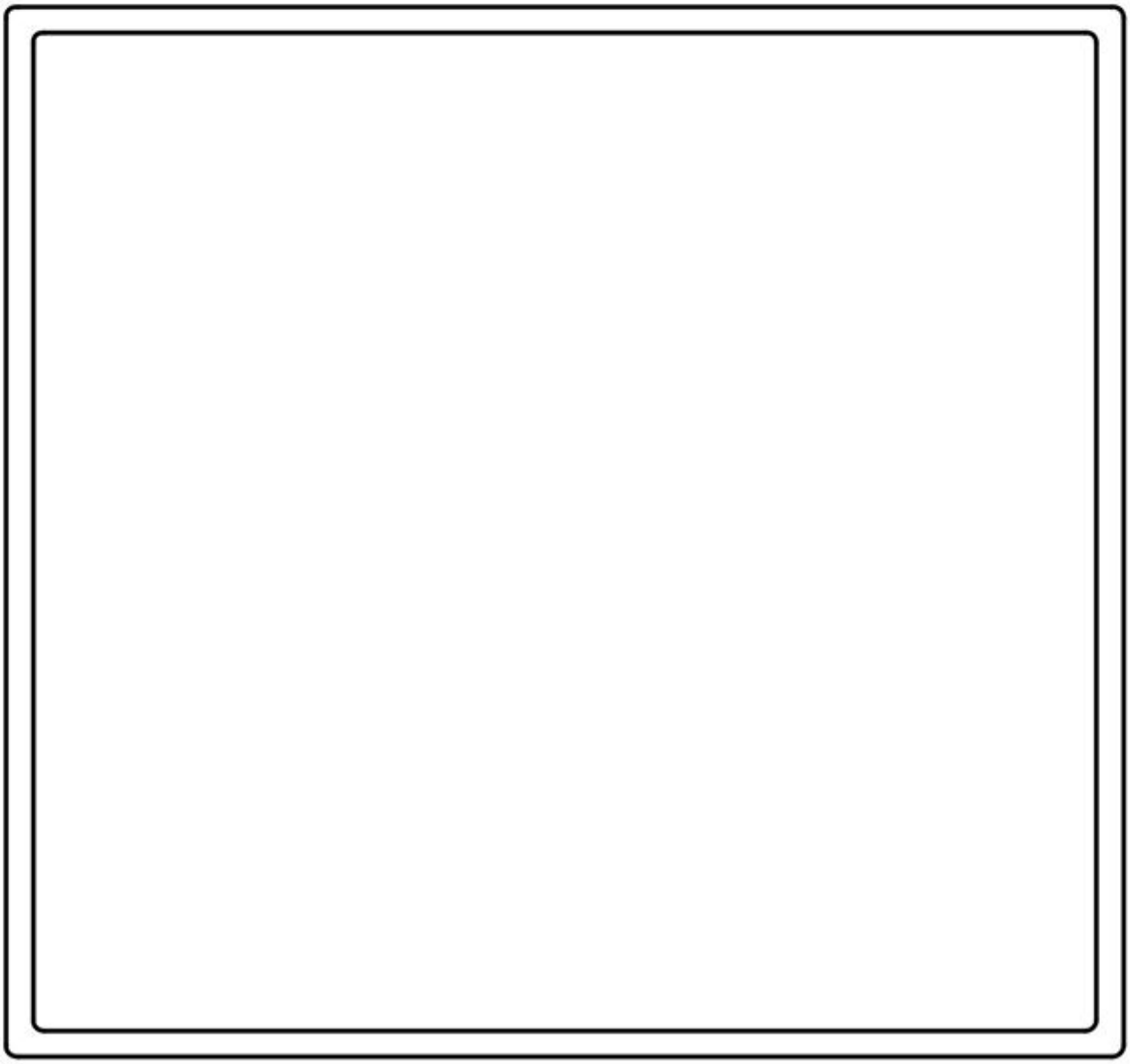

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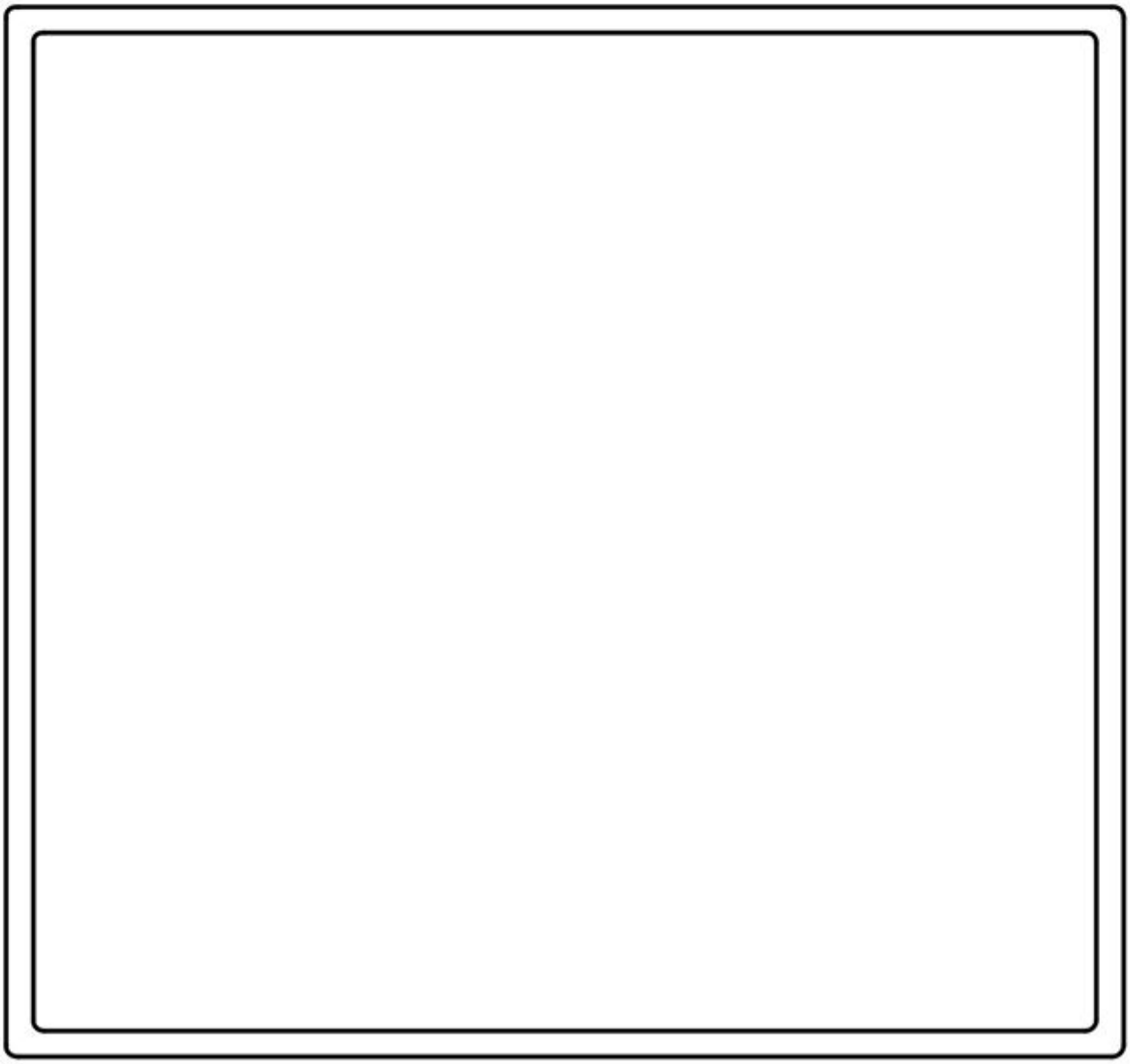

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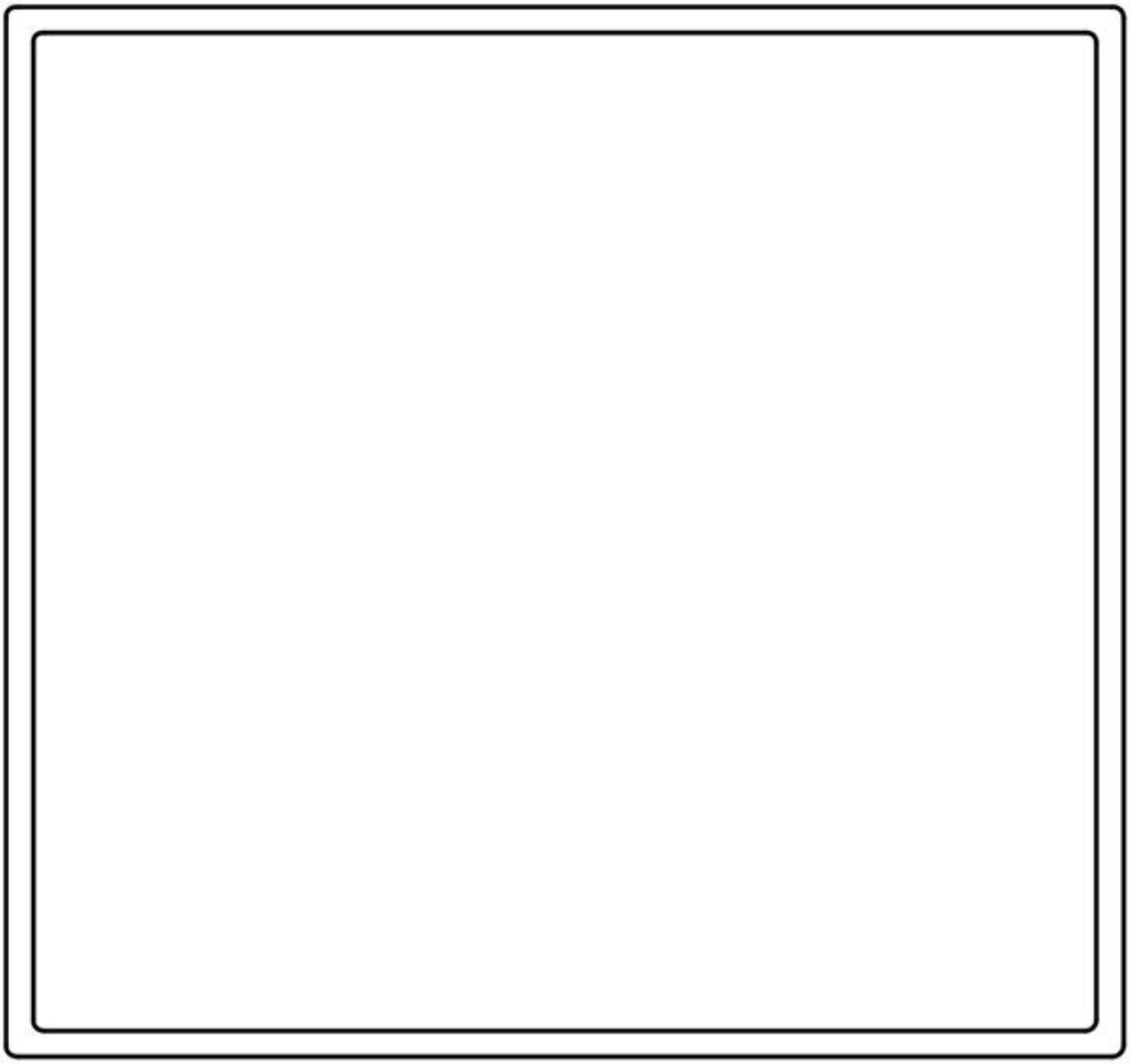

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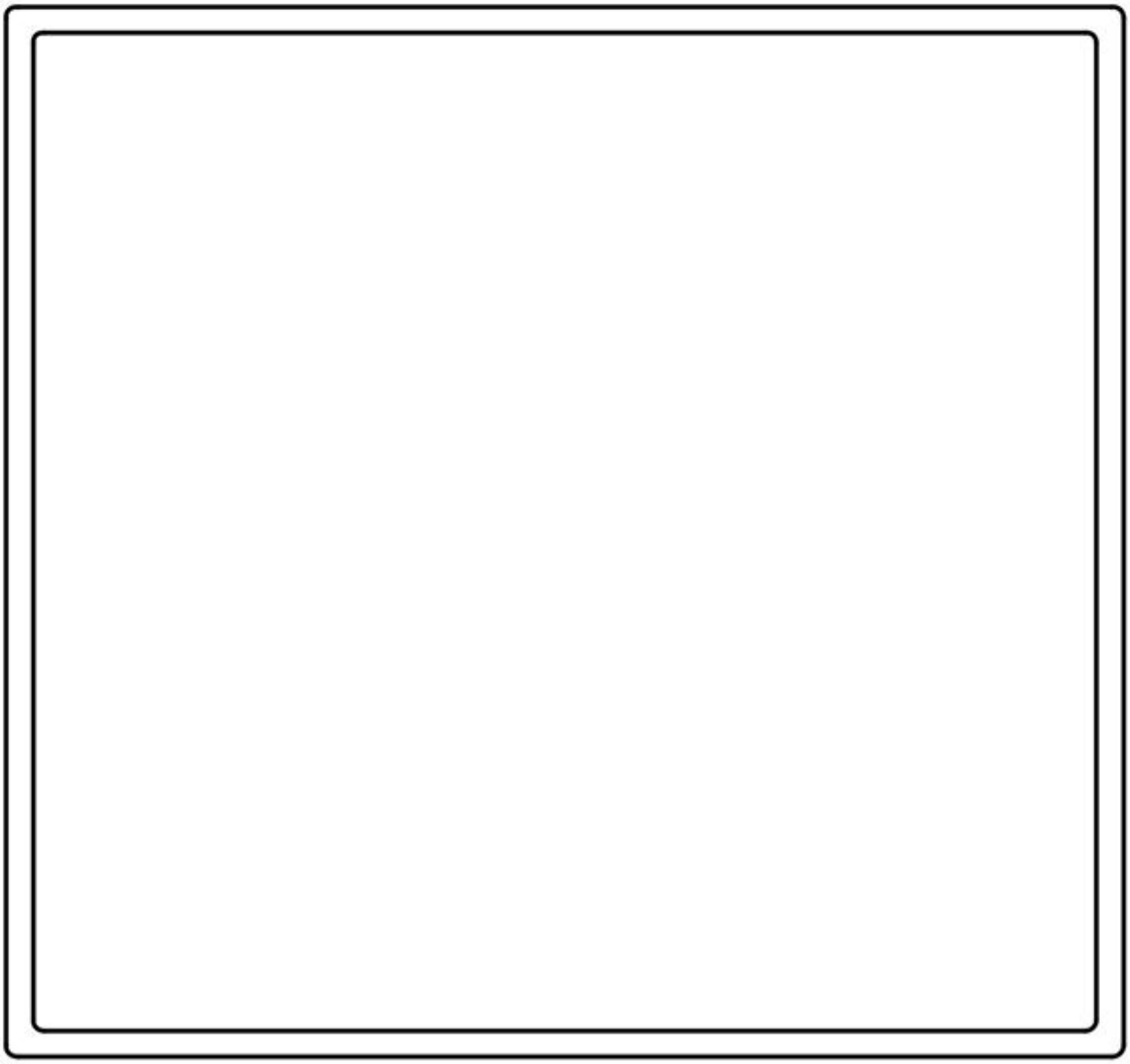

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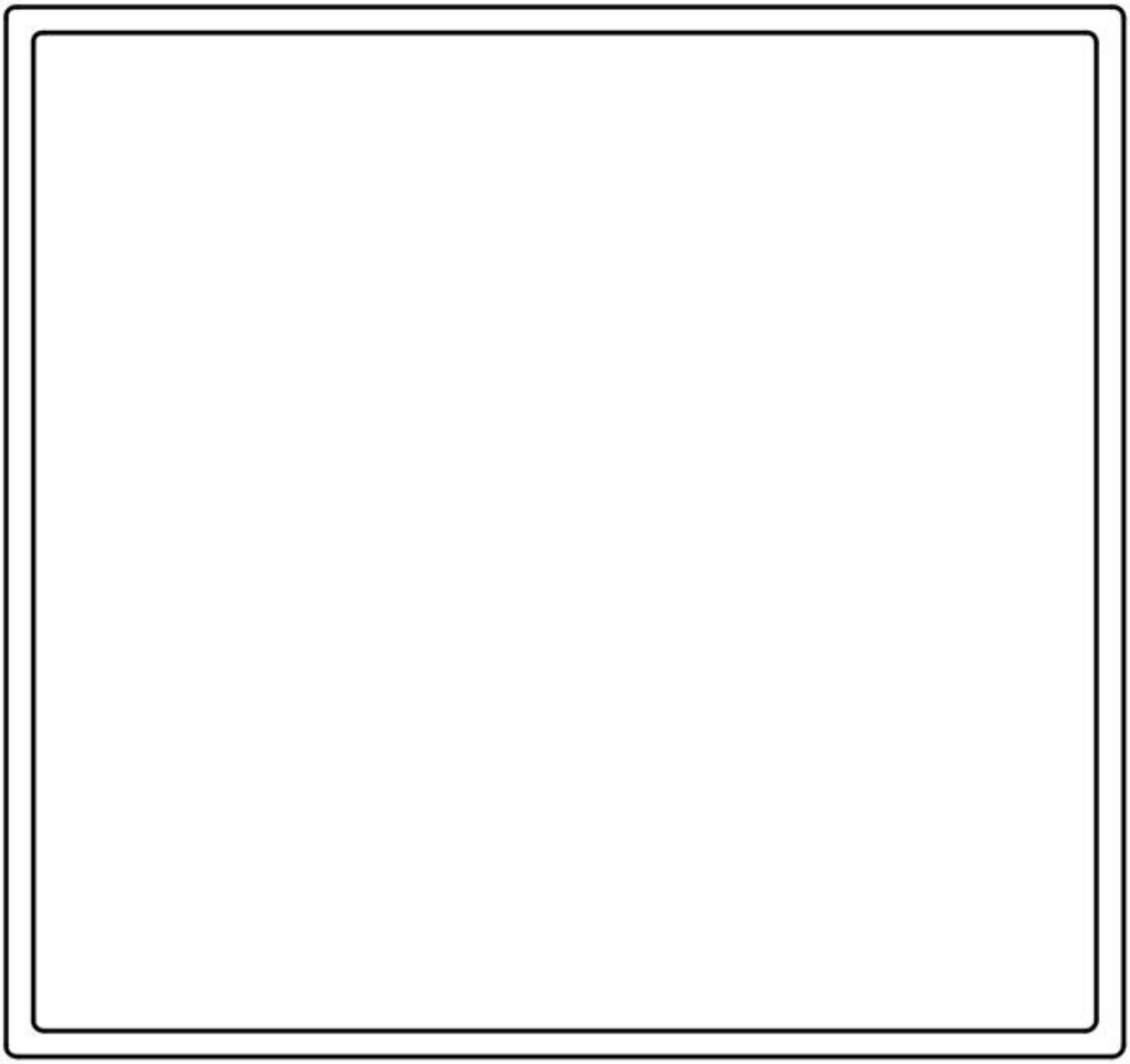

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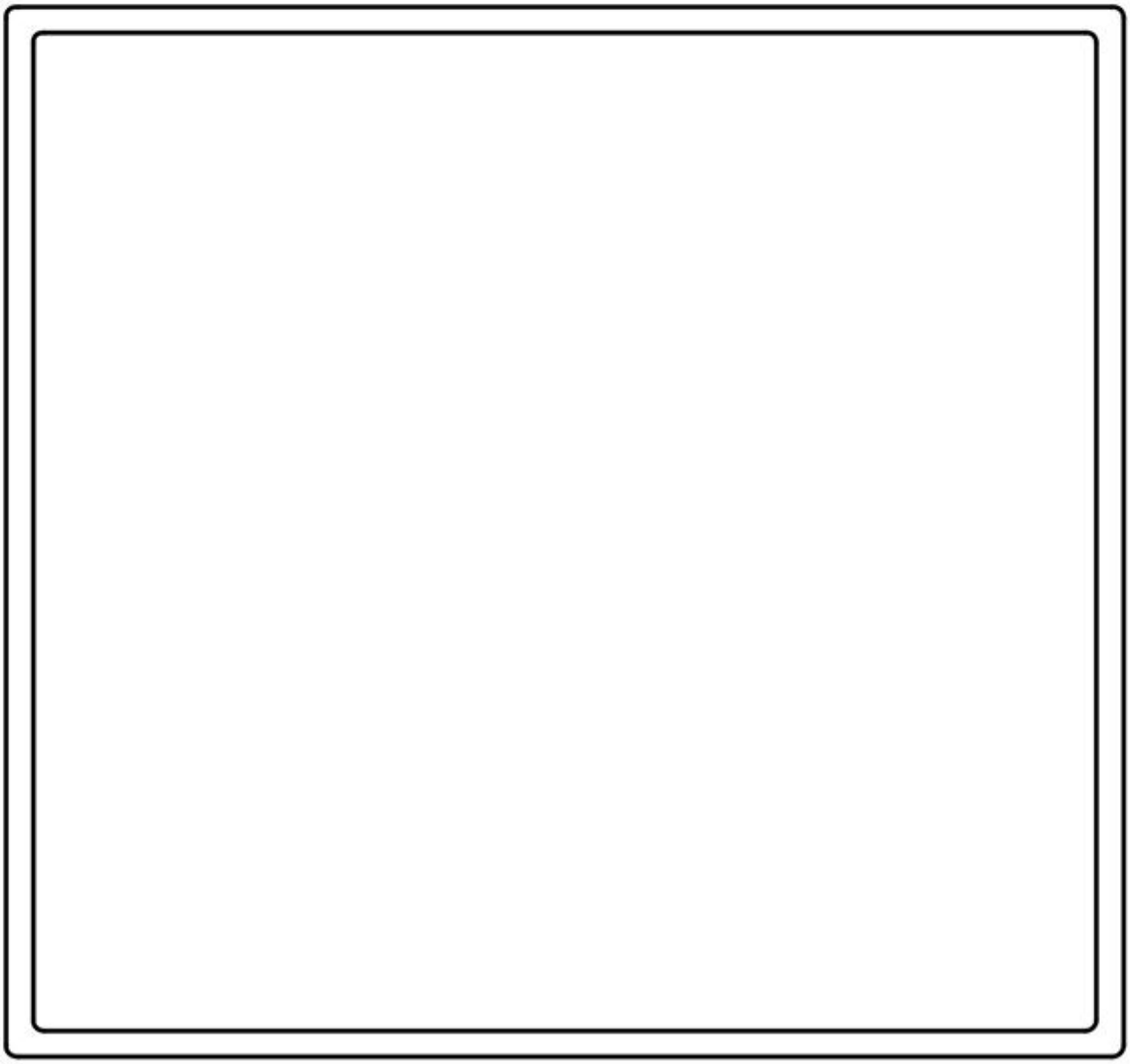

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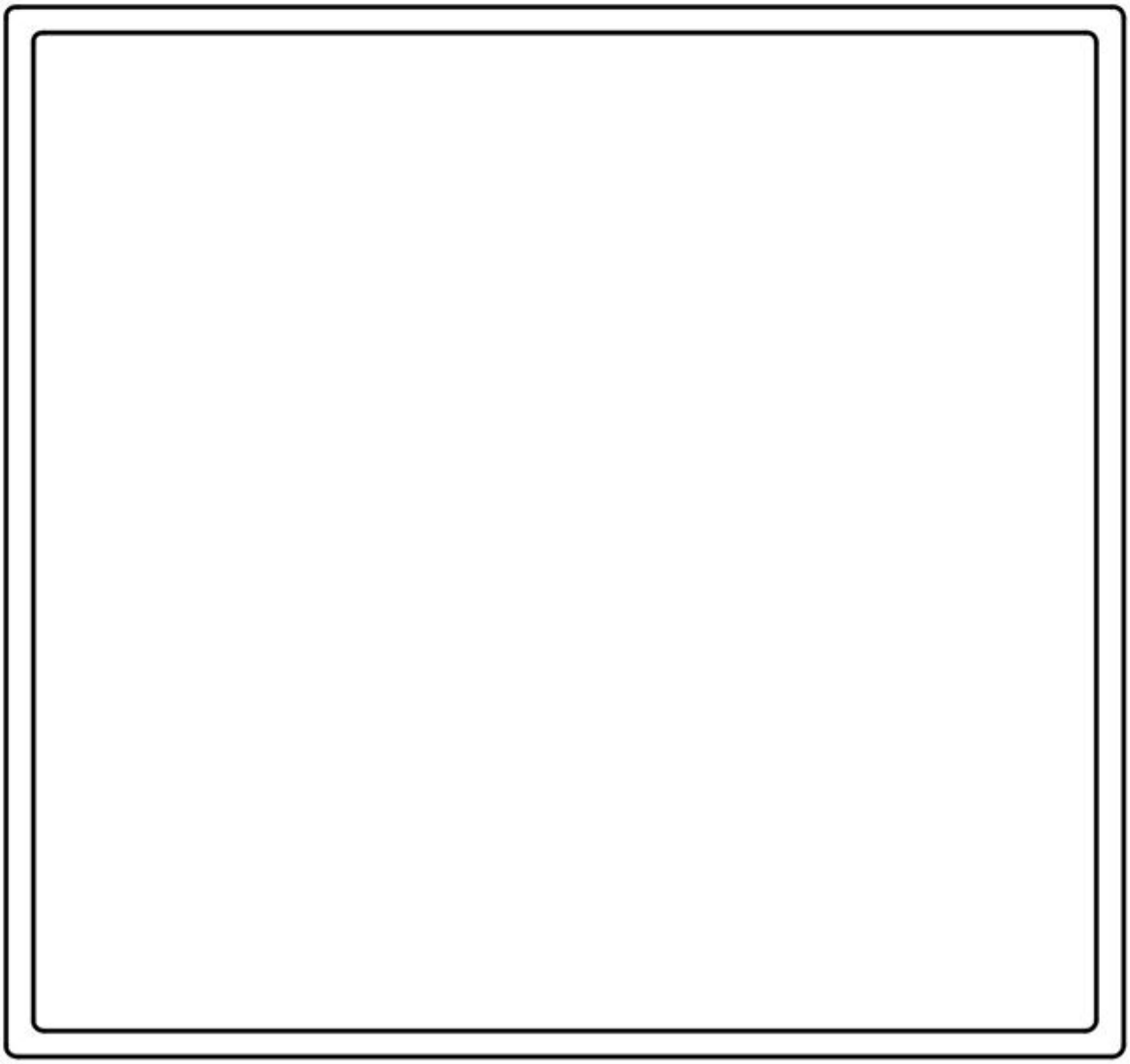

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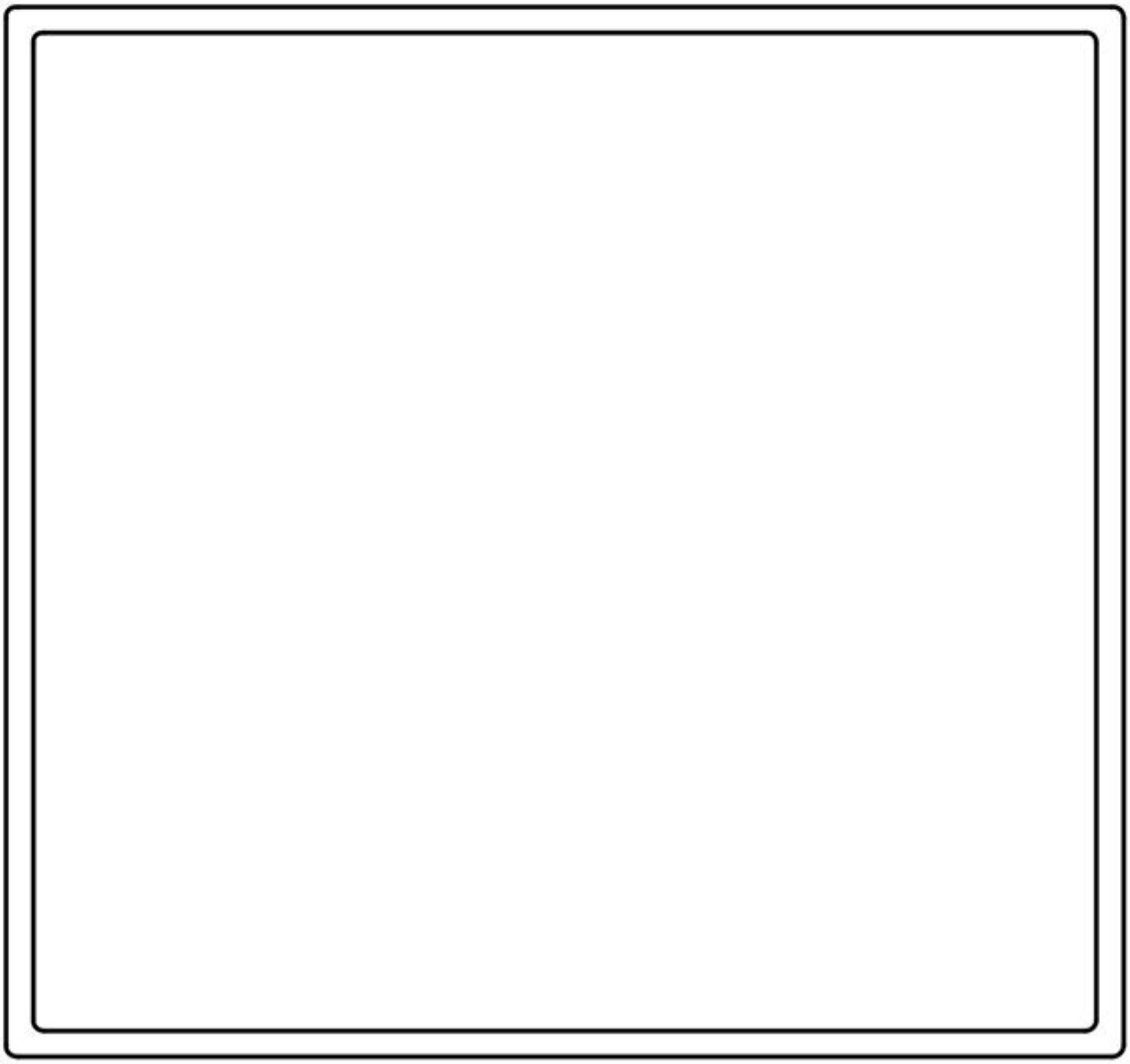

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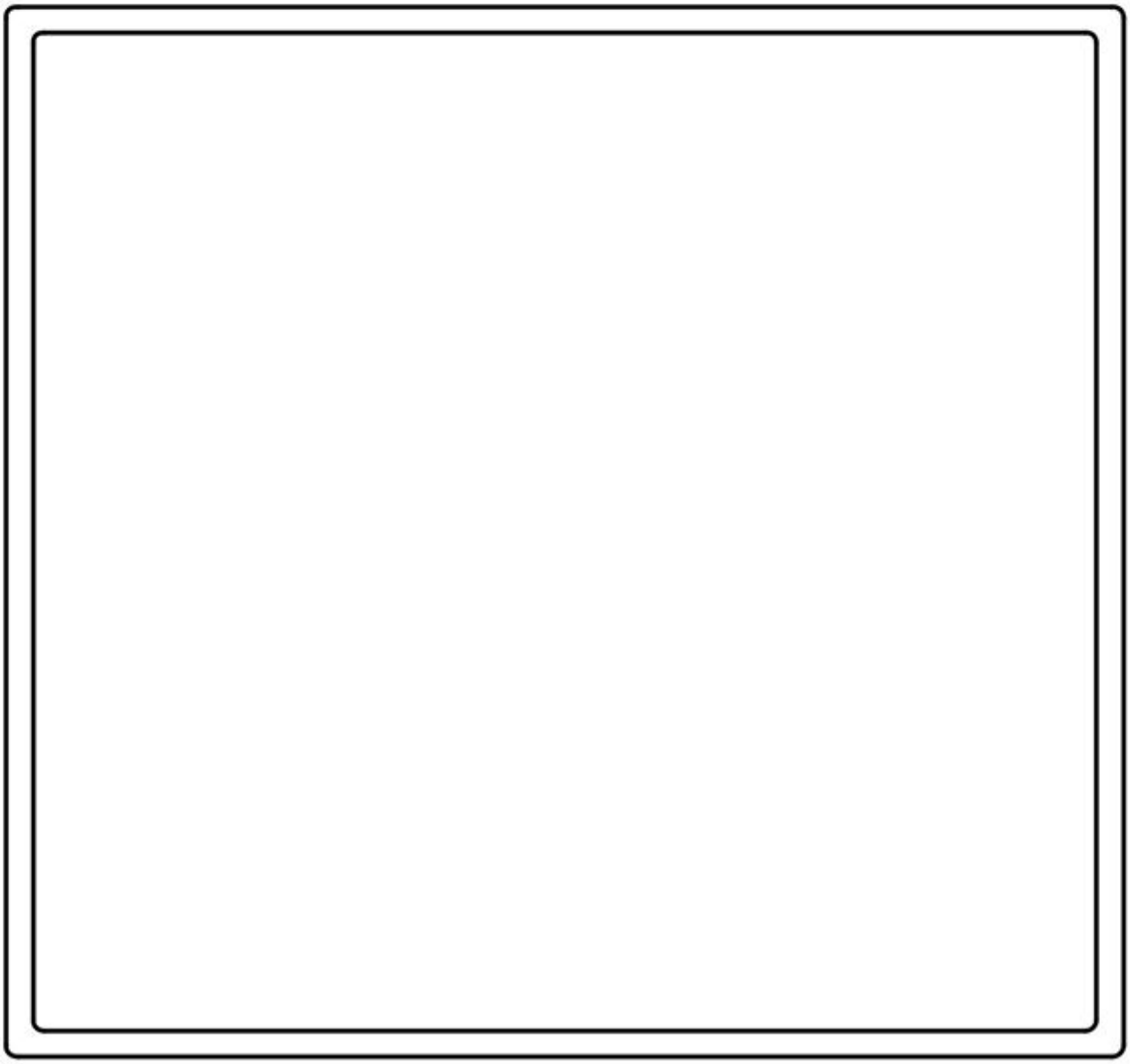


Unit 6 Lesson 15

Variables: Envelope Variables

Resources

Name(s)_____ Period _____ Date _____

Variables in Envelopes

Robot Variables Worksheet

Think about a robot. What is it supposed to do? What does it look like?

Draw your robot on paper. When you're done, answer the three questions below on separate pieces of paper, then put them in the correct envelopes.

robotName	*numUnitsTall*	*purpose*

1. My robot's name is _____*robotName*_____
2. My robot's height is _____*numUnitsTall*_____ (don't forget units!)
3. My robot's primary purpose is _____*purpose*_____

TEACHER KEY

Variables in Envelopes

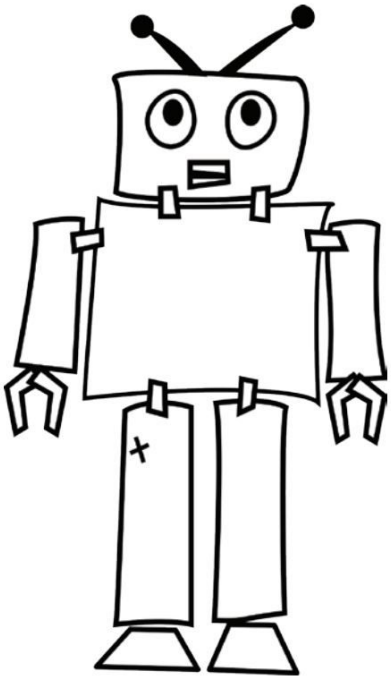
Robot Variables Worksheet

Think about a robot. What is it supposed to do? What does it look like?

Draw your robot on paper. When you're done, answer the three questions below on separate pieces of paper, then put them in the correct envelopes.

robotName	numUnitsTall	purpose

Example



1. My robot's name is _____Elijah_____ robotName = Elijah
2. My robot's height is _____27 feet_____ numUnitsTall = 27 feet
3. My robot's primary purpose is __being awesome__ purpose = being awesome

Name(s)_____ Period _____ Date _____

Variables in Envelopes

Variables Assessment Worksheet

Given the value of each variable envelope, fill in the blanks to finish the sentence.

color = pink	When I grow up, I want to own a guard_____. *animal*
petalNumber = 22	I found a flower with_____ petals, so I picked it. *petalNumber*
animal = monkey	My dad just painted his house_____ to match his car. *color*
bestSport = golf	I love_____. I do it every evening. *hobby*
hobby = coding	There is no such thing as_____ rivers, so if you find one, don't swim in it! *color*
	The best sport in the world is_____, do you agree? *bestSport*

Variable envelopes can also contain number values. Use these envelopes and the provided equations to figure out the magic numbers below.

numOne = 2	[ ] = _____ − _____
numTwo = 5	*magic NumberA* *numThree* *numOne*
numThree = 7	[ ] = _____ × _____
	magic NumberB *numTwo* *numOne*
	[ ] = _____ + _____ × _____
	magic NumberC *numOne* *numTwo* *magicNumberB*

TEACHER KEY

Variables in Envelopes

Variables Assessment Worksheet

Given the value of each variable envelope, fill in the blanks to finish the sentence.

color	= pink
petalNumber	= 22
animal	= monkey
bestSport	= golf
hobby	= coding

When I grow up, I want to own a guard____monkey_____.
animal

I found a flower with____22_____ petals, so I picked it.
petalNumber

My dad just painted his house____pink____ to match his car.
color

I love_____coding_____. I do it every evening.
hobby

There is no such thing as_____pink____ rivers, so if you find one, don't swim in it!
color

The best sport in the world is____golf_____, do you agree?
bestSport

Variable envelopes can also contain number values. Use these envelopes and the provided equations to figure out the magic numbers below.

numOne	= 2
numTwo	= 5
numThree	= 7

5 = 7 _____ − 2 _____
magic NumberA = *numThree* − *numOne*

10 = 5 _____ × 2 _____
magic NumberB = *numTwo* × *numOne*

52 = 2 _____ + 5 _____ × 10 _____
magic NumberC = *numOne* + *numTwo* × *magicNumberB*

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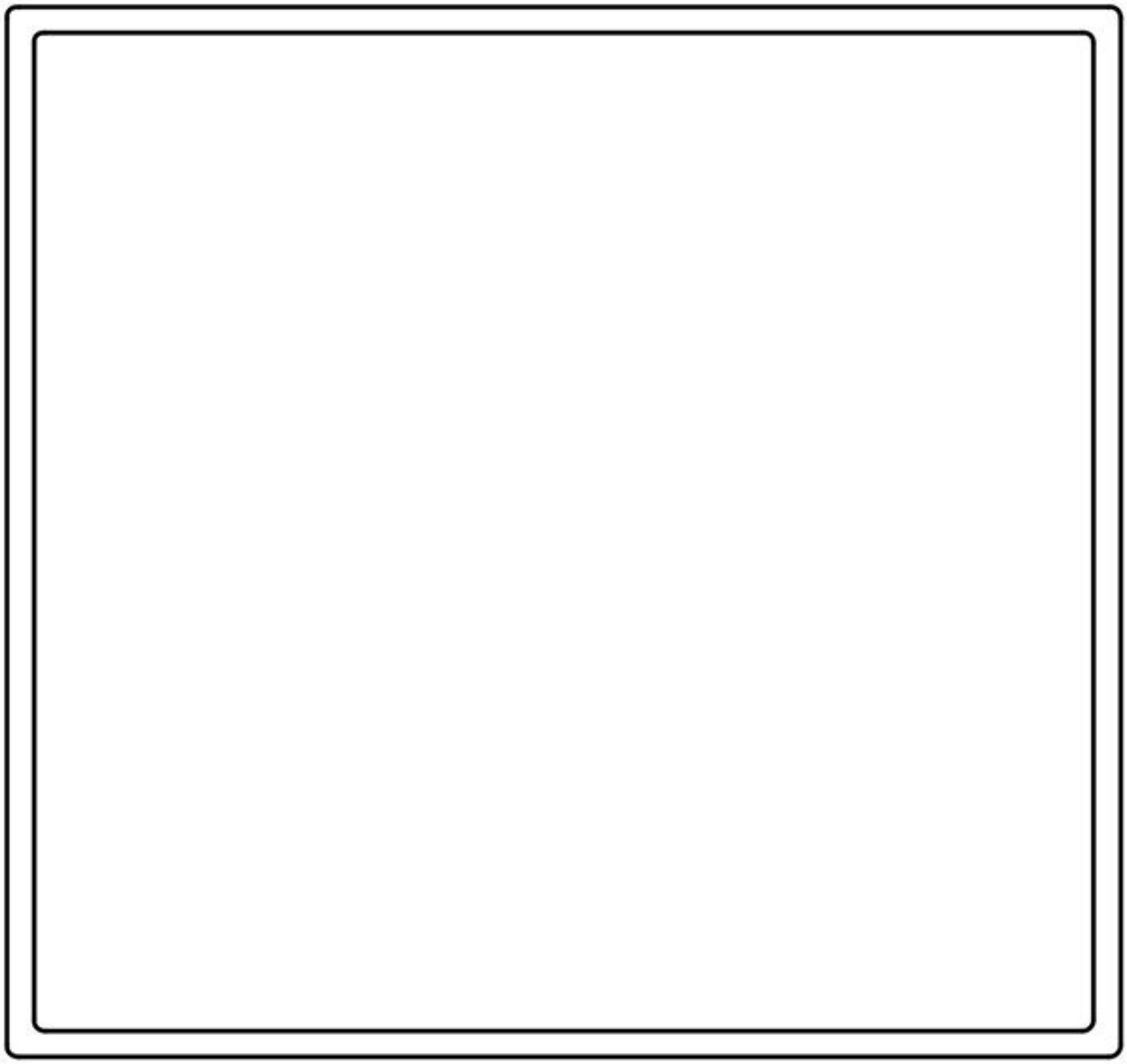

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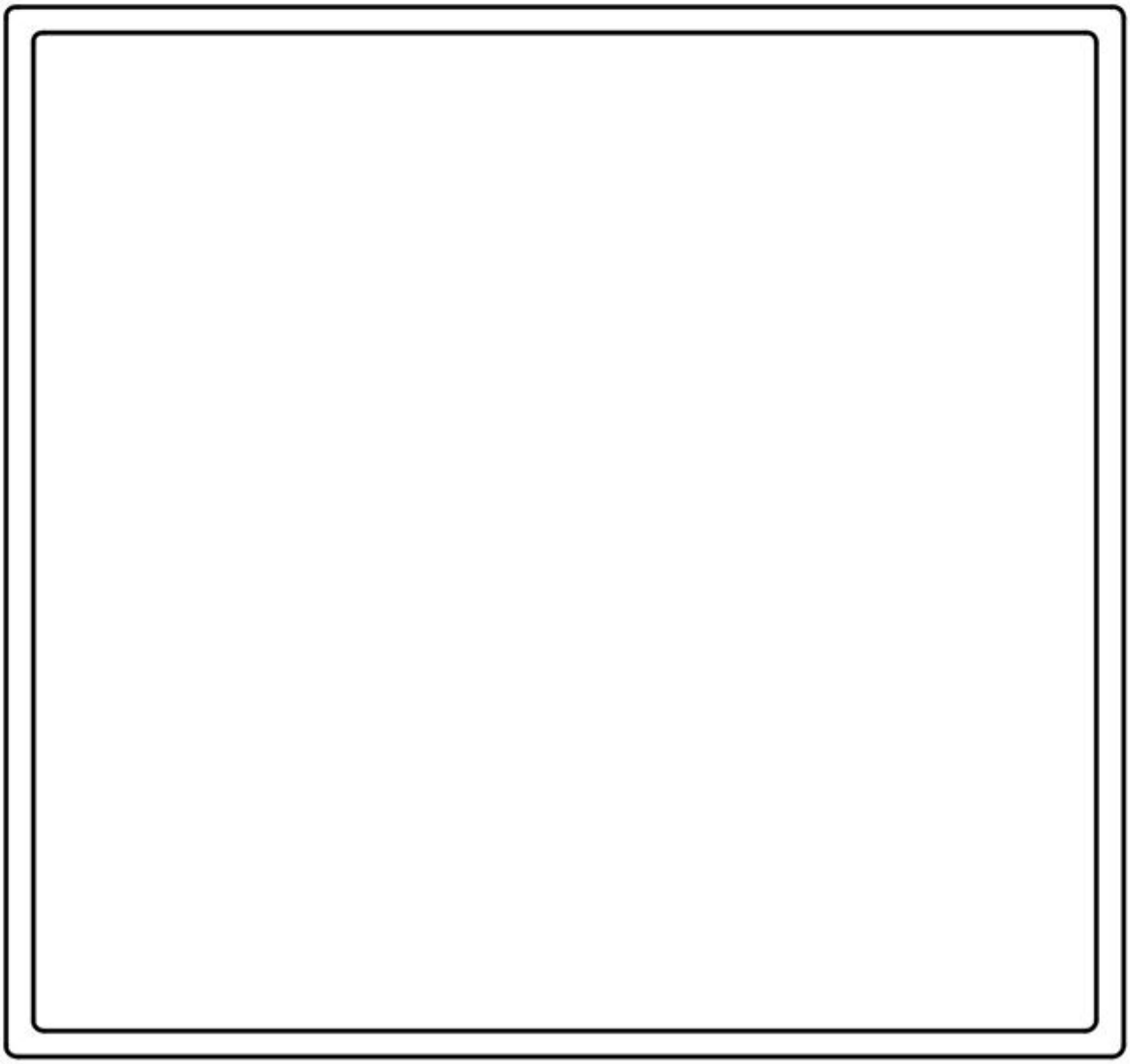

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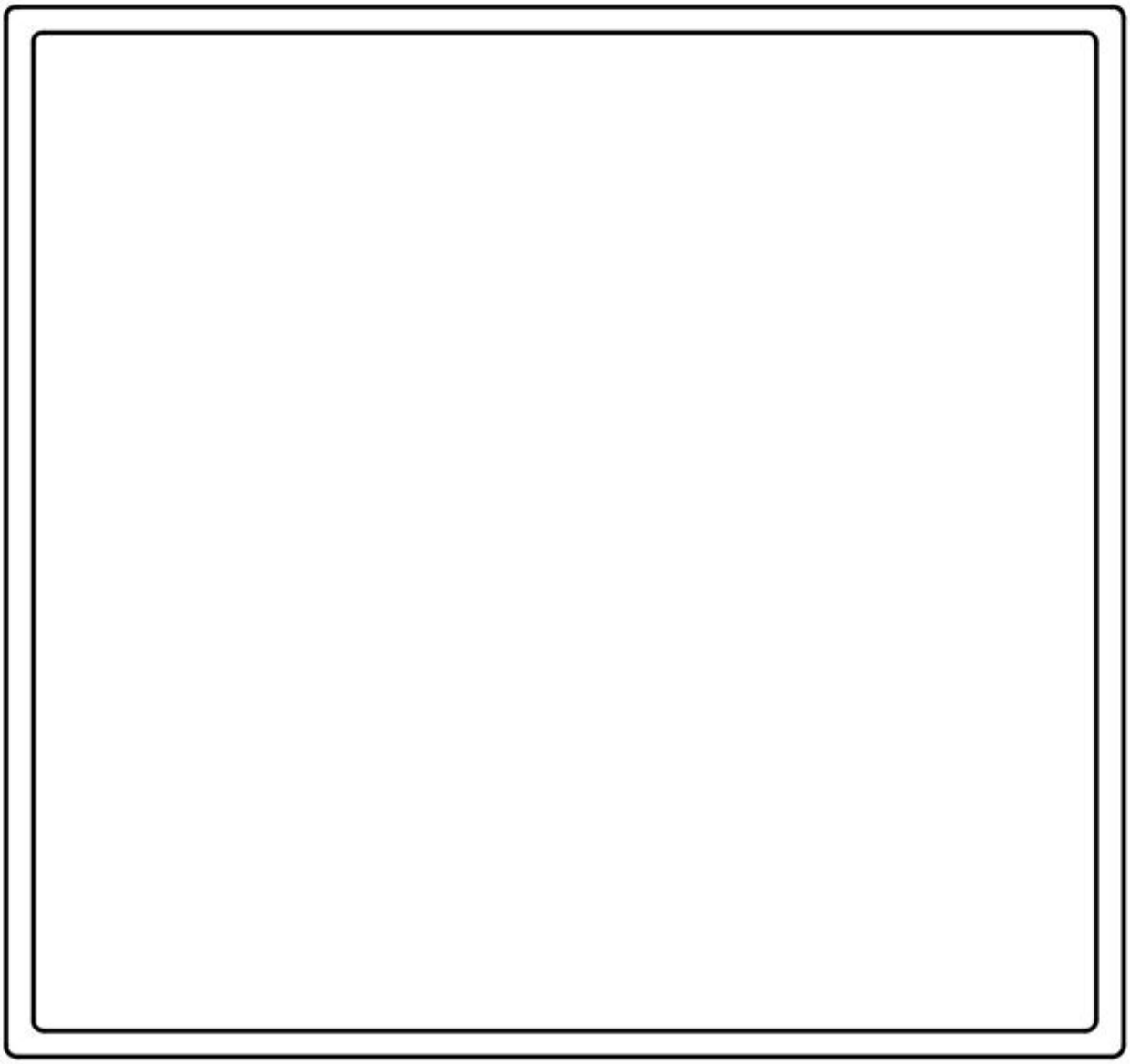

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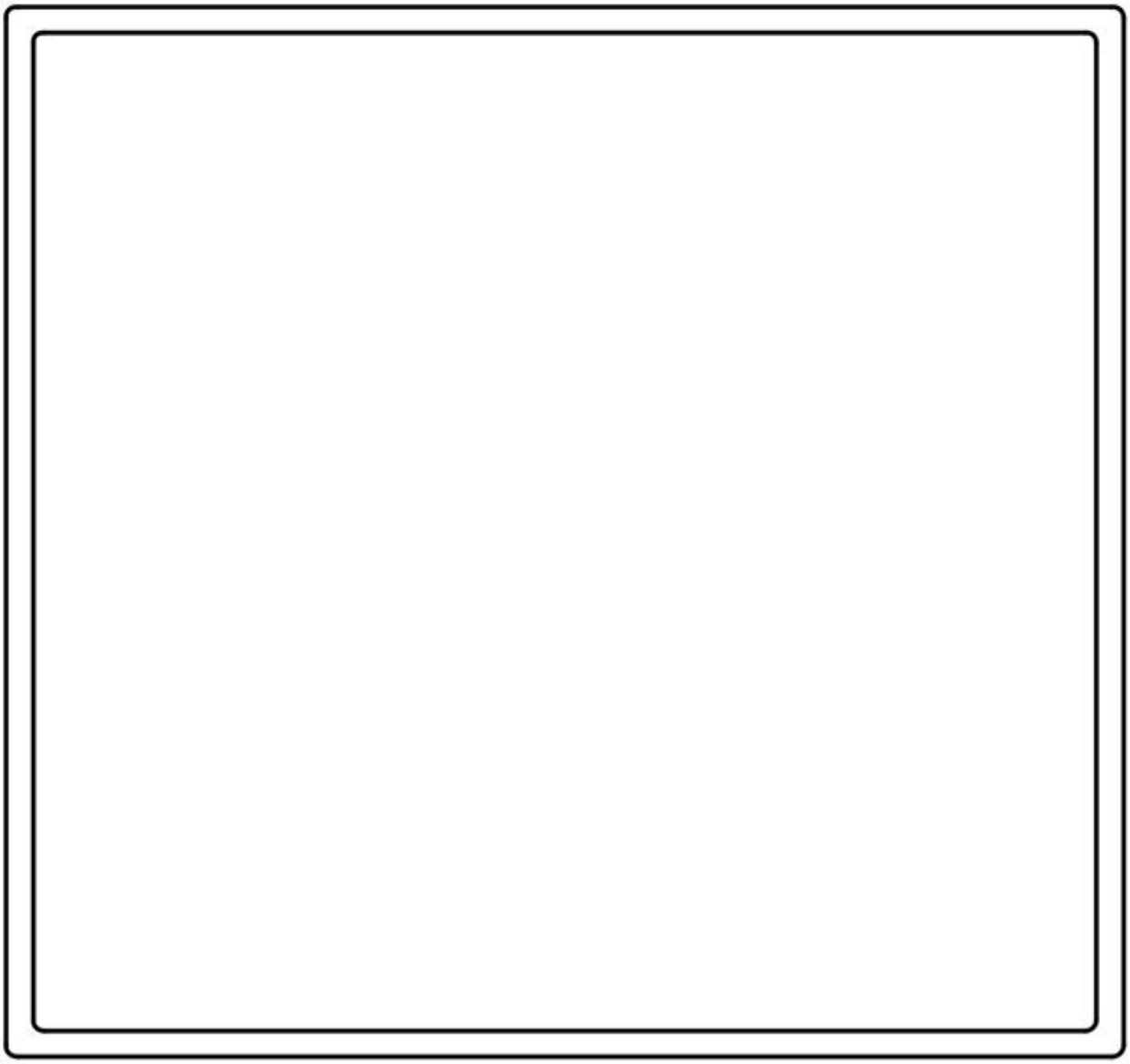

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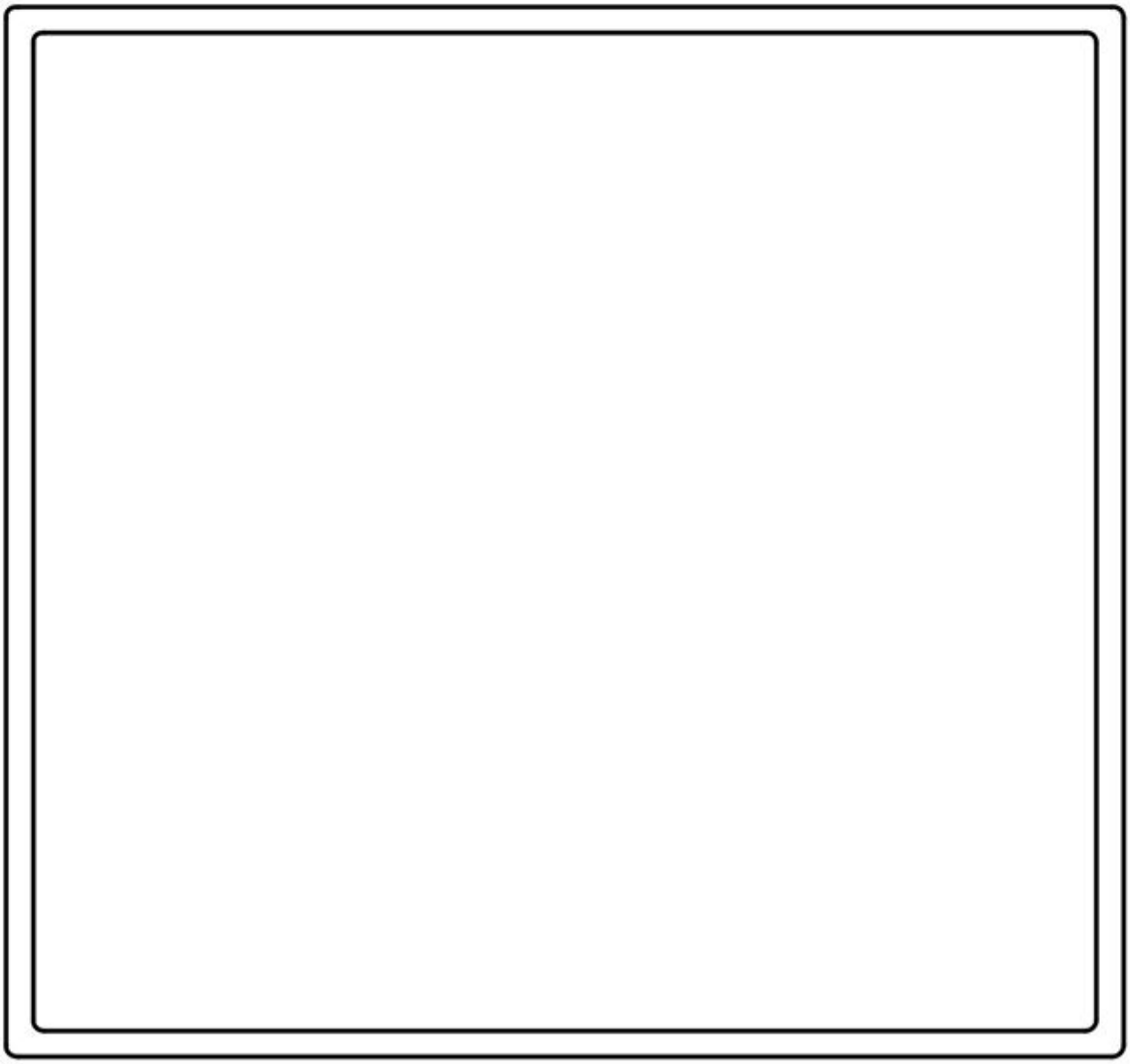

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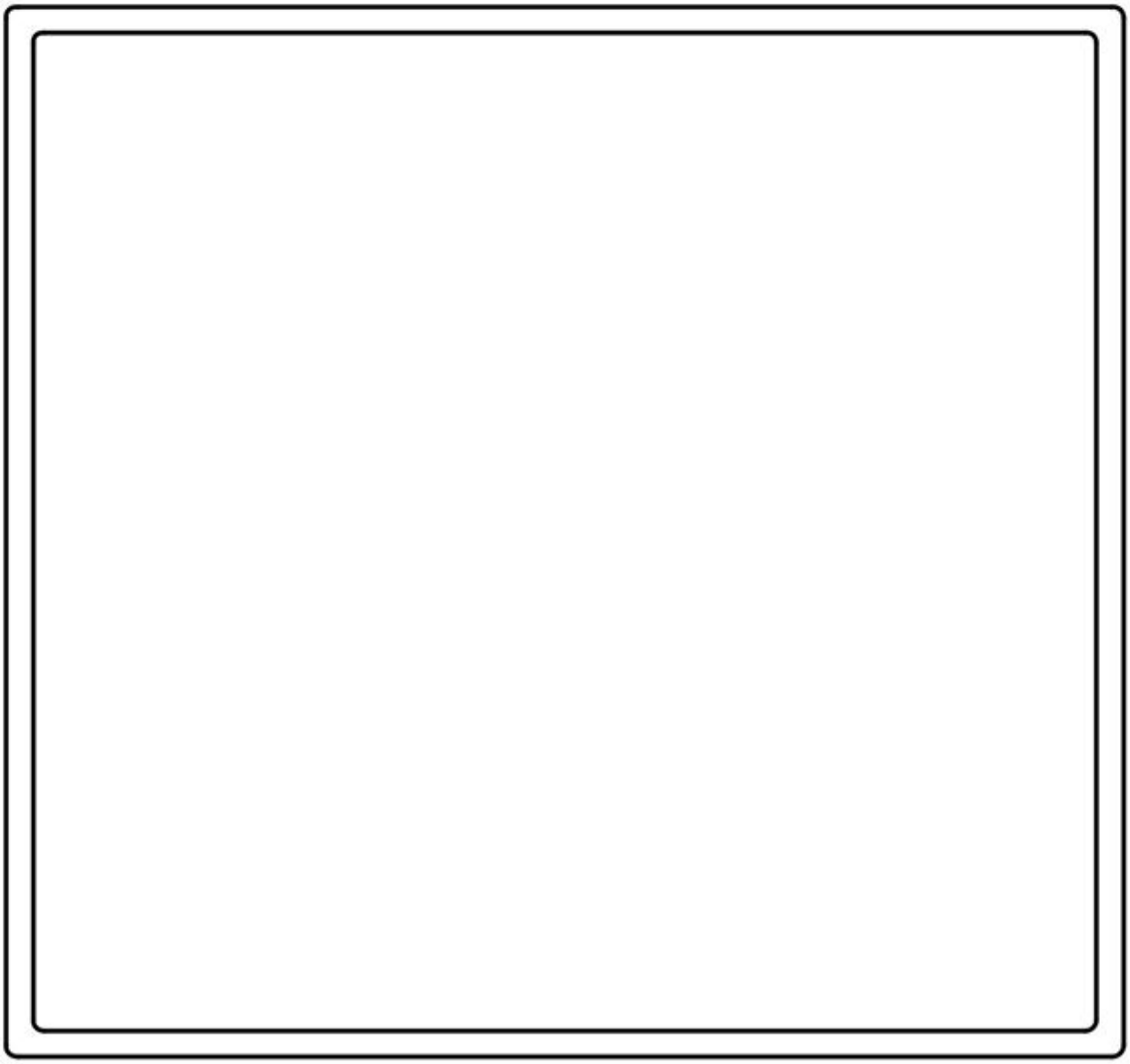

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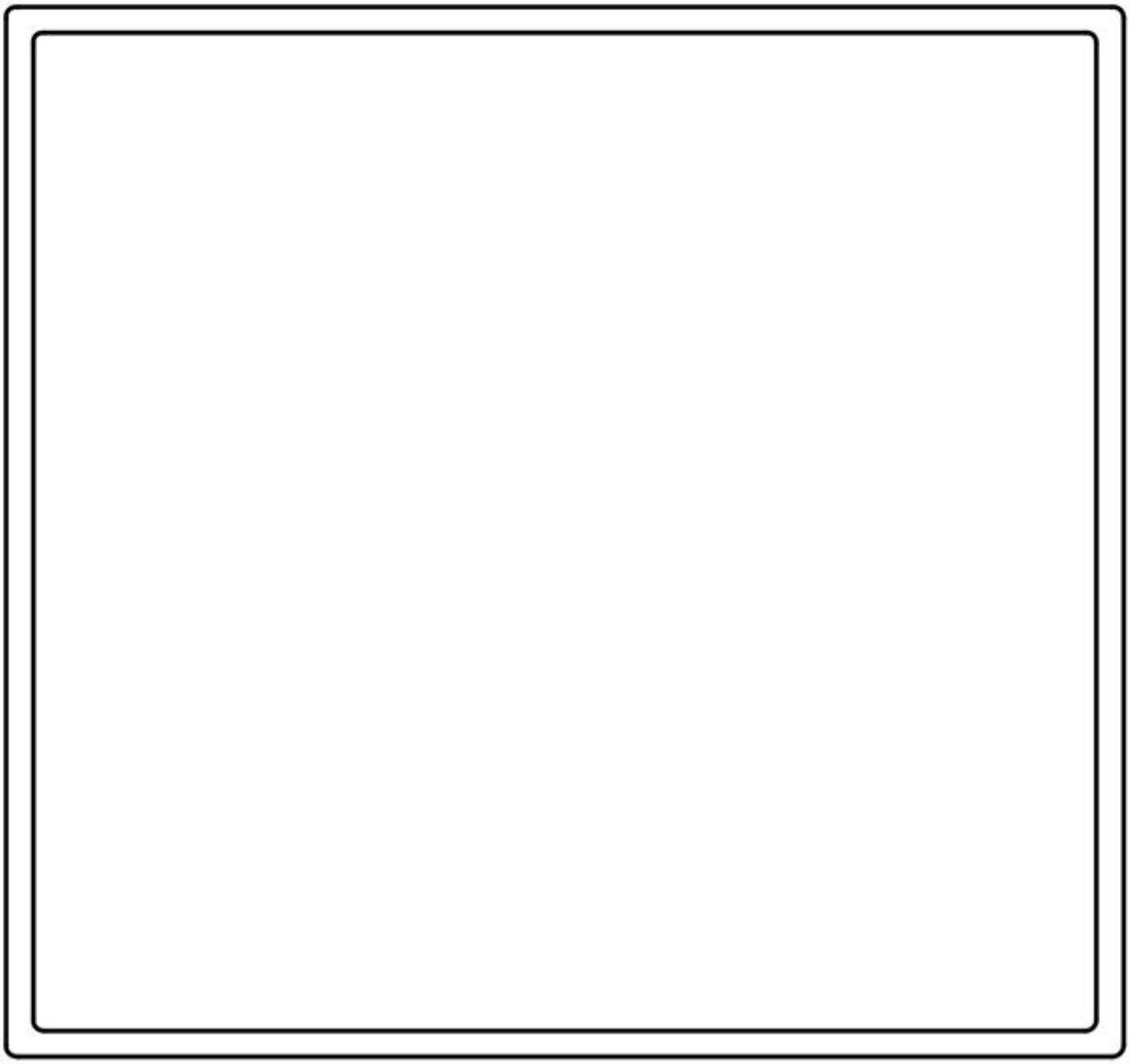

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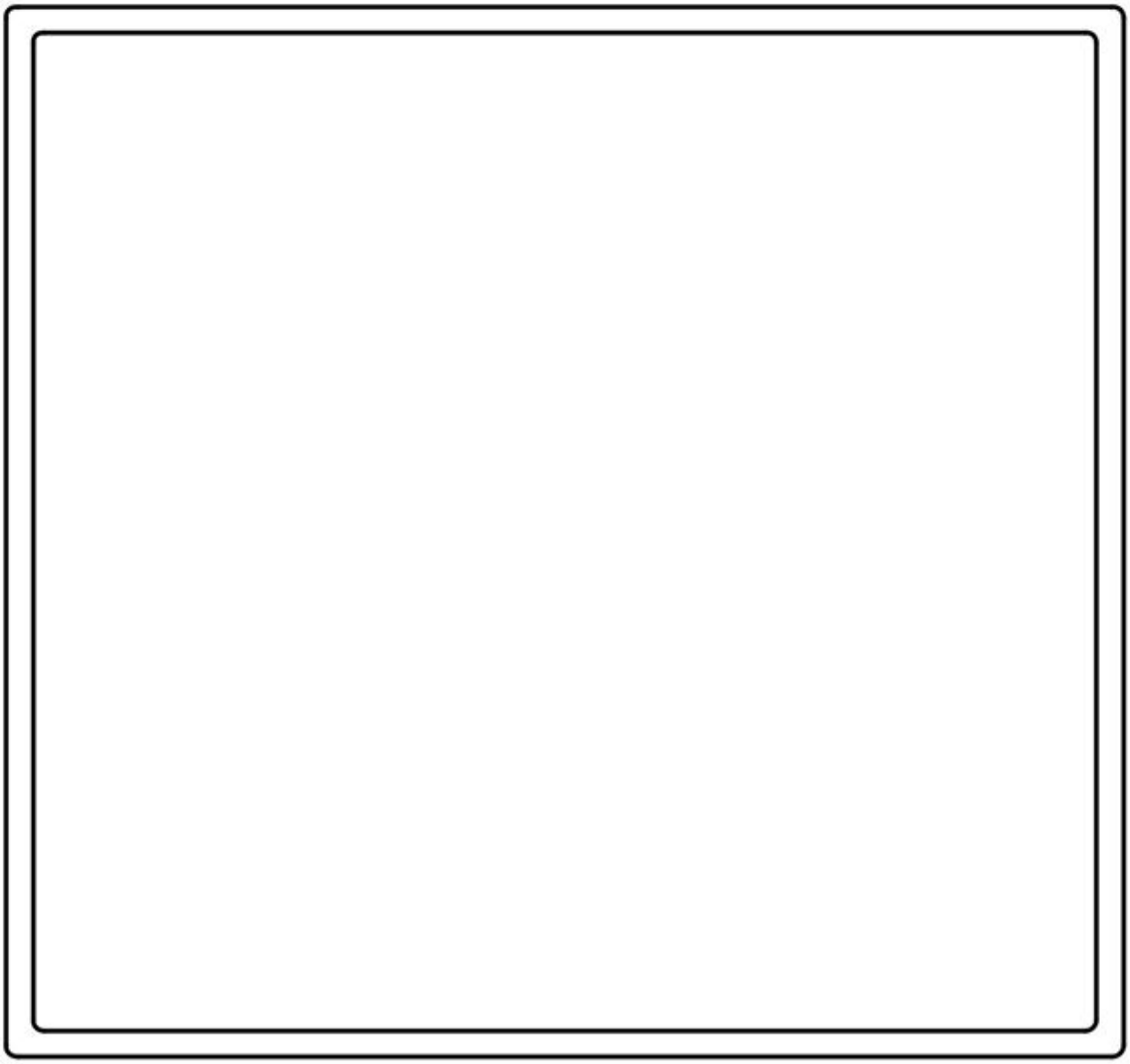

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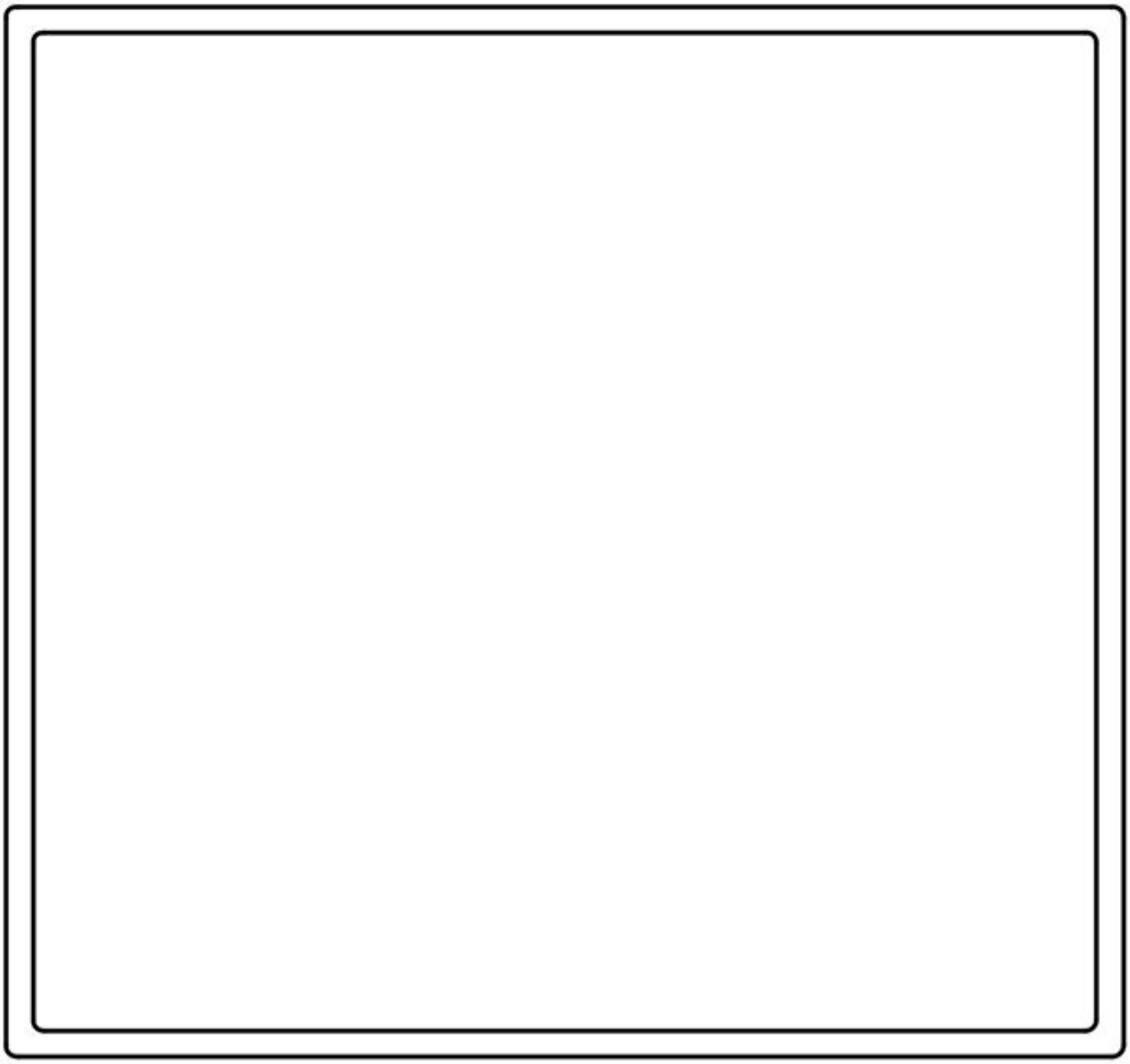

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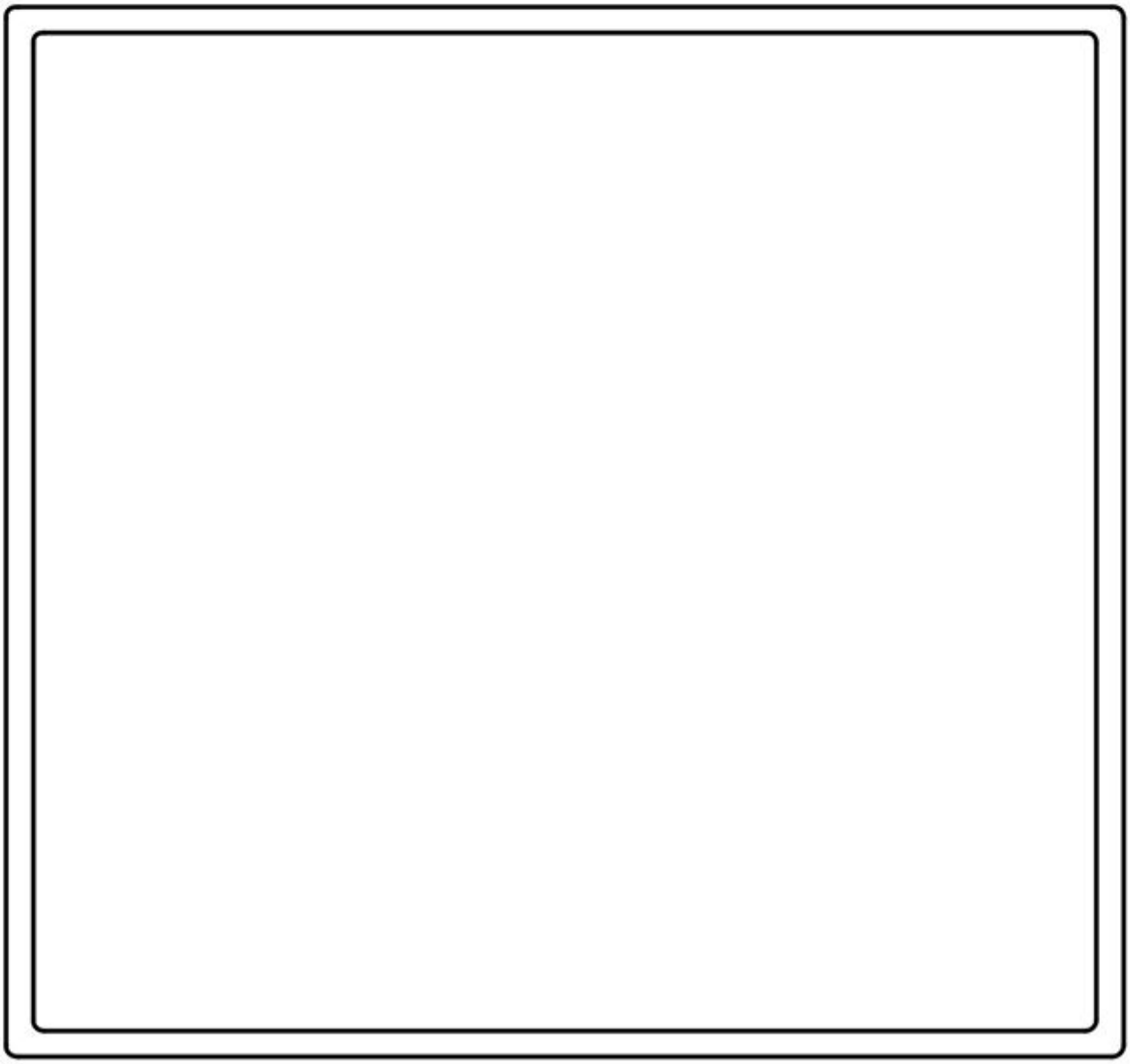
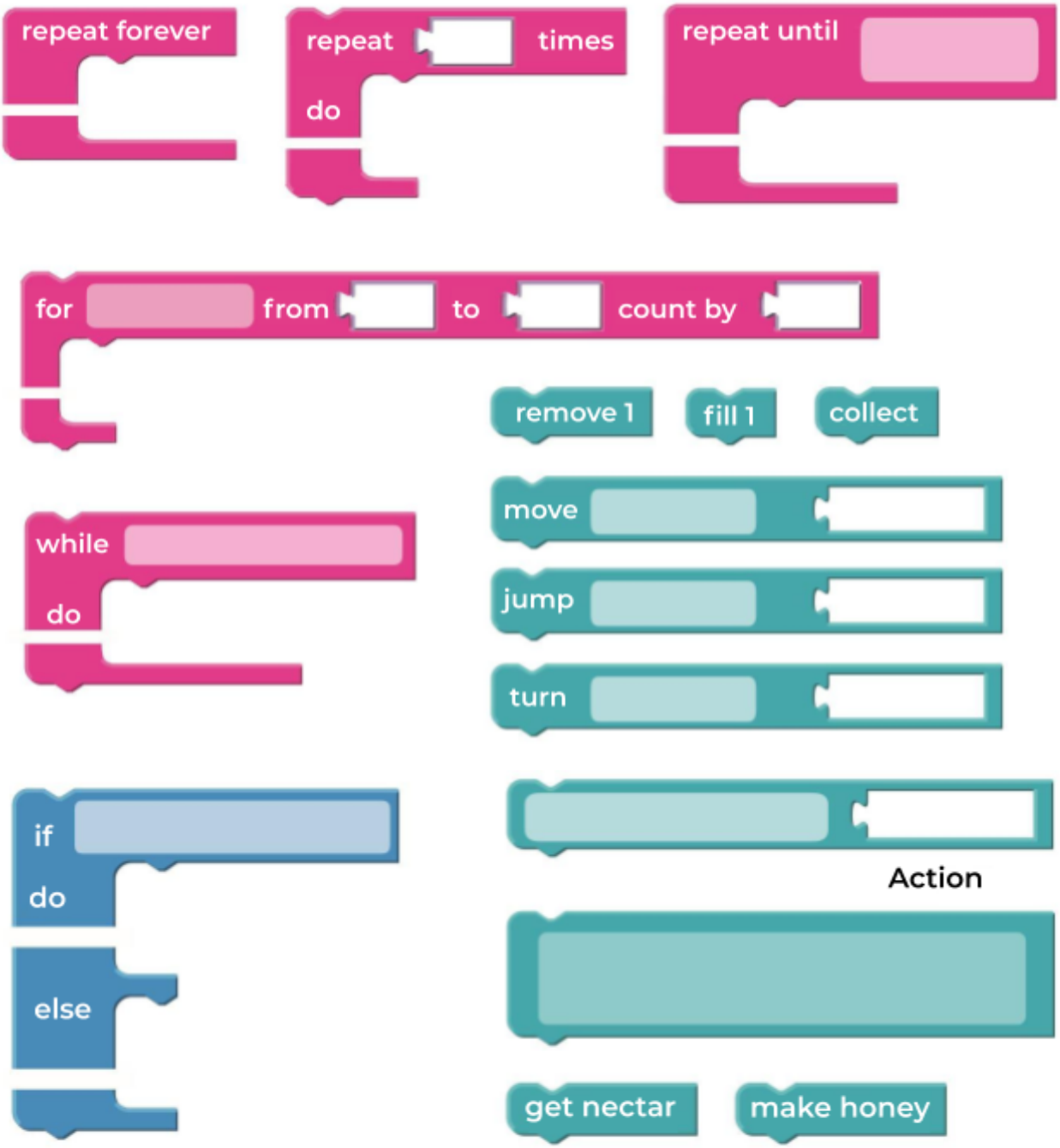


Unit 6 Lesson 16

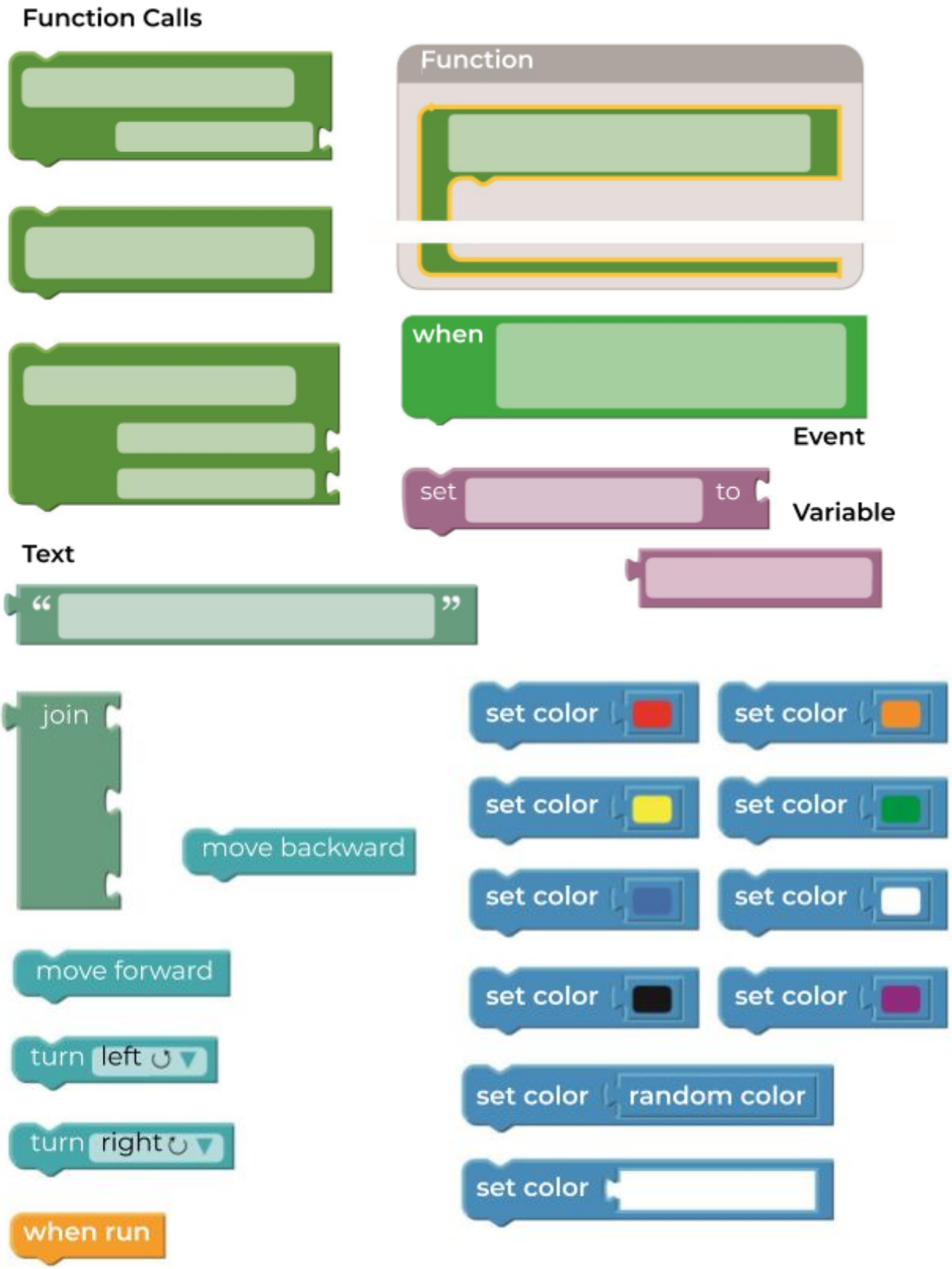
Variables in Artist

Resources

Unplugged Blocks (Courses C-F)



Unplugged Blocks (Courses C-F)



Main Activity Notes

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Teacher Tip:

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- Don't sit in the classmate's chair
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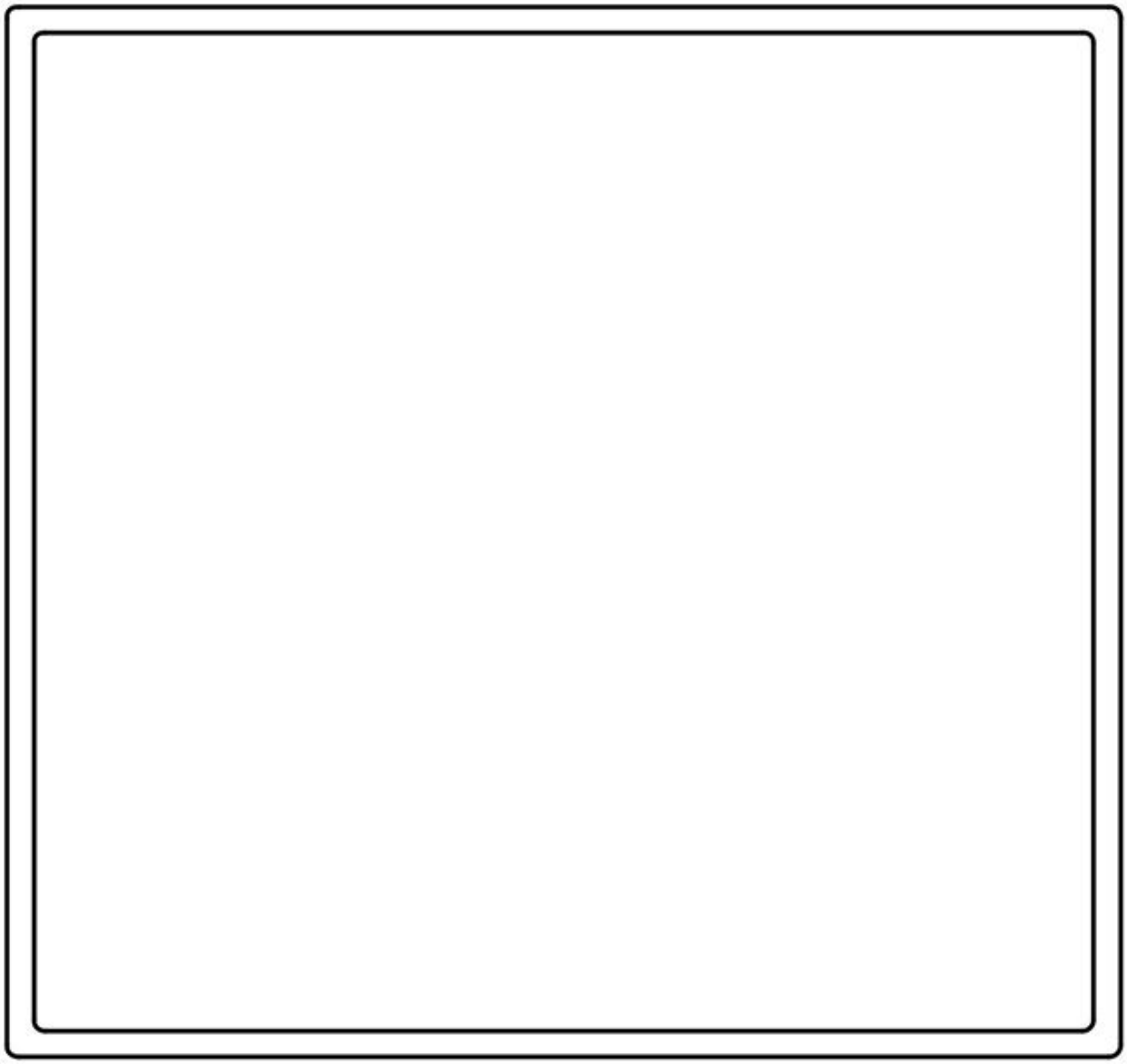
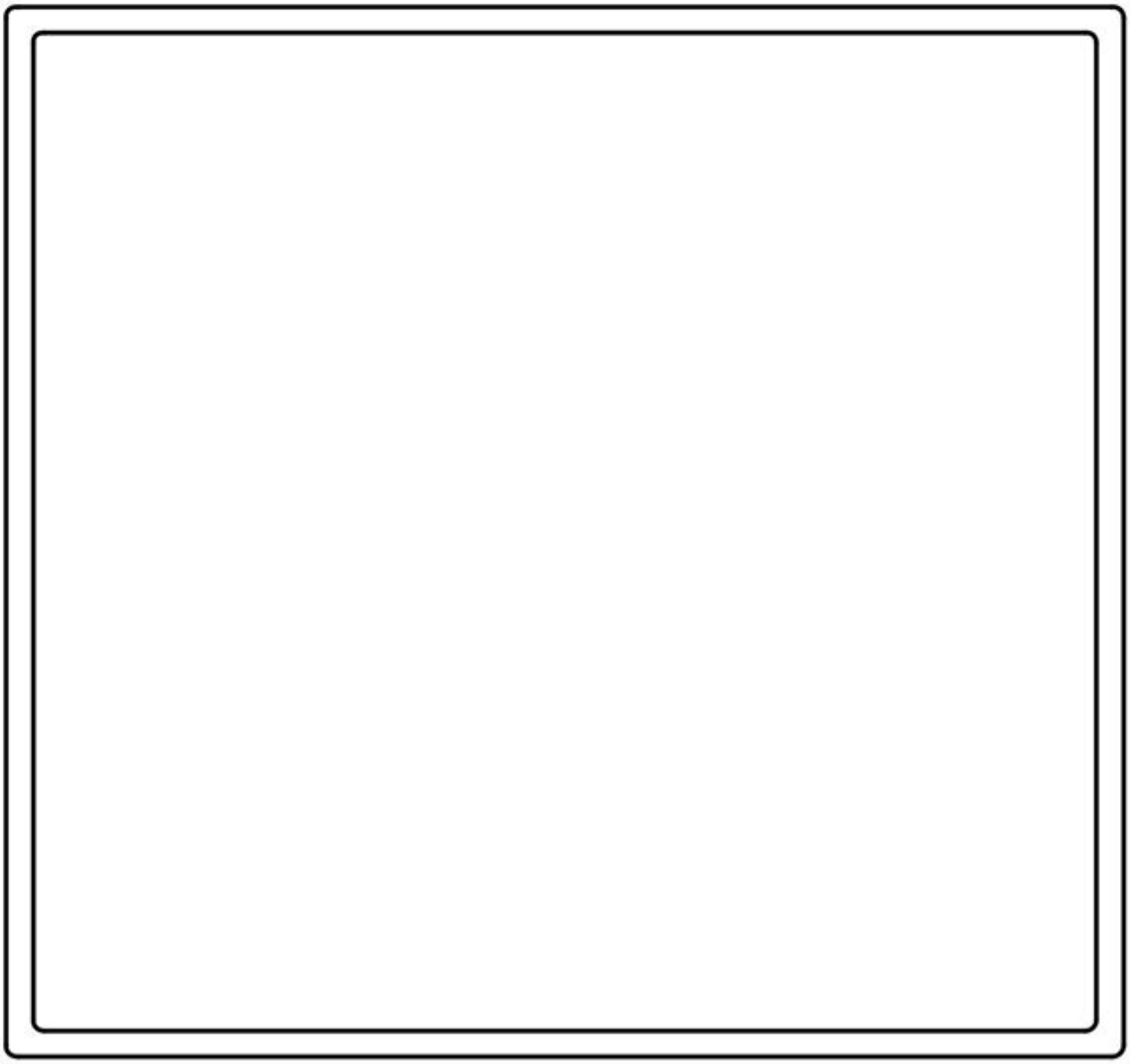
This Journal Belongs To



Grade: Date:

My Think Spot Journal

Date:



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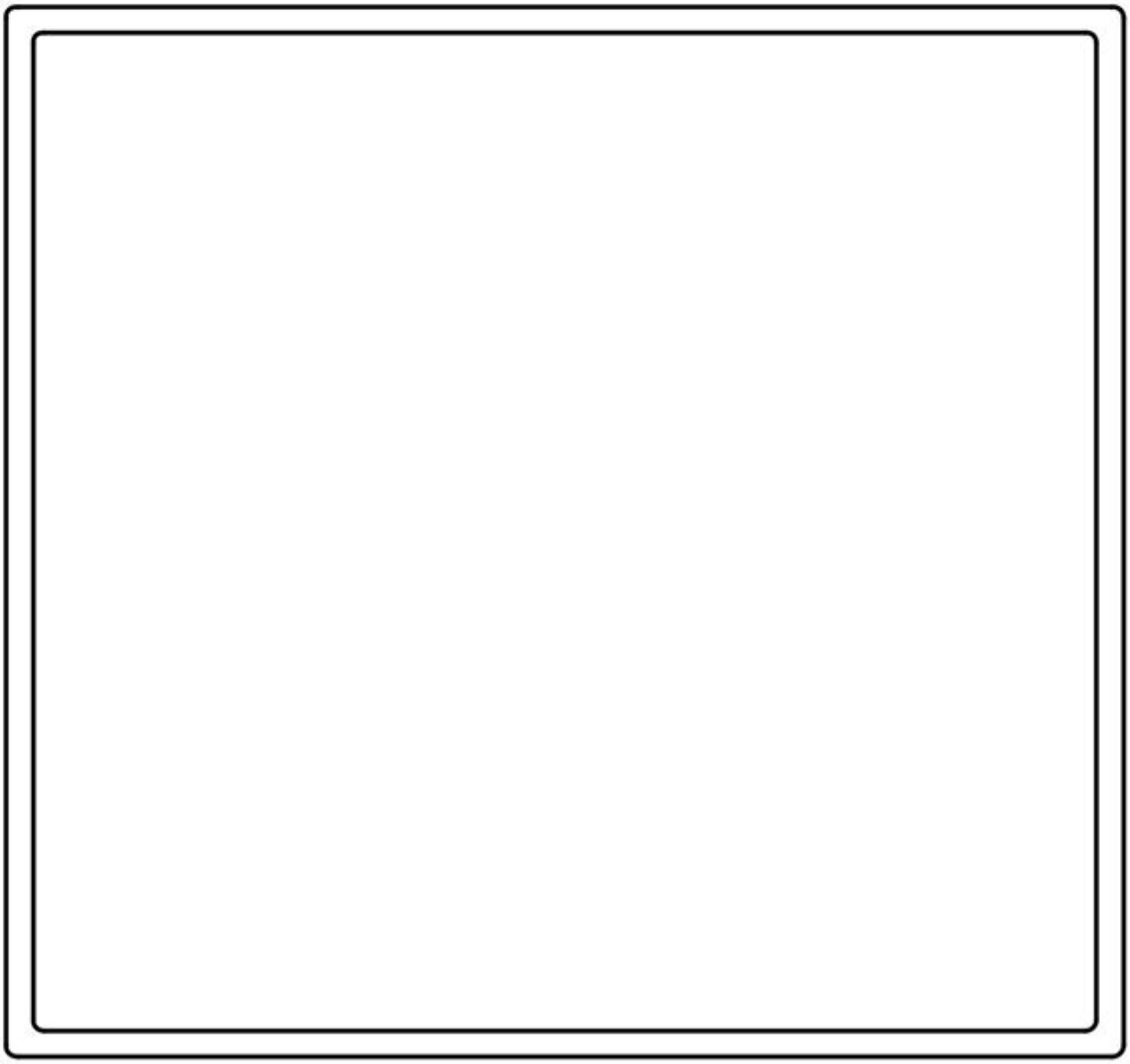

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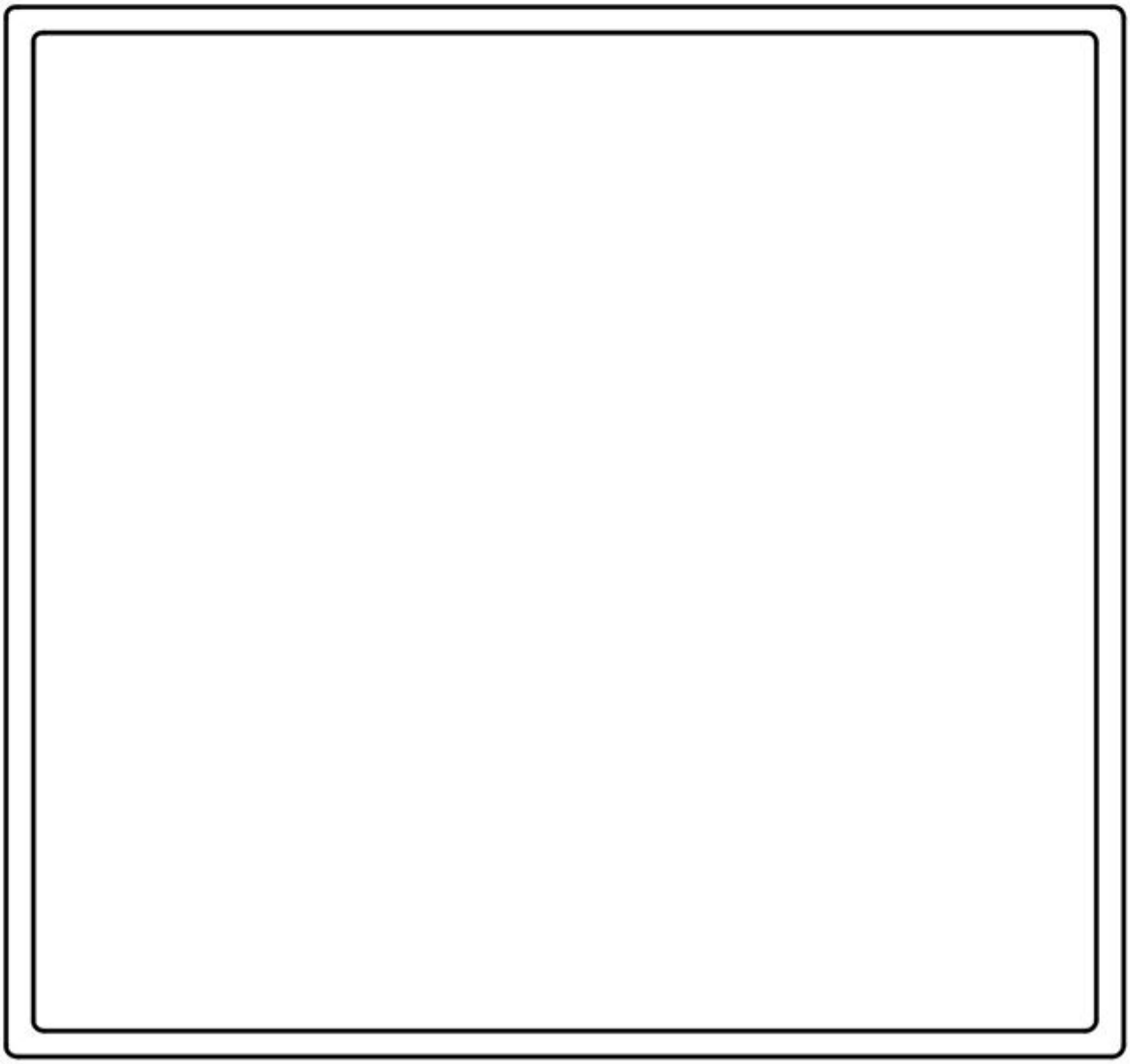

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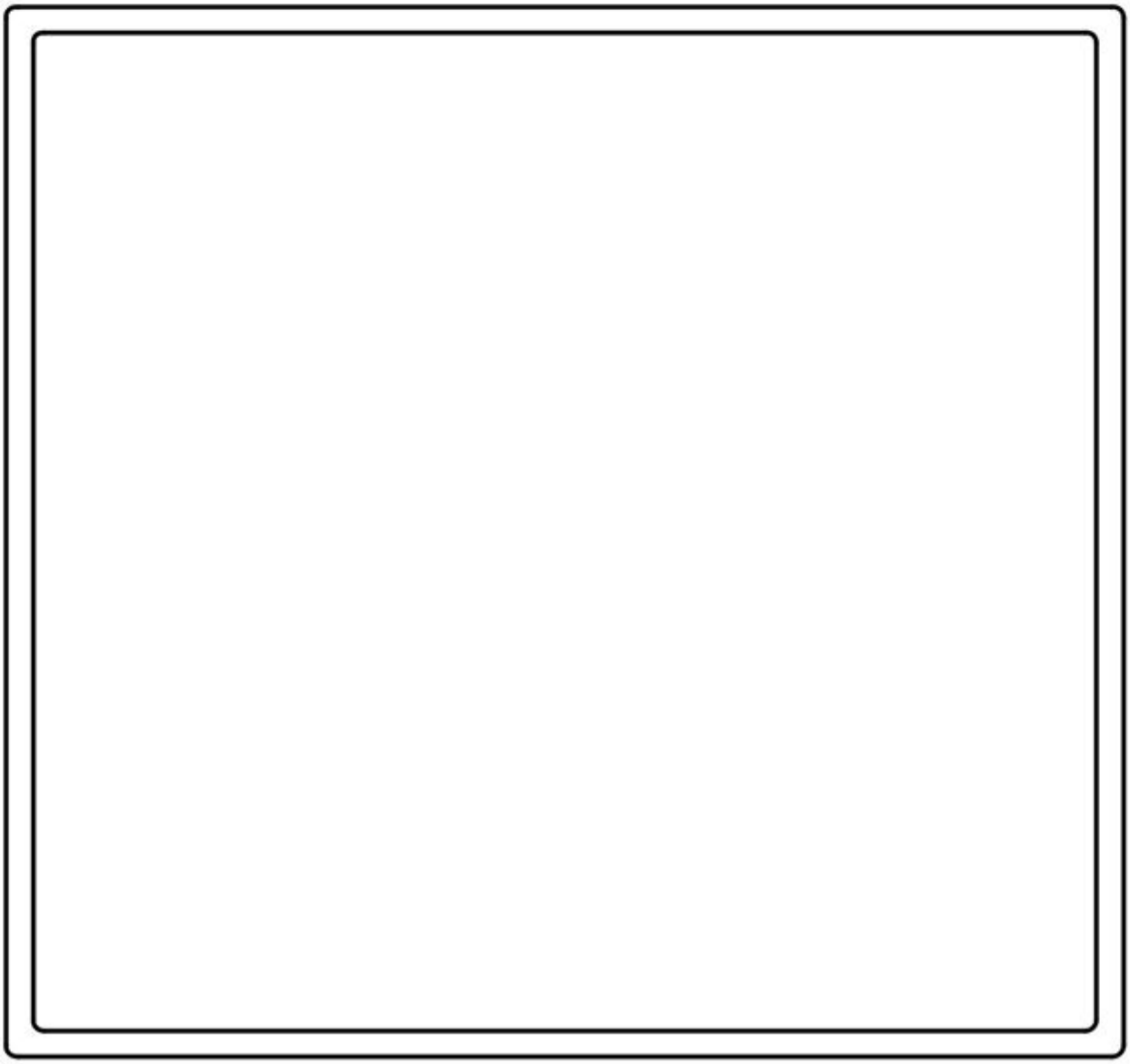

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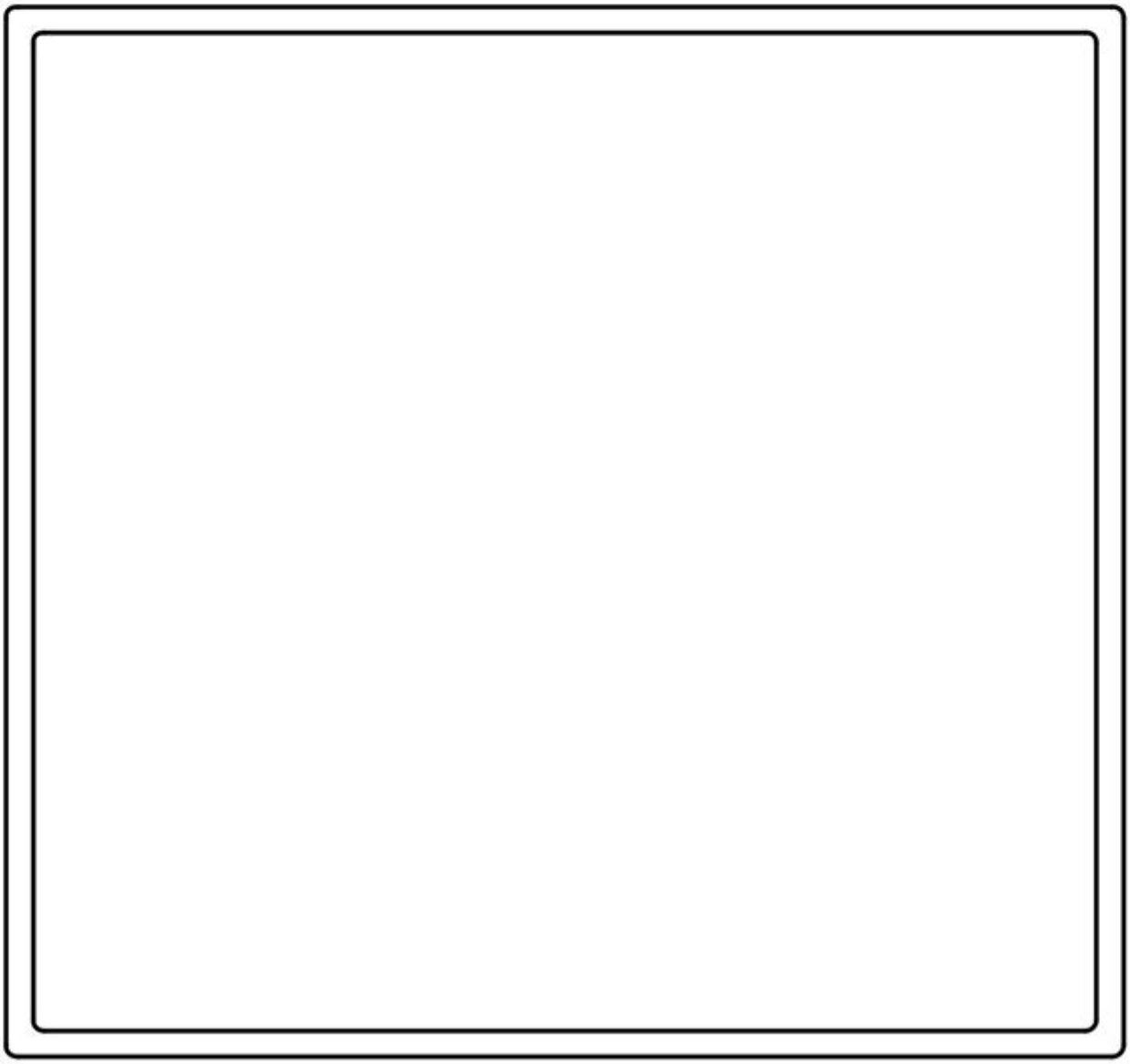

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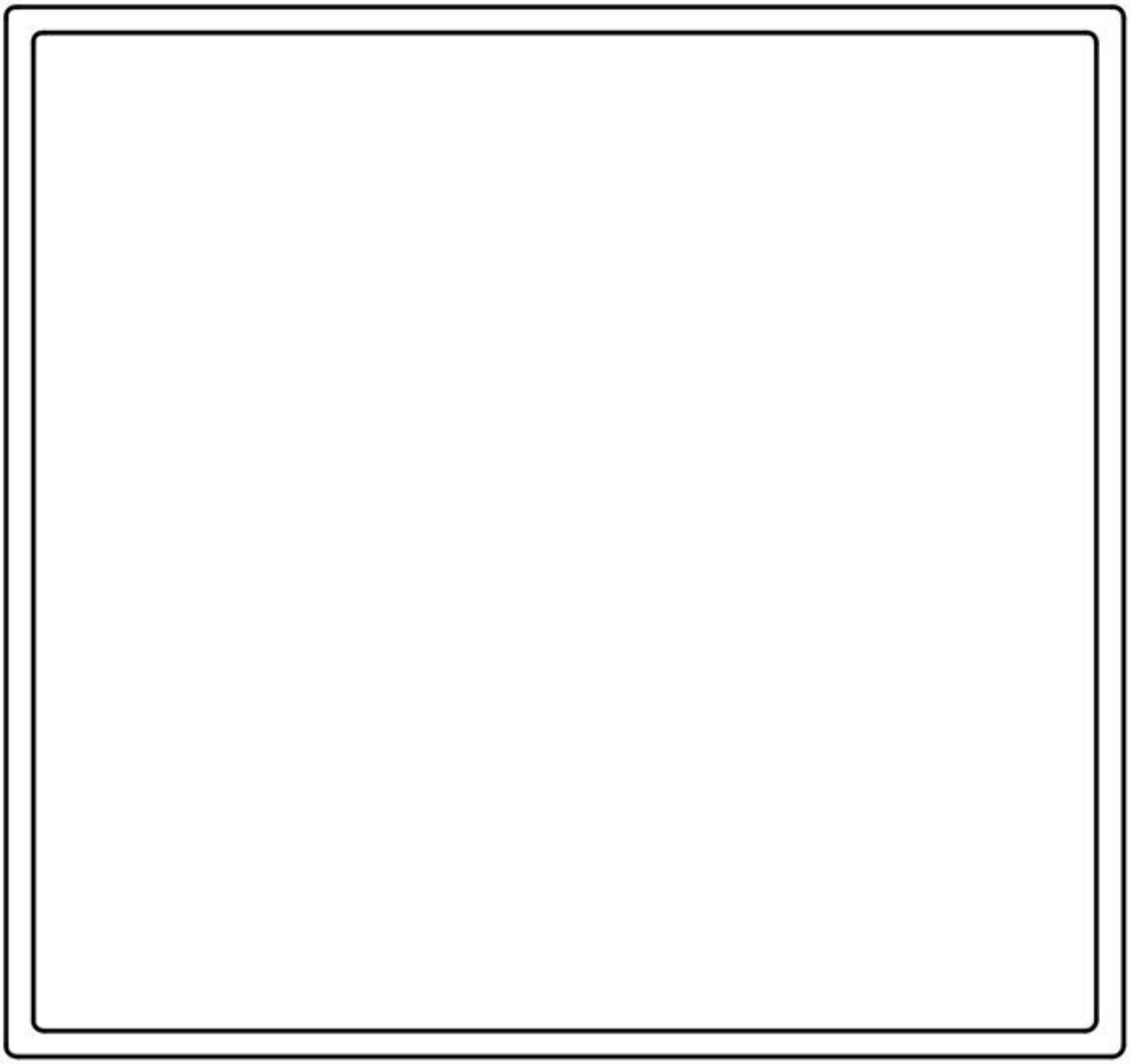

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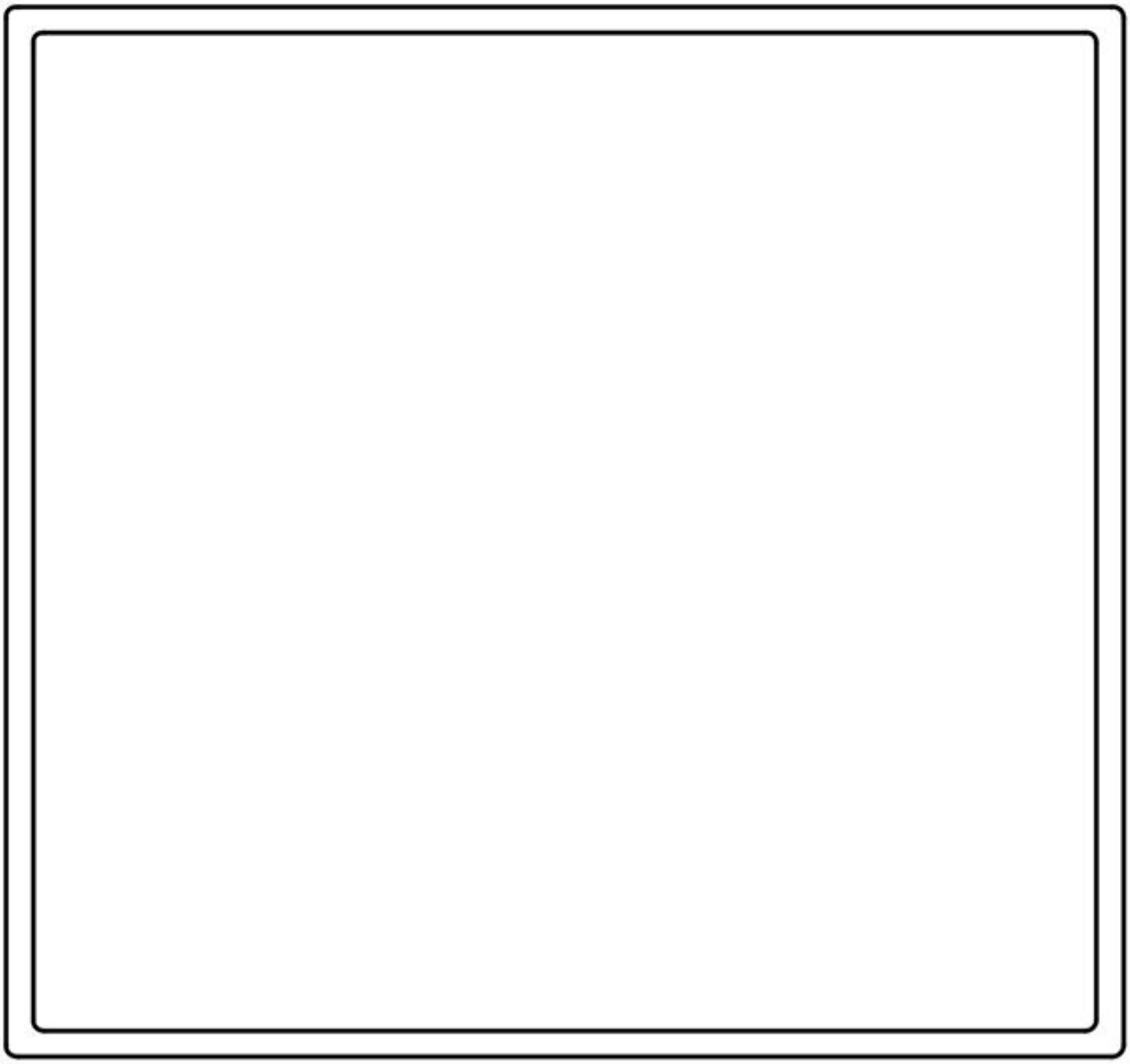

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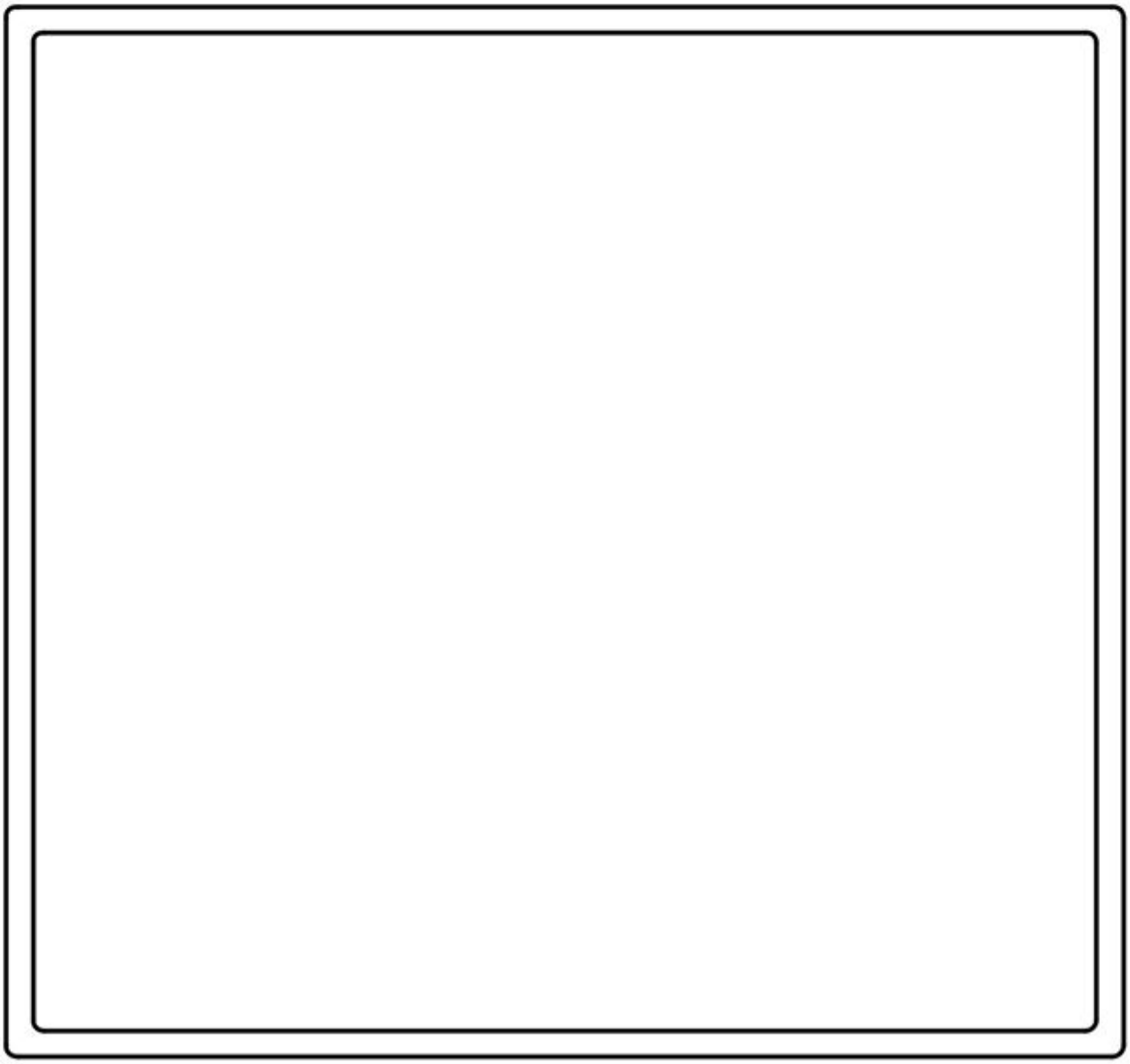

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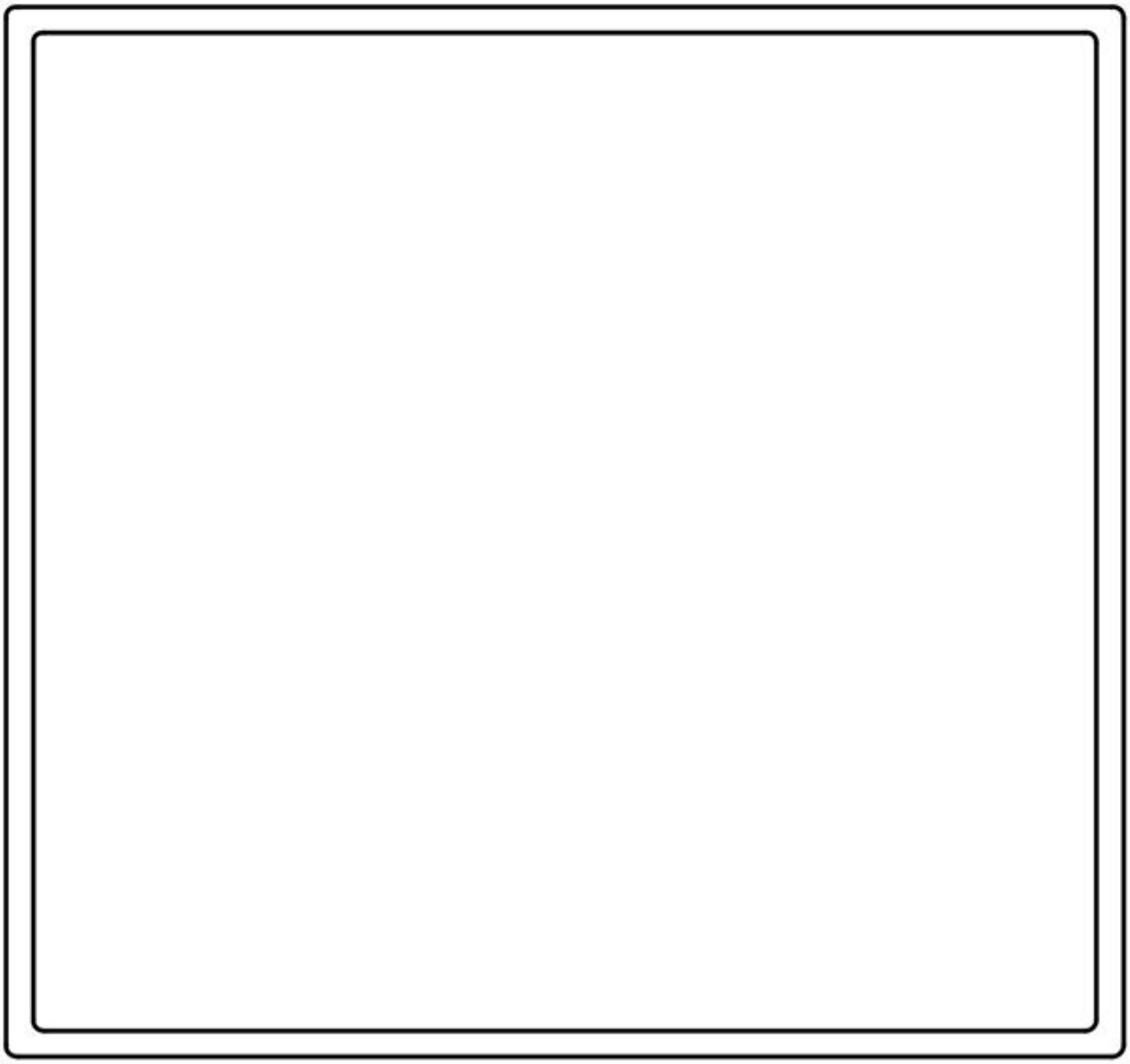

Unit 6 Lesson 17

Variables in Play Lab

Resources

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Show the students the ***right*** way to help classmates:

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- Don't touch the classmate's mouse
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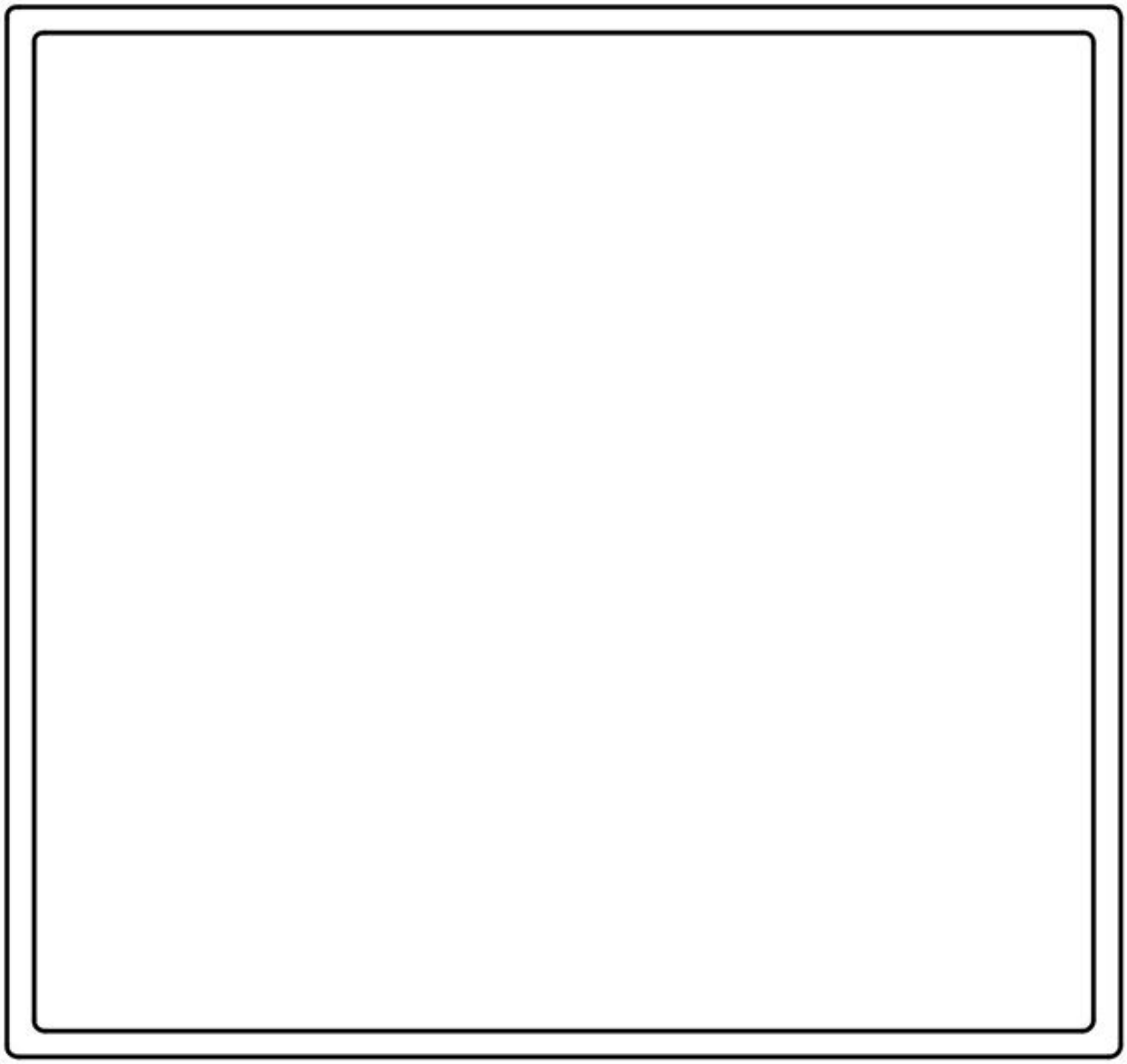
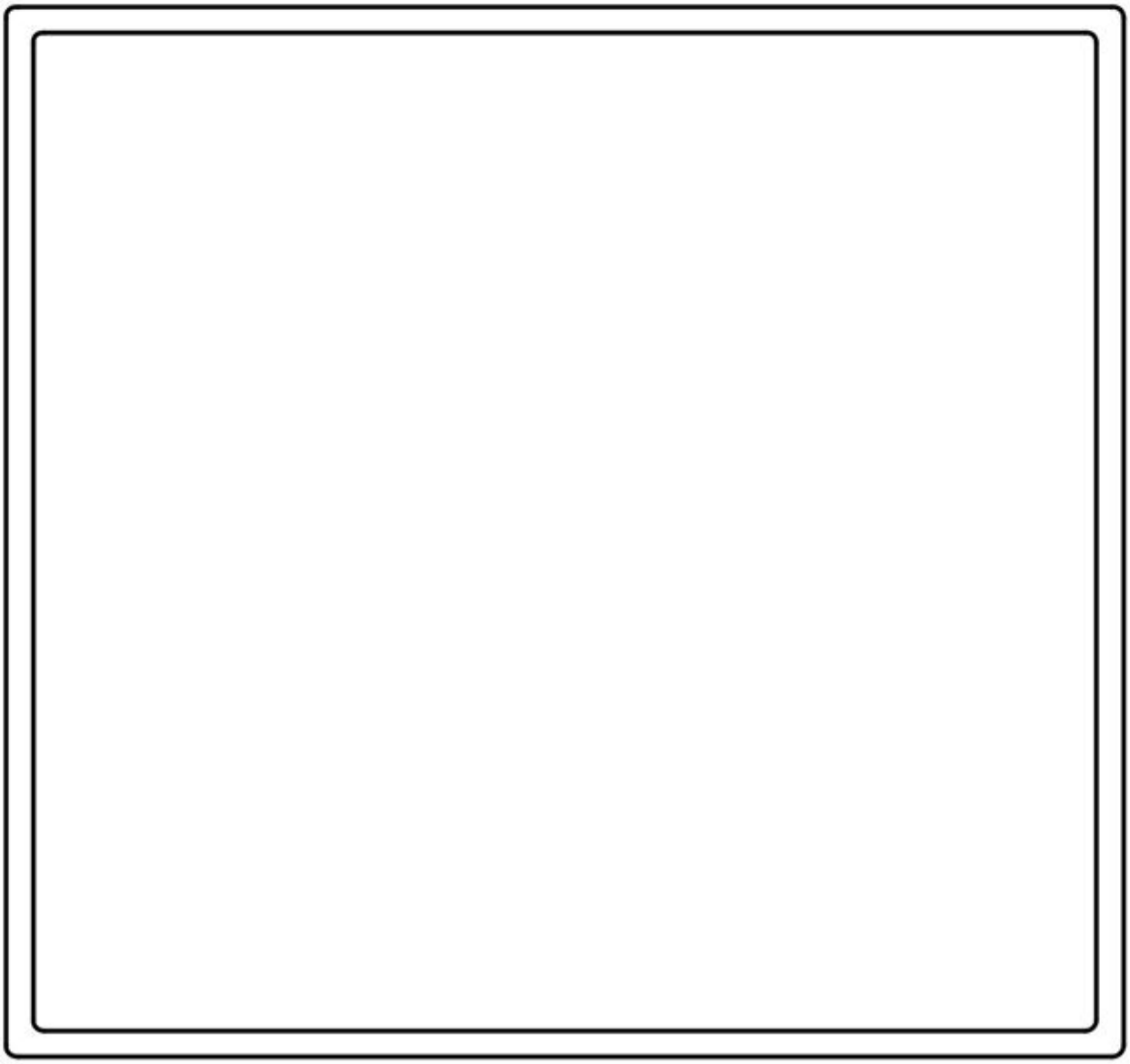
This Journal Belongs To



Grade: Date:

My Think Spot Journal

Date:



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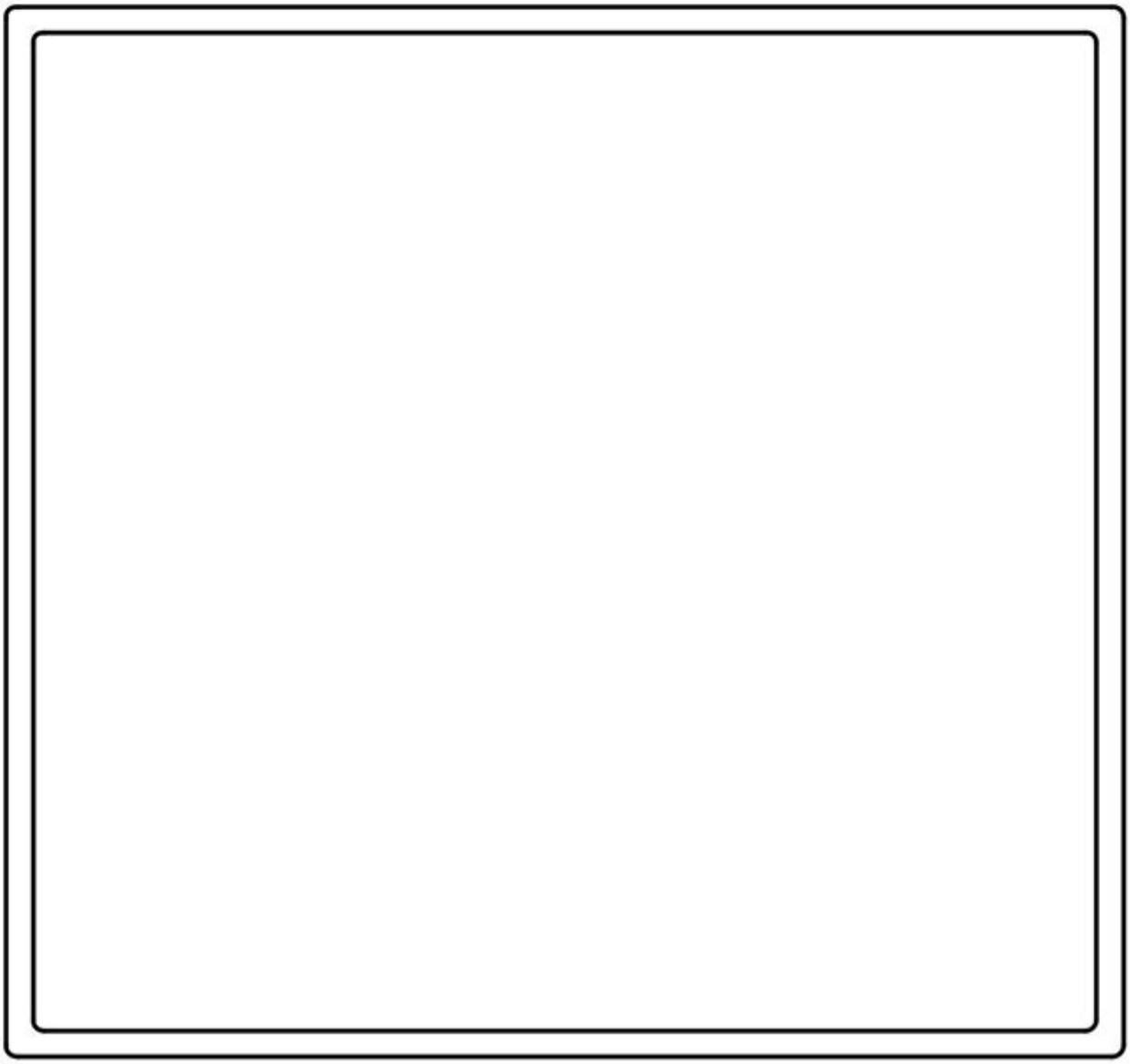

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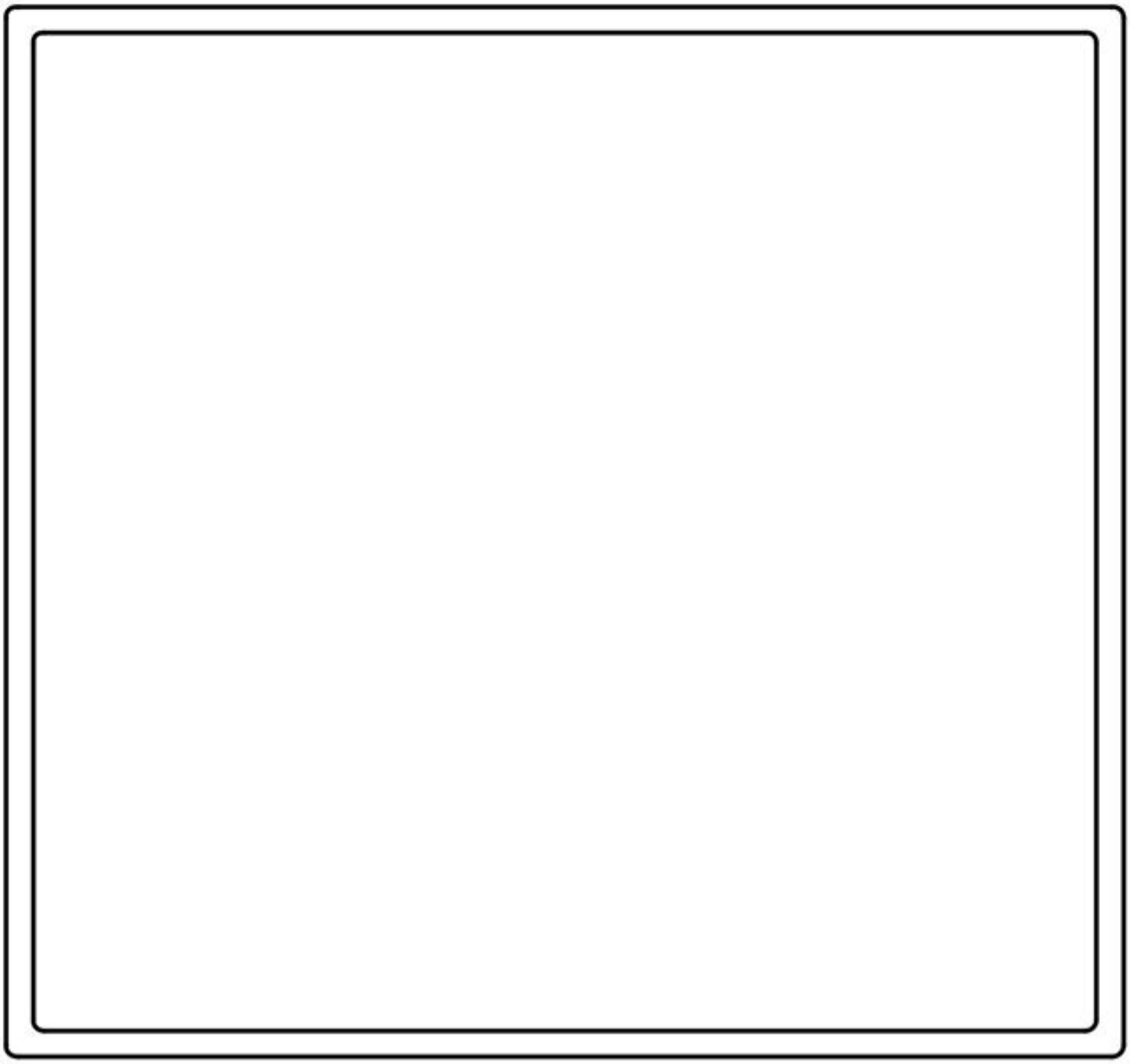

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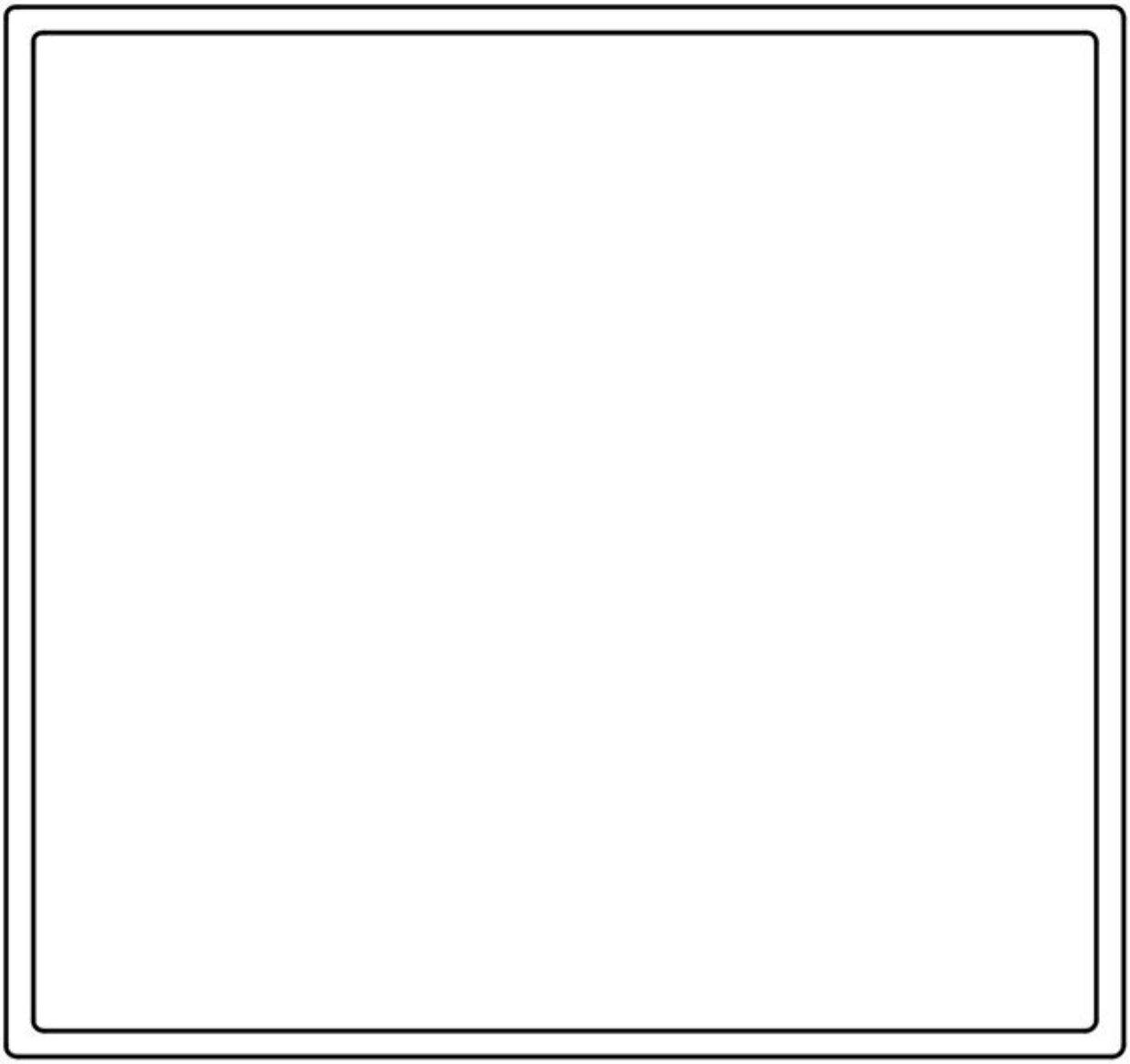

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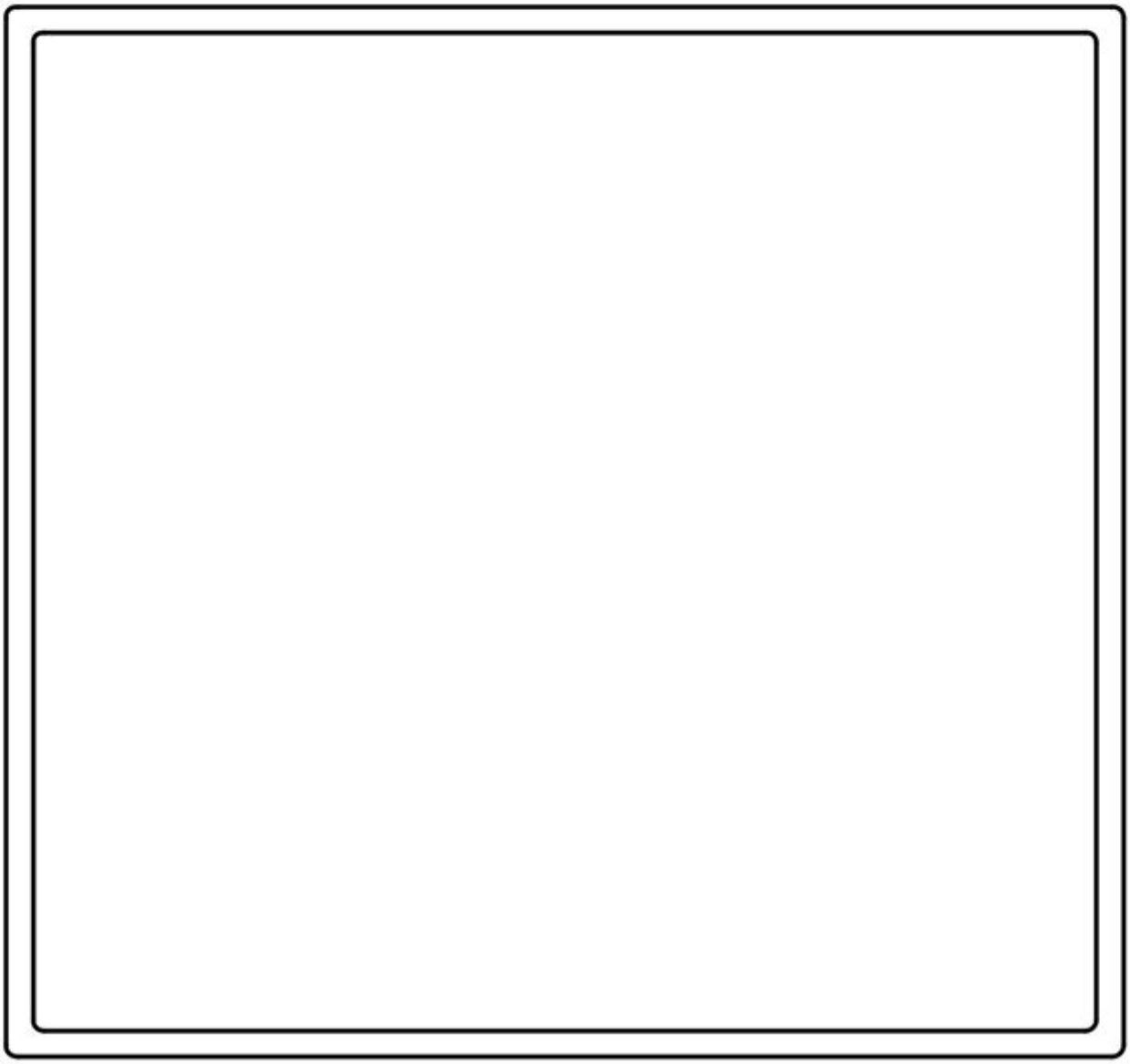

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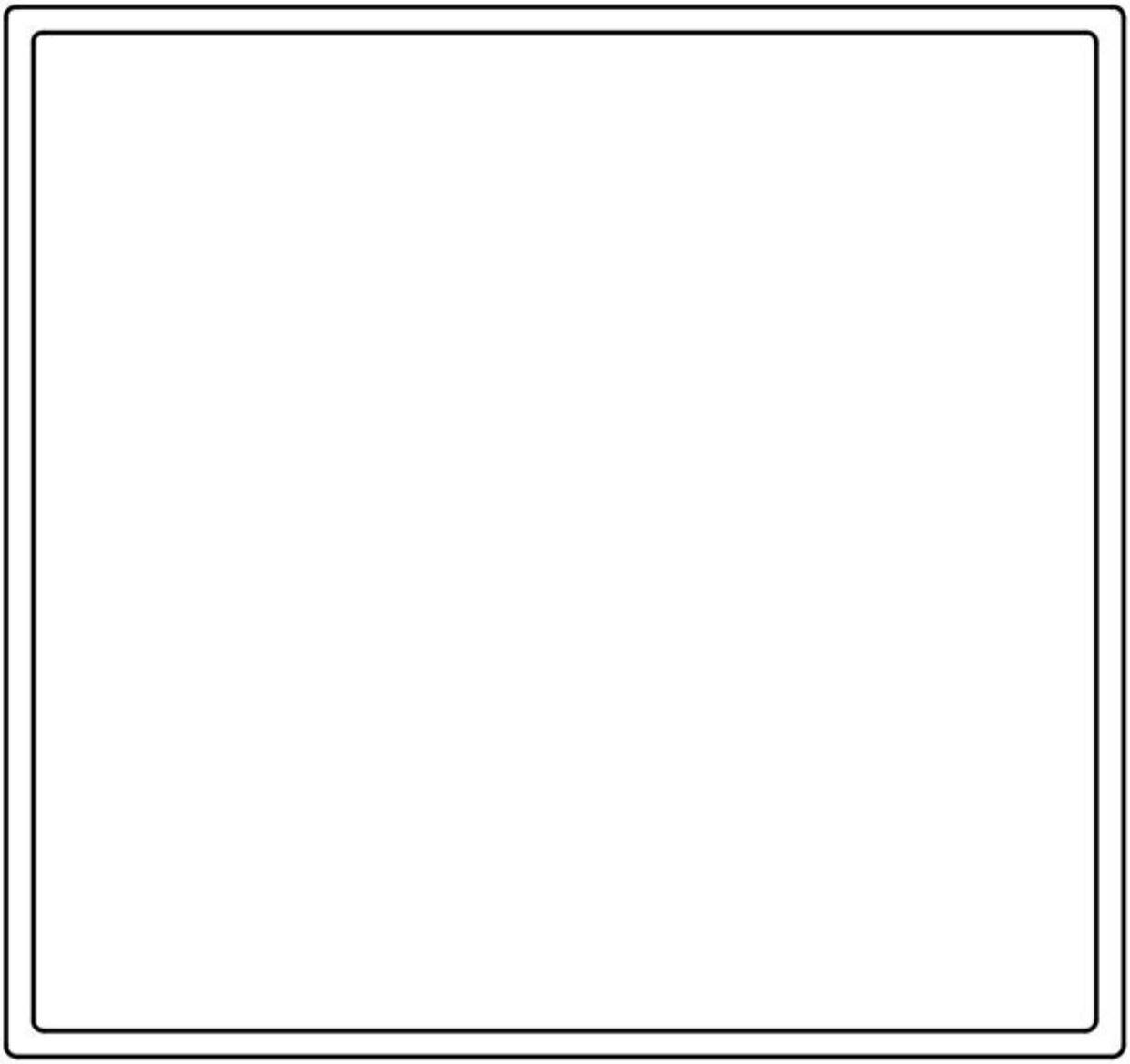

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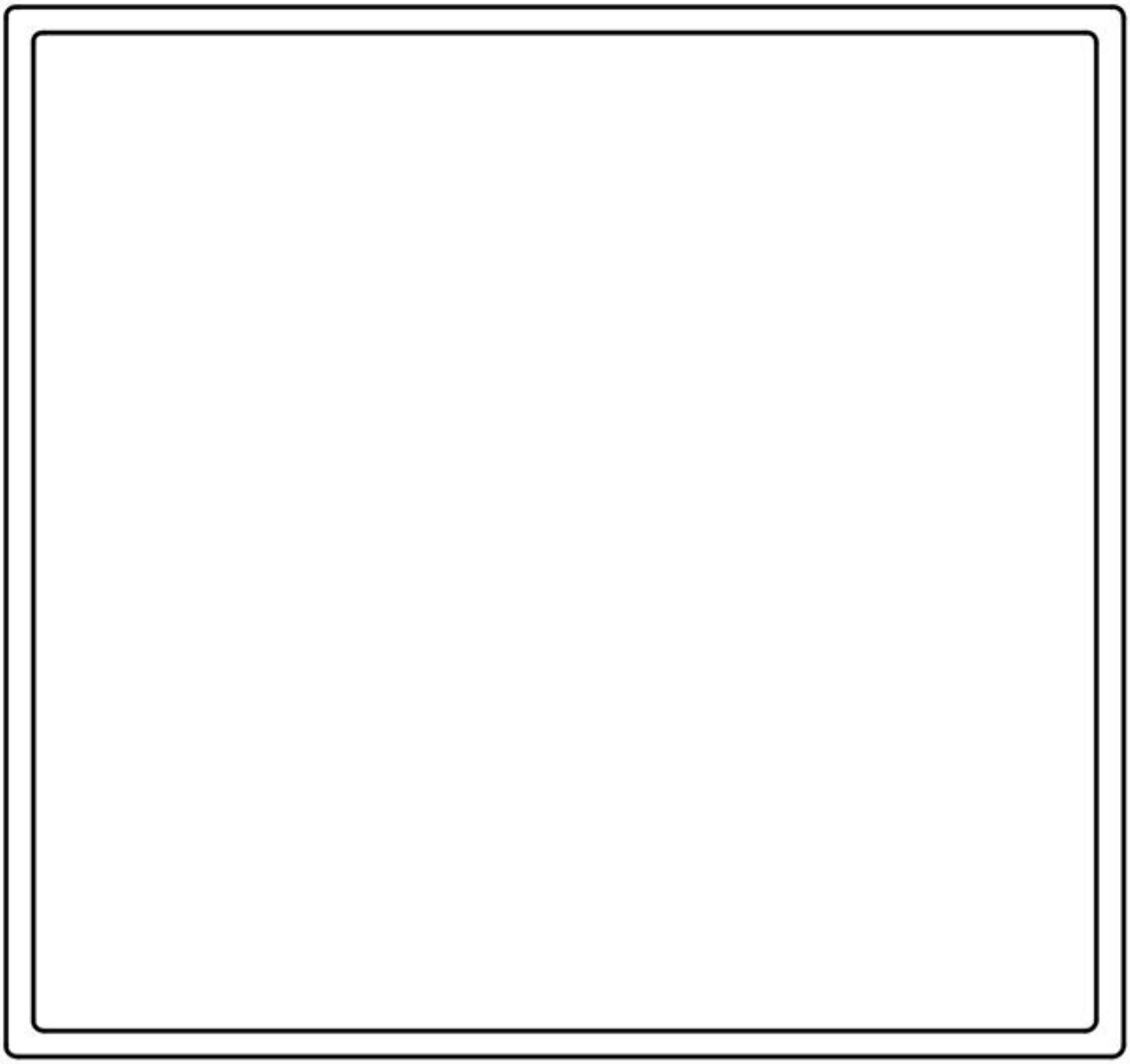

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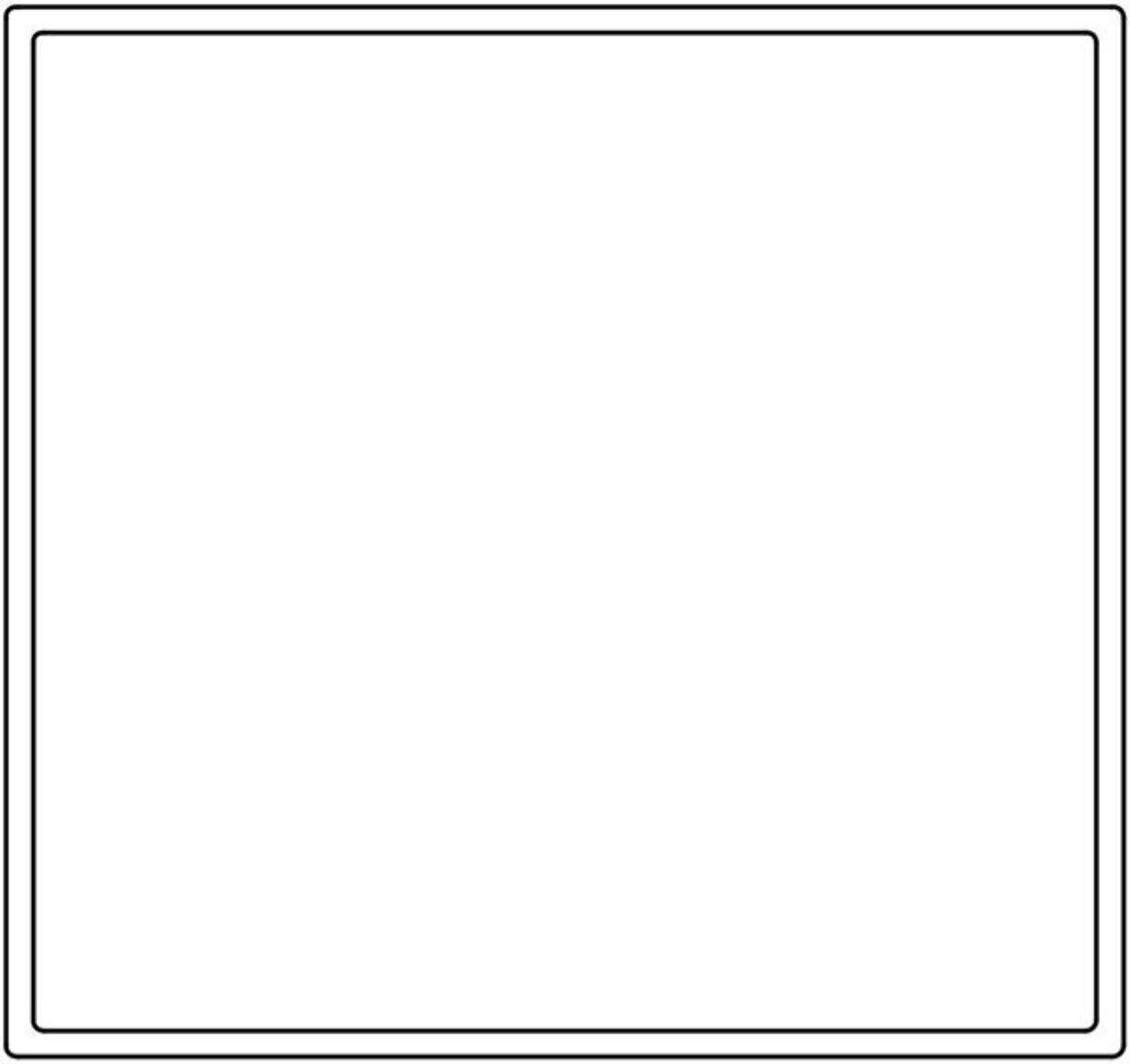

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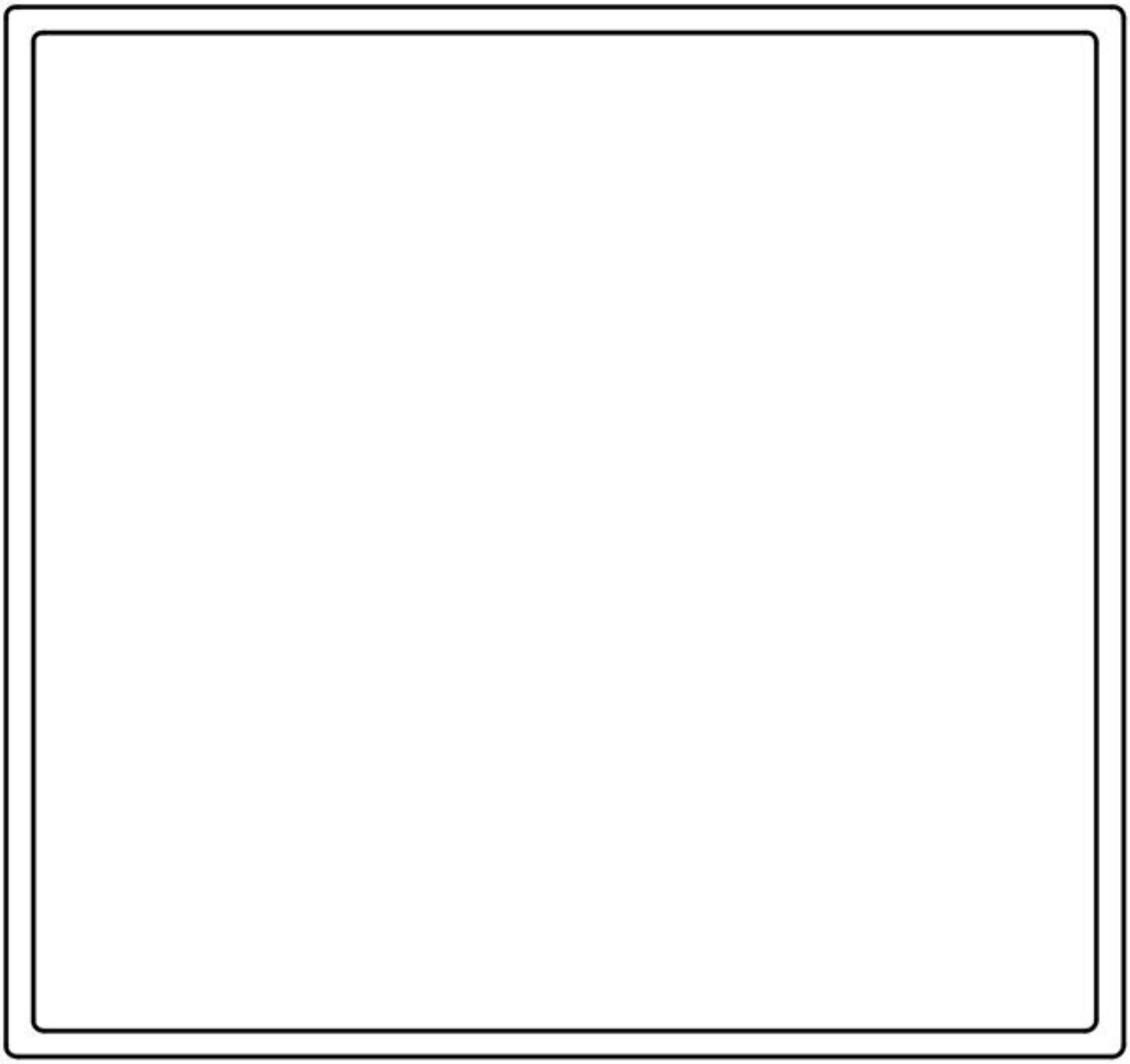


Unit 6 Lesson 18

For Loops: For Loop Fun

Resources

TEACHER KEY

For Loop Fun

Assessment Worksheet

ROUND 1

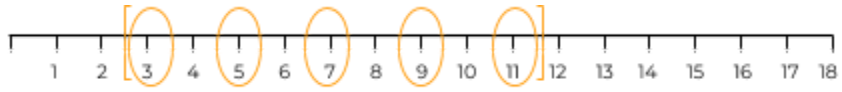
Player 1

For values of **X** from __1__ to _18__ step by __4__
starting value *stopping value* *step*

SCORE _45__

Player 2

For values of **X** from __3__ to _11__ step by __2__
starting value *stopping value* *step*



__35__

ROUND 2

Player 1

For values of **X** from __3__ to _17__ step by __5__
starting value *stopping value* *step*

SCORE __24_

Player 2

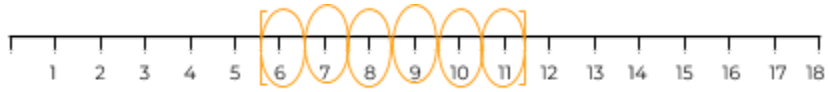
For values of **X** from __5__ to __17_ step by __3__
starting value *stopping value* *step*

__55_

ROUND 3

Player 1

For values of **X** from __6__ to __11_ step by __1__
starting value *stopping value* *step*



SCORE __51__

Player 2

For values of **X** from __2__ to __15_ step by __6__
starting value *stopping value* *step*

__24__

WHO WON?

PLAYER # ___1___

Name(s)_____ Period _____ Date _____

For Loop Fun

Number Lines and Score Sheet

Directions:

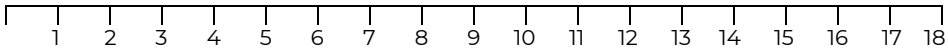
- Use the number lines to trace the “for loop” for each turn
  - Start at the starting value of X
  - Count down the number line, circling the numbers at the correct step
  - Stop when you get to the stopping value
- Add all of the circled values to get the score for your round
- Best 2 out of 3 Wins

ROUND 1

Player 1

For values of **X** from _____ to _____ step by _____
starting value *stopping value* *step*

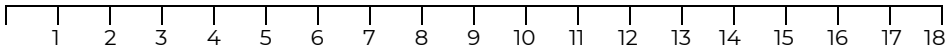
SCORE



_____

Player 2

For values of **X** from _____ to _____ step by _____
starting value *stopping value* *step*



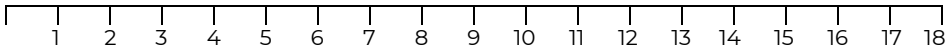
_____

ROUND 2

Player 1

For values of **X** from _____ to _____ step by _____
starting value *stopping value* *step*

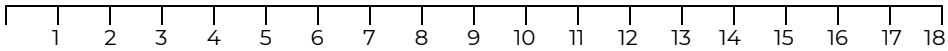
SCORE



_____

Player 2

For values of **X** from _____ to _____ step by _____
starting value *stopping value* *step*



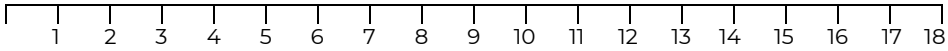
_____

ROUND 3

Player 1

For values of **X** from _____ to _____ step by _____
starting value *stopping value* *step*

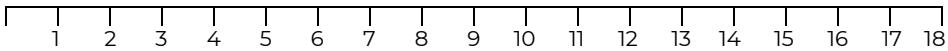
SCORE



_____

Player 2

For values of **X** from _____ to _____ step by _____
starting value *stopping value* *step*



_____

TEACHER KEY

For Loop Fun

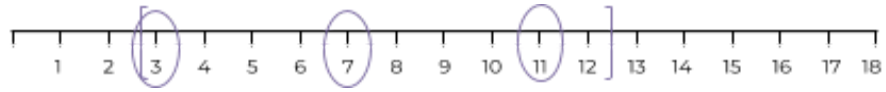
Number Lines and Score Sheet

SAMPLE

ROUND 1

Player 1

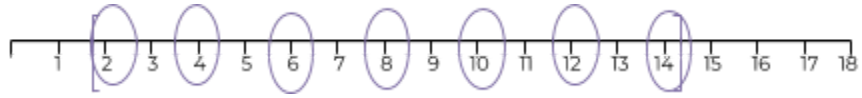
For values of **X** from __3__ to _12__ step by _4__
starting value *stopping value* *step*



SCORE __21__

Player 2

For values of **X** from __2_ to _14__ step by __2__
starting value *stopping value* *step*



__56__

ROUND 2

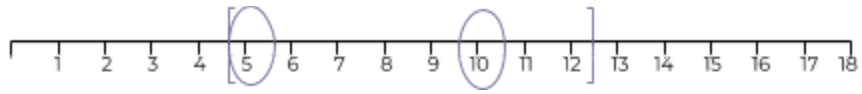
Player 1

For values of **X** from _1__ to __18_ step by __3__
starting value *stopping value* *step*

SCORE __51__

Player 2

For values of **X** from __5__ to _12__ step by __5__
starting value *stopping value* *step*

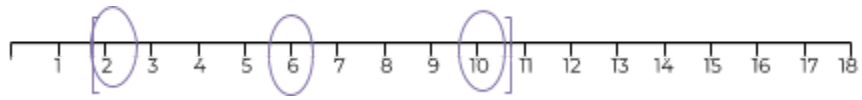


__15__

ROUND 3

Player 1

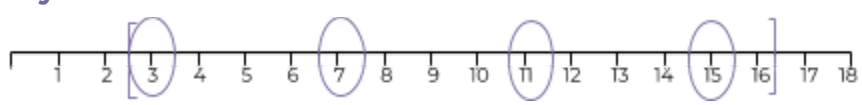
For values of **X** from __2__ to _10__ step by __4__
starting value *stopping value* *step*



SCORE __18__

Player 2

For values of **X** from __3__ to _16__ step by __4__
starting value *stopping value* *step*



__36__

Name(s)_____ Period _____ Date _____

For Loop Fun

Assessment Worksheet

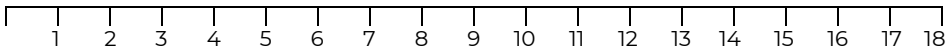
Below, you will find three rounds of the For Loop Game, along with what each player rolled during their turn. Fill out the number lines and tally the scores for each round. Who won the game?

ROUND 1

Player 1

For values of **X** from __1__ to _18__ step by __4__
starting value *stopping value* *step*

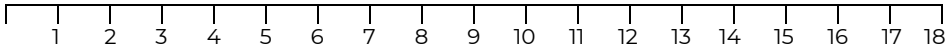
SCORE



_____

Player 2

For values of **X** from __3__ to _11__ step by __2__
starting value *stopping value* *step*



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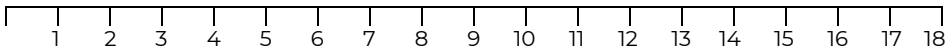
ROUND 2

Player 1

For values of **X** from __3__ to _17__ step by __5__
starting value *stopping value* *step*

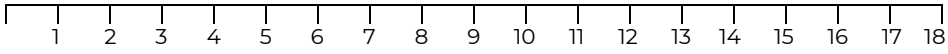
SCORE



_____

Player 2

For values of **X** from __5__ to __17_ step by __3__
starting value *stopping value* *step*



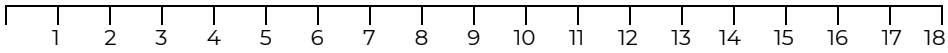
_____

ROUND 3

Player 1

For values of **X** from __6__ to __11_ step by __1__
starting value *stopping value* *step*

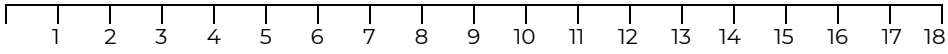
SCORE



_____

Player 2

For values of **X** from __2__ to __15_ step by __6__
starting value *stopping value* *step*



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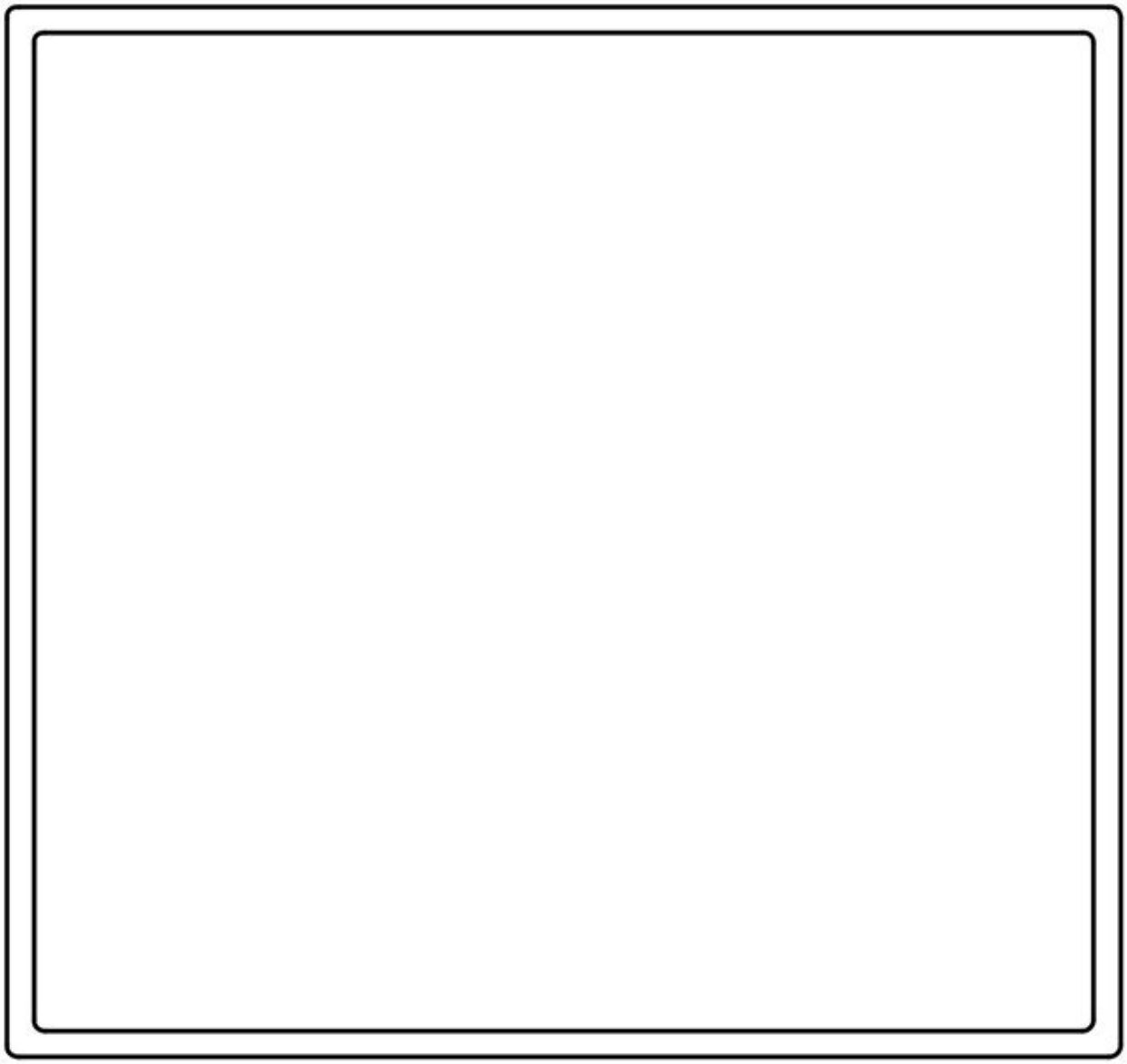
WHO WON?

PLAYER # _____

This Journal Belongs To



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My Think Spot Journal

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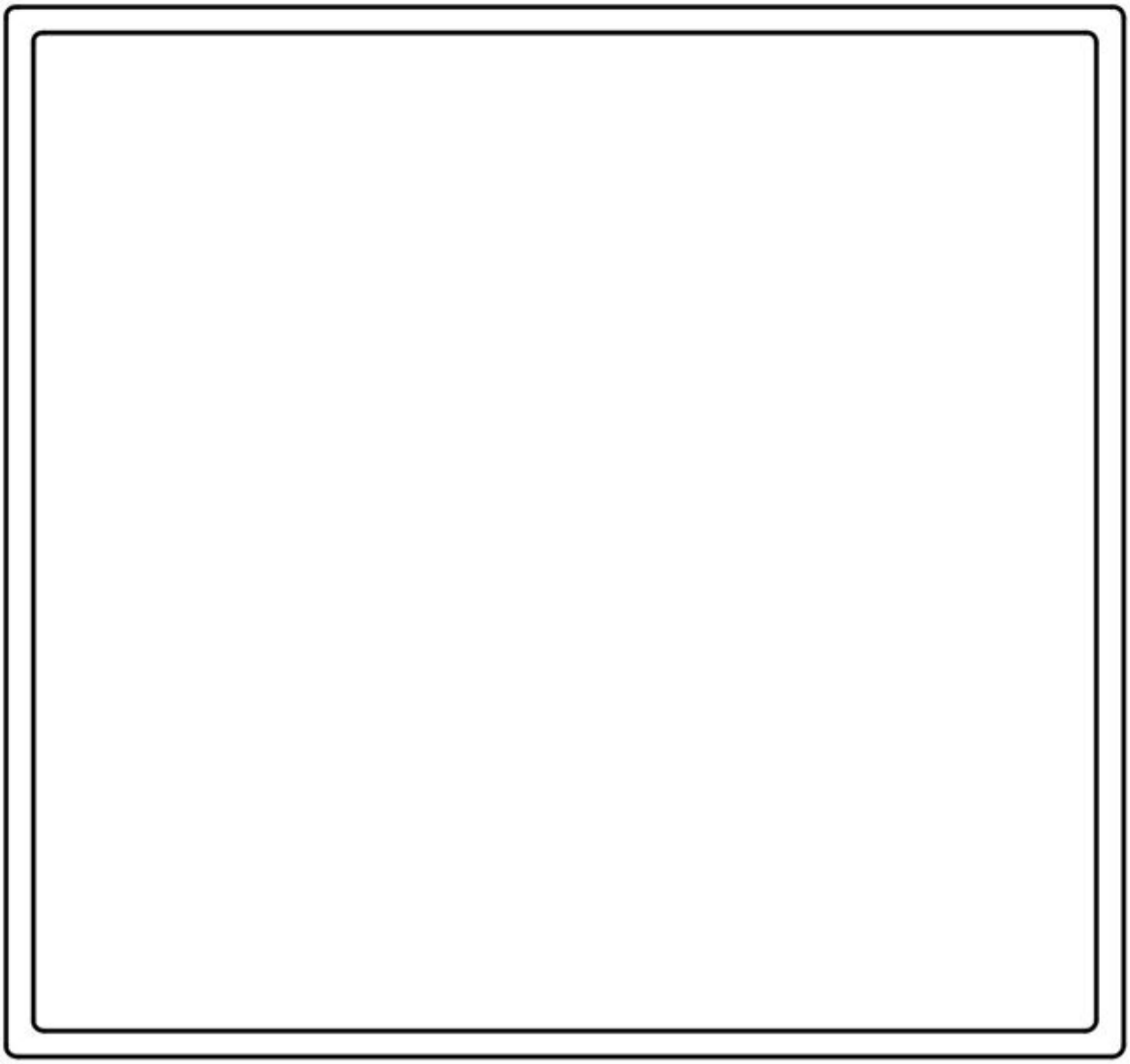

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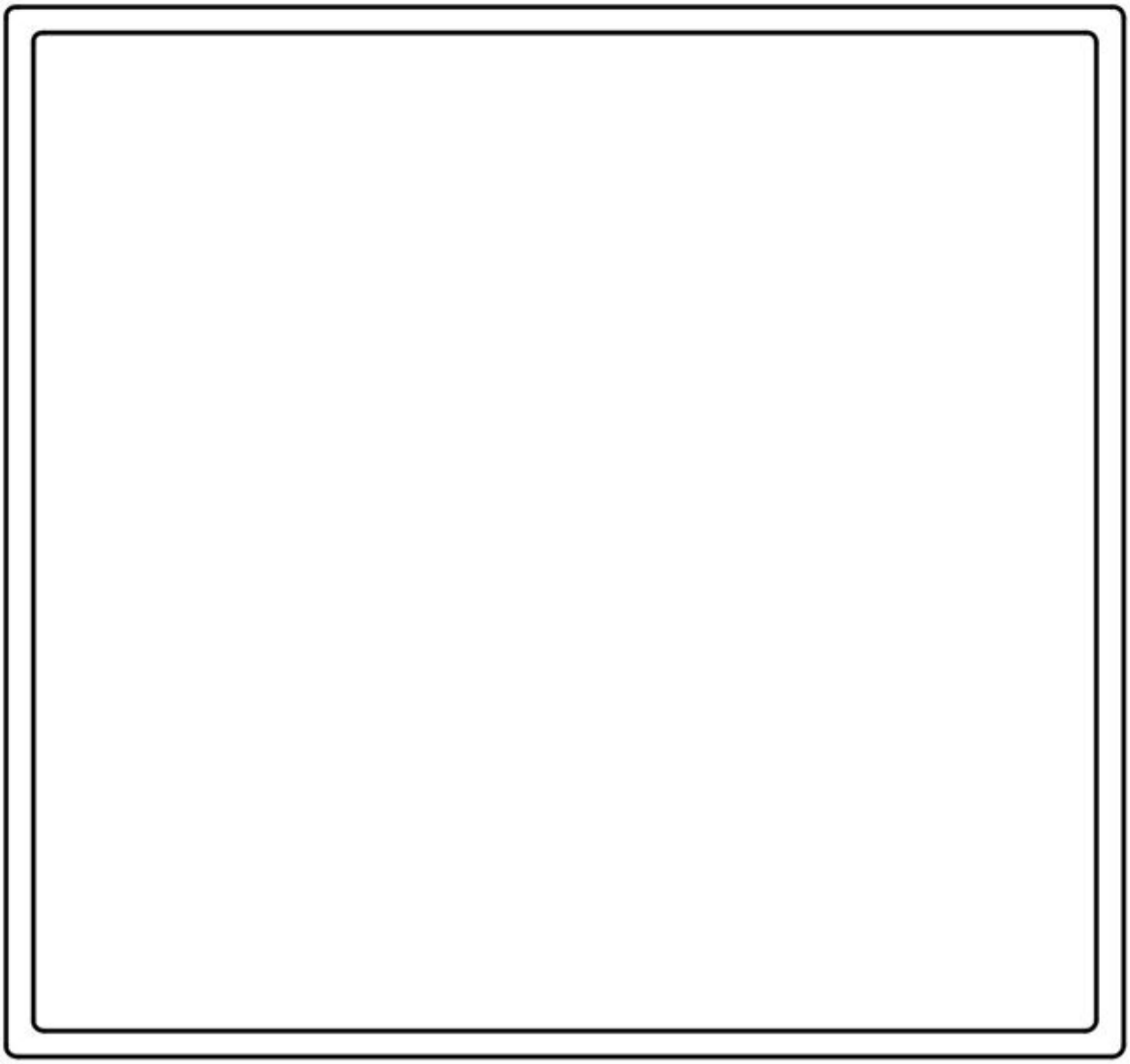

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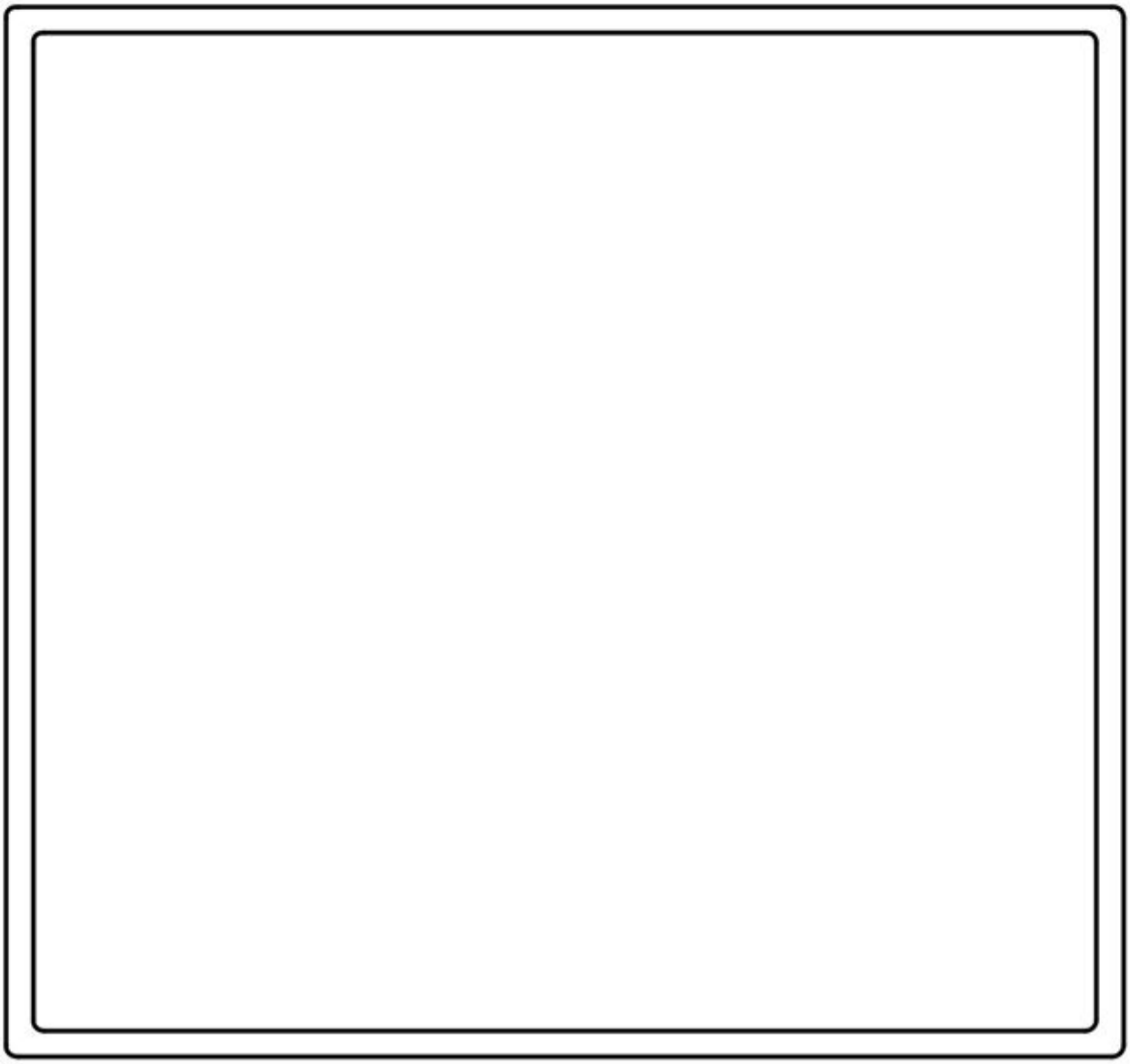

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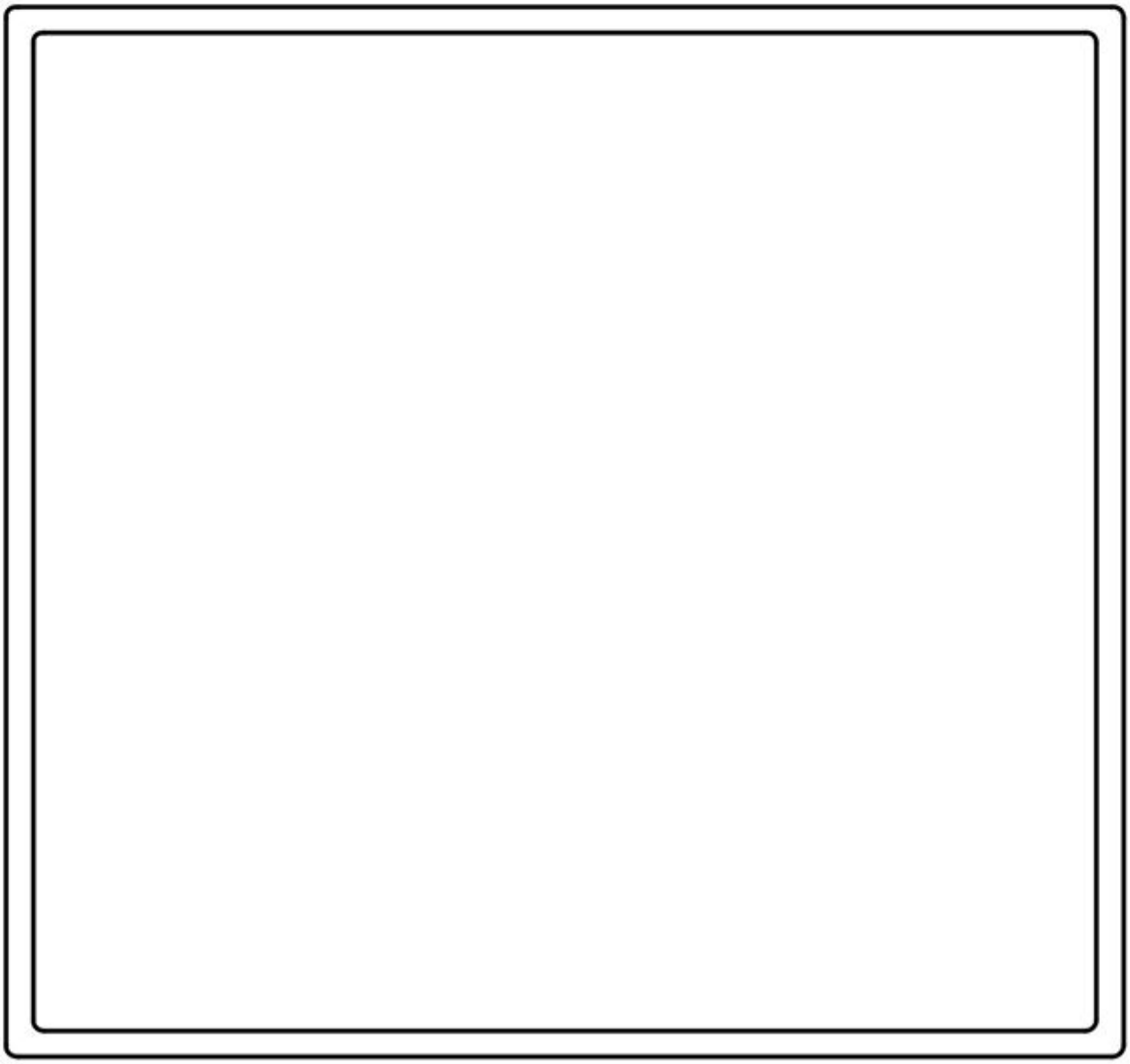

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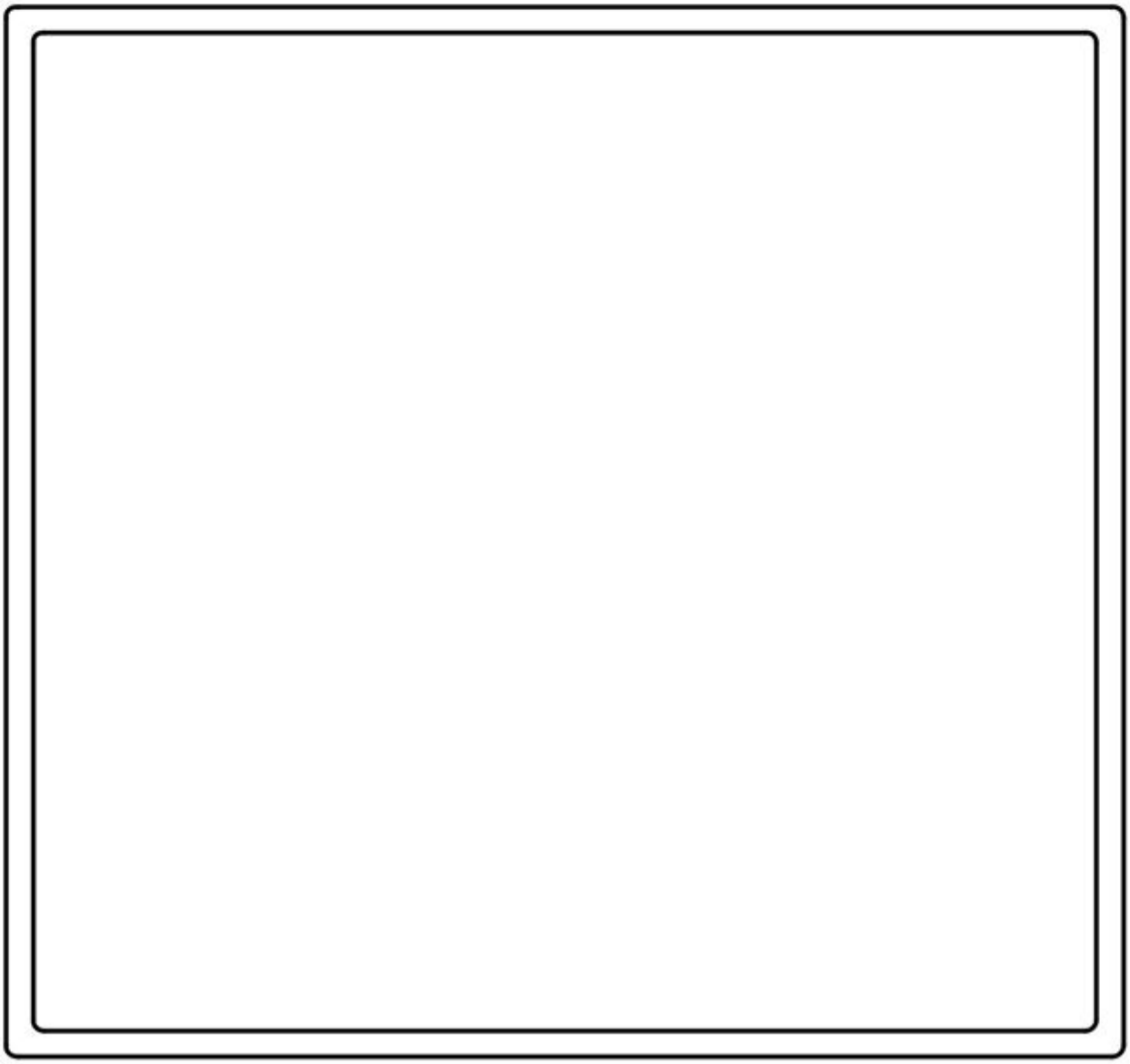

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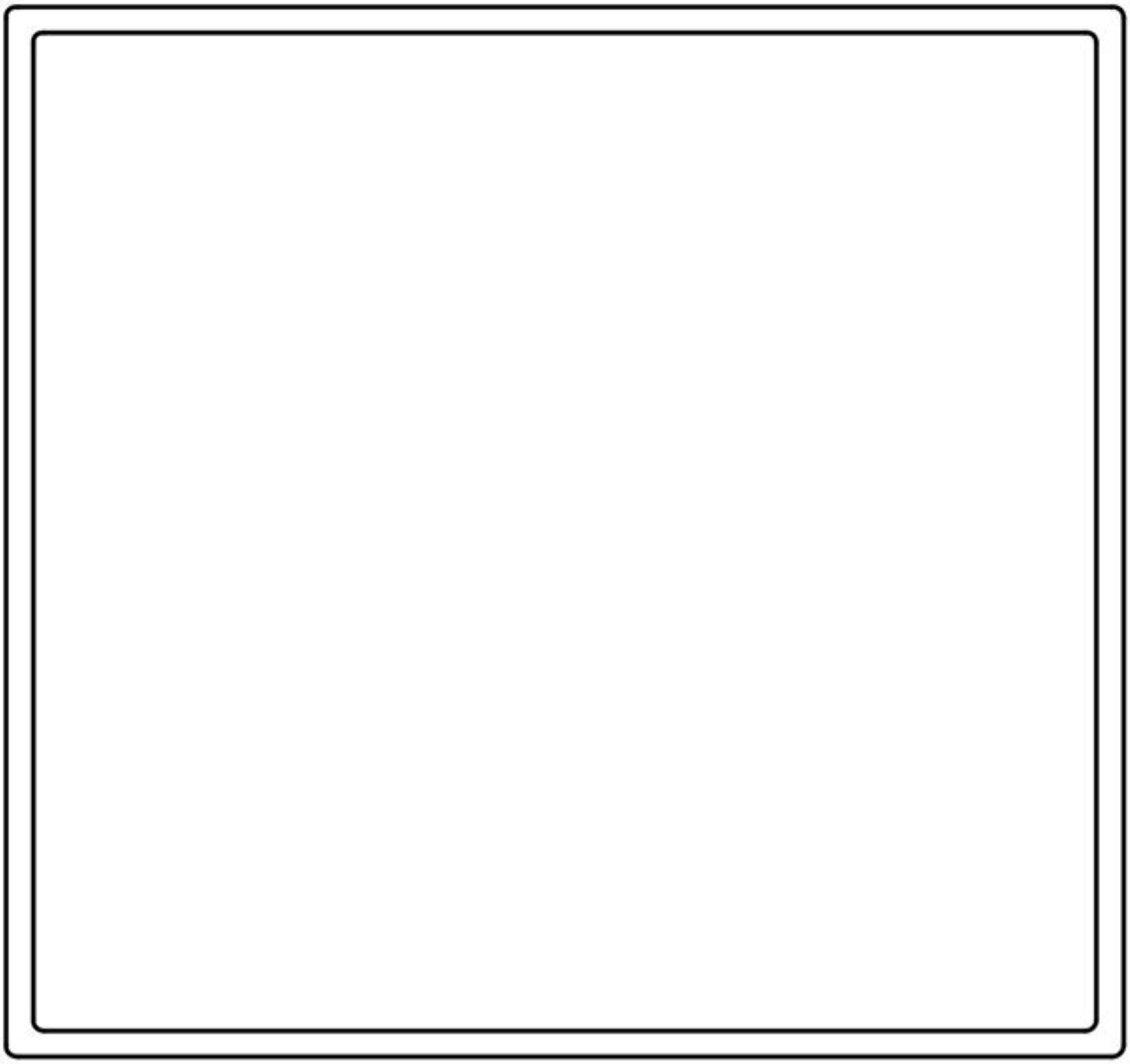

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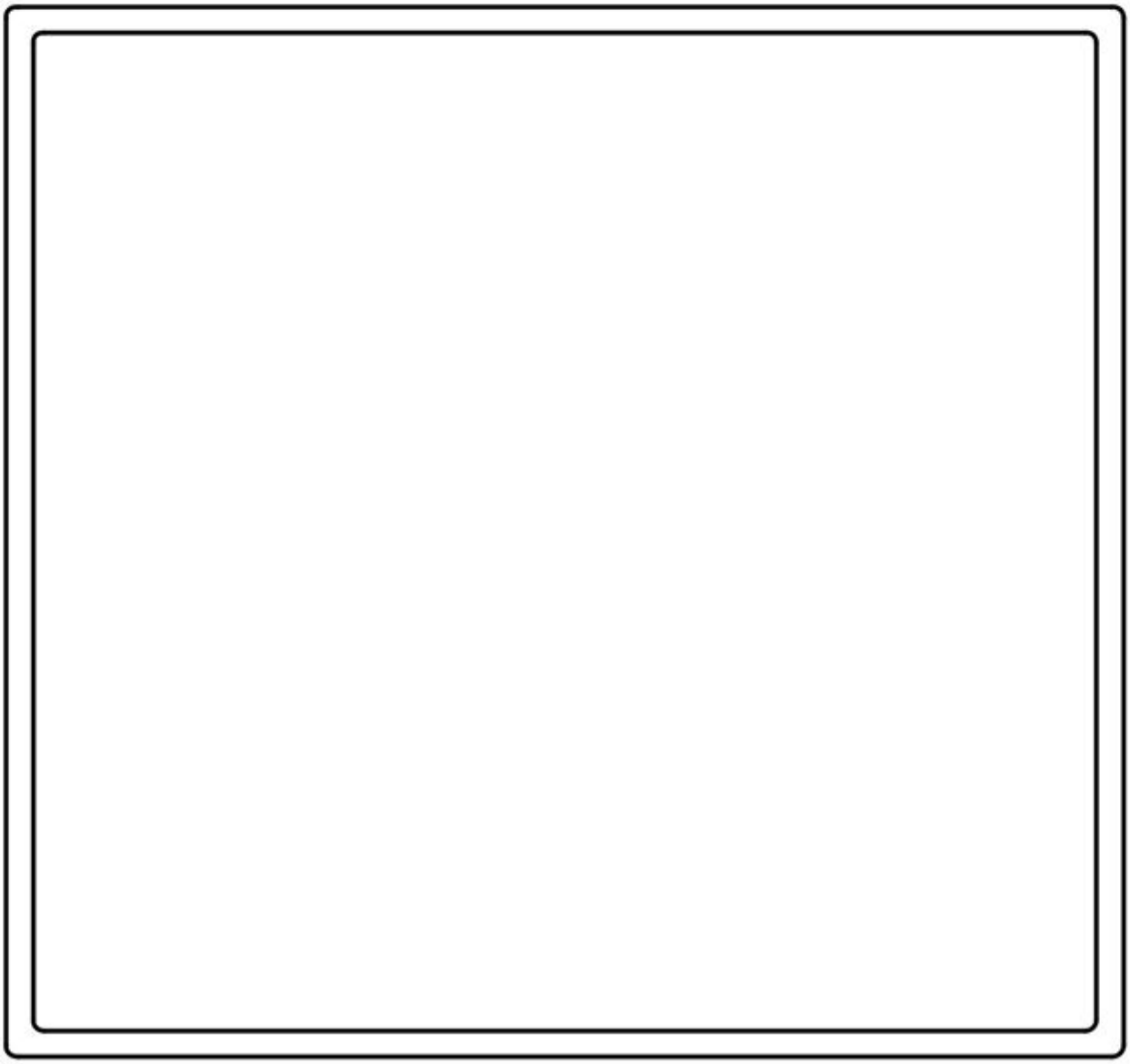

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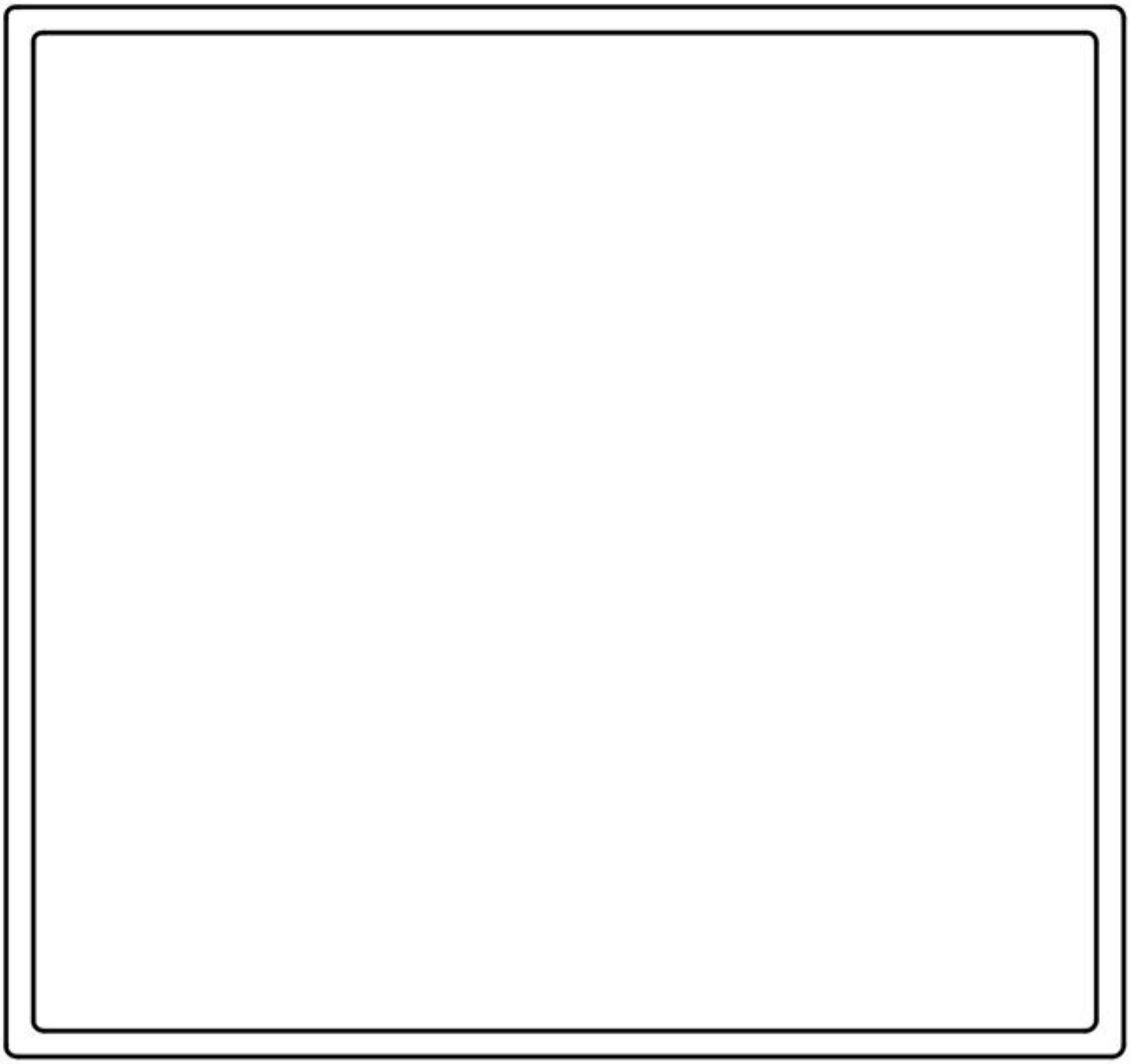

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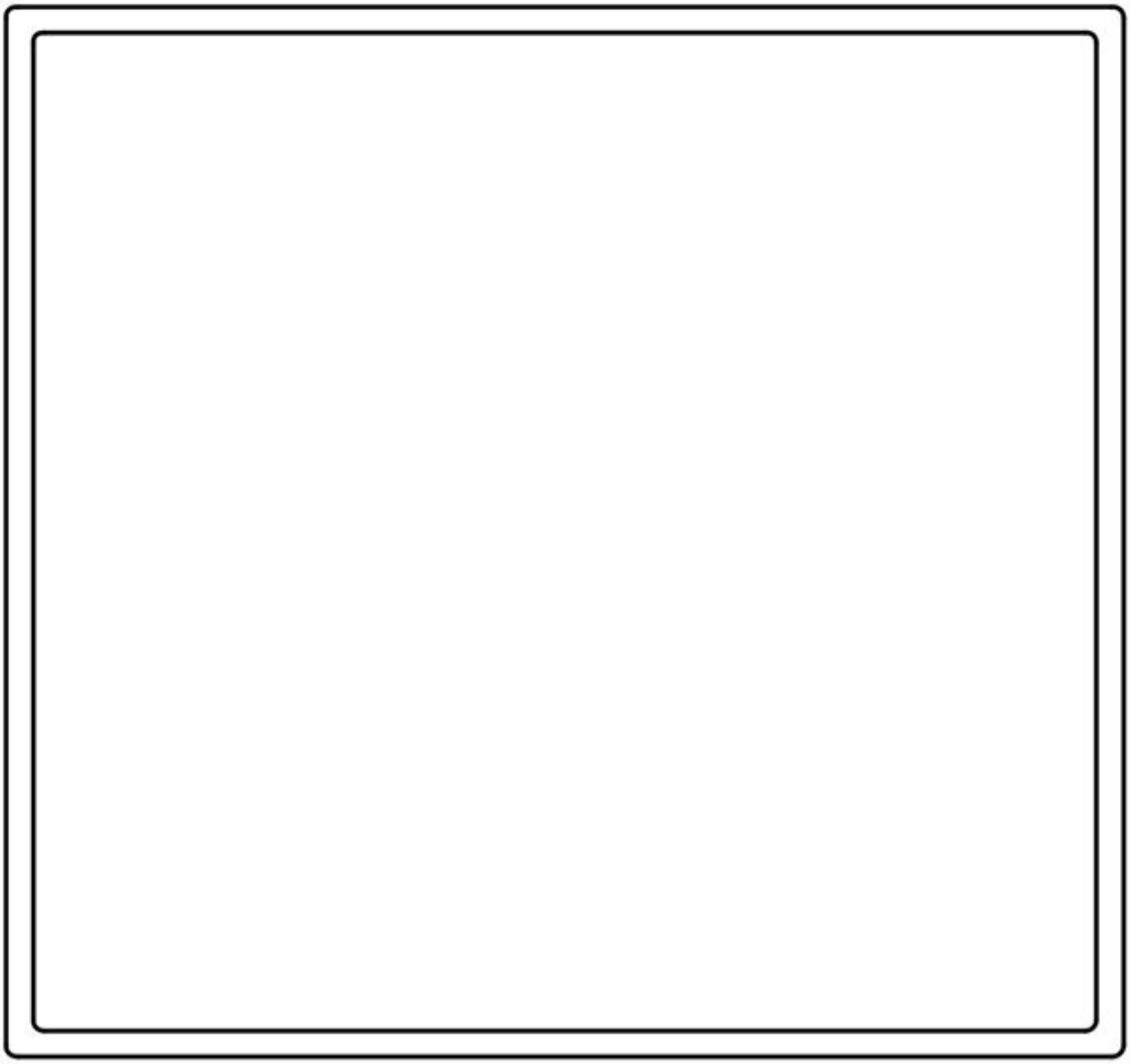
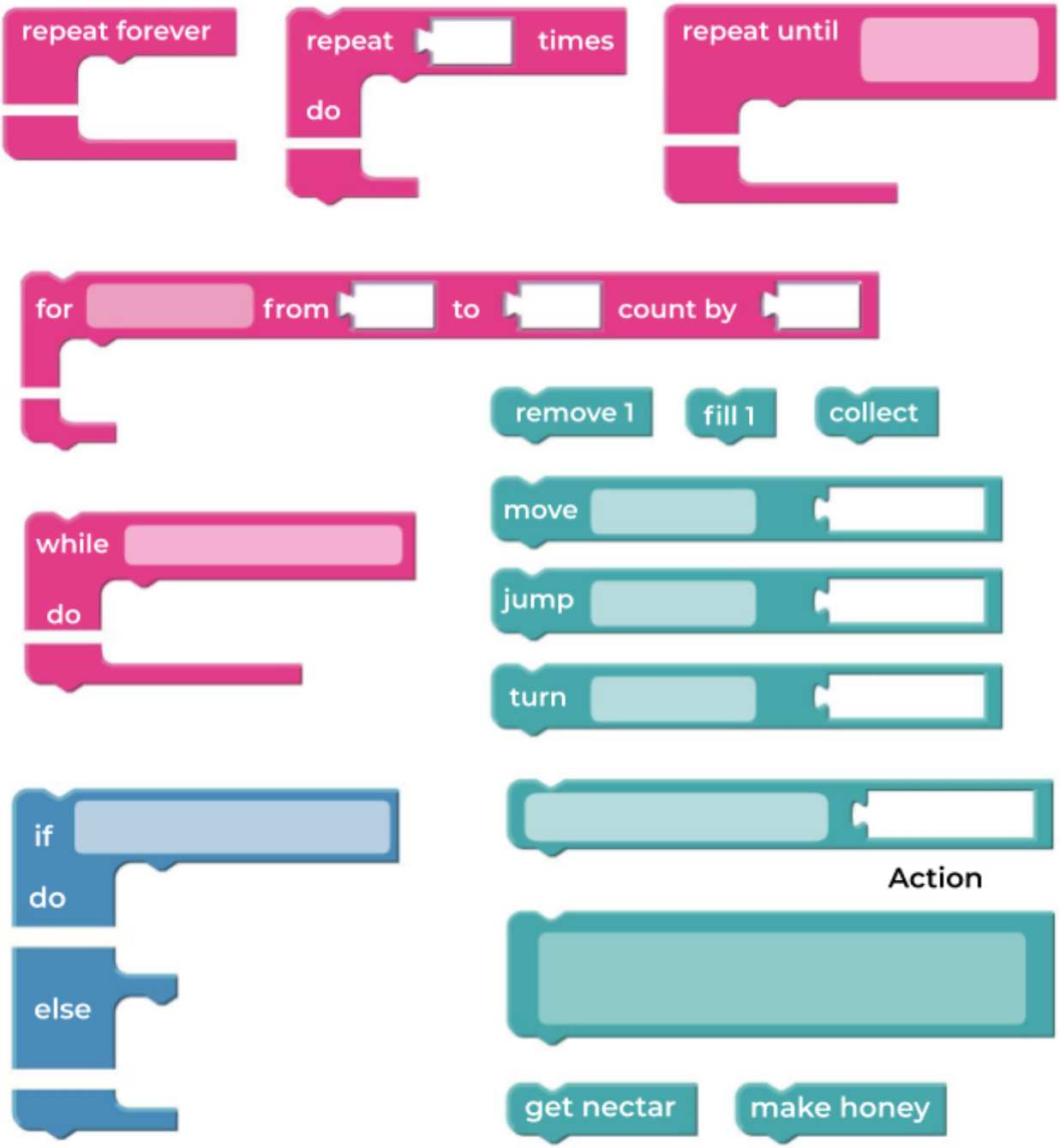


Unit 6 Lesson 19

For Loops in Bee

Resources

Unplugged Blocks (Courses C-F)



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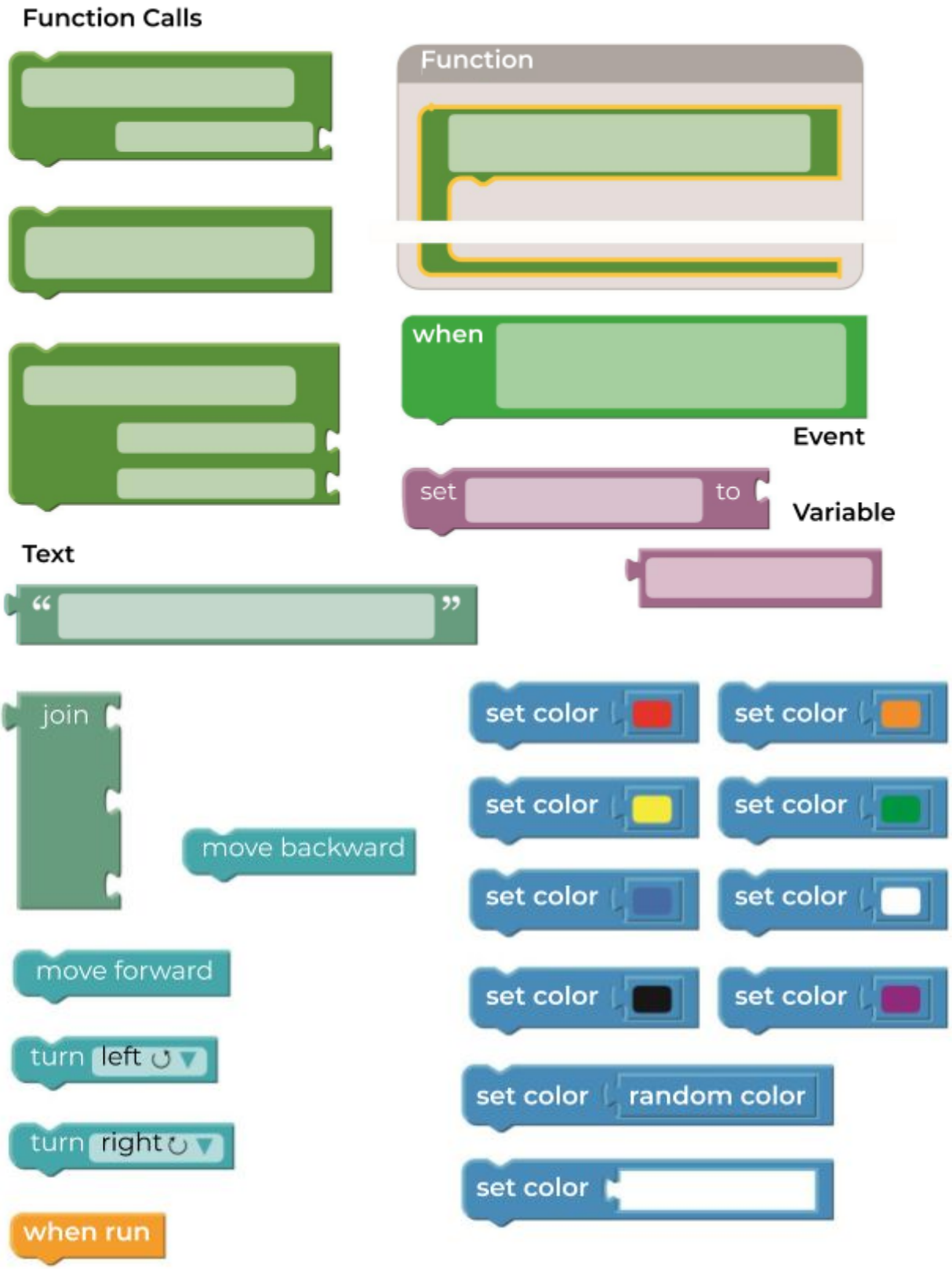

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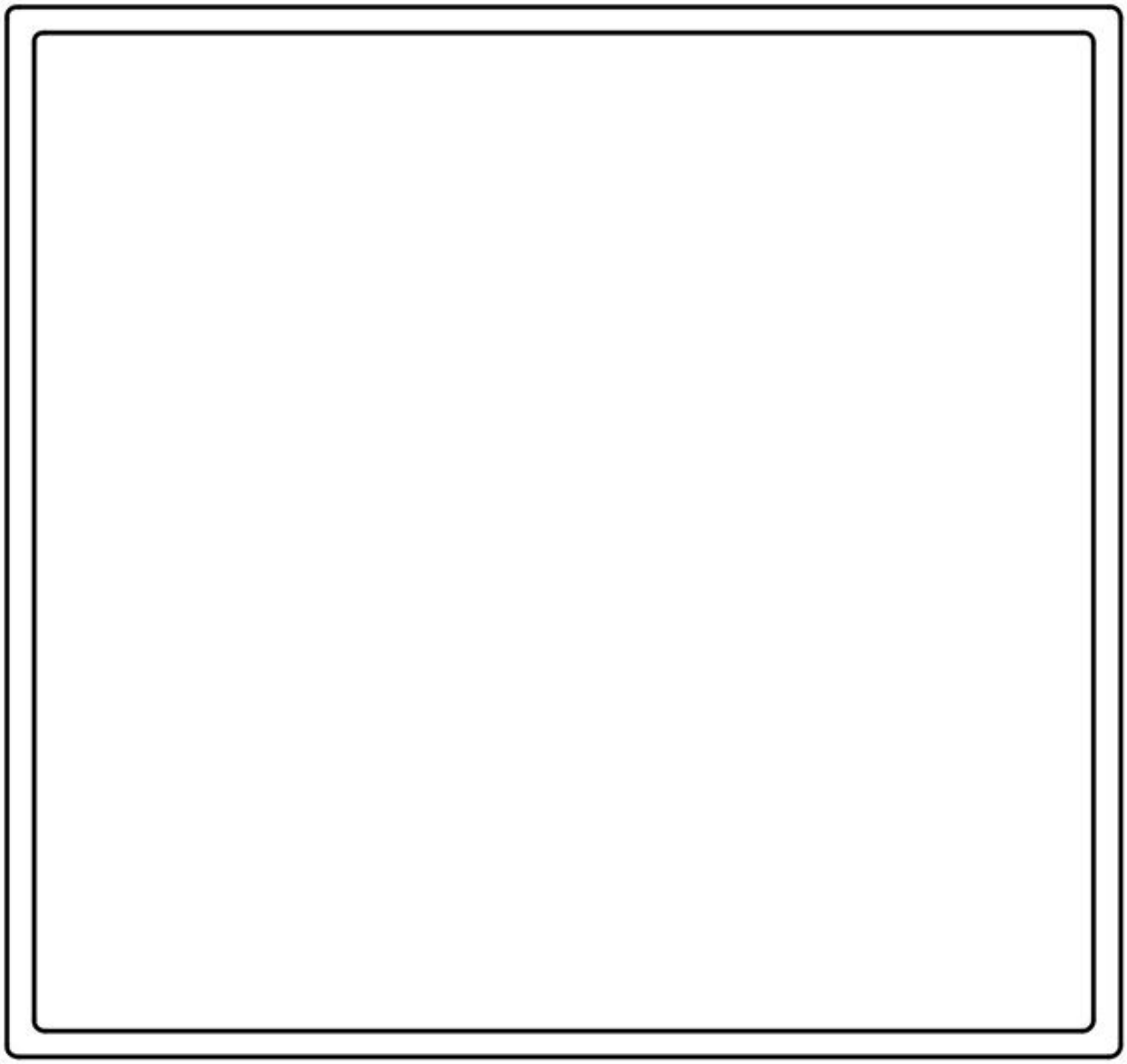

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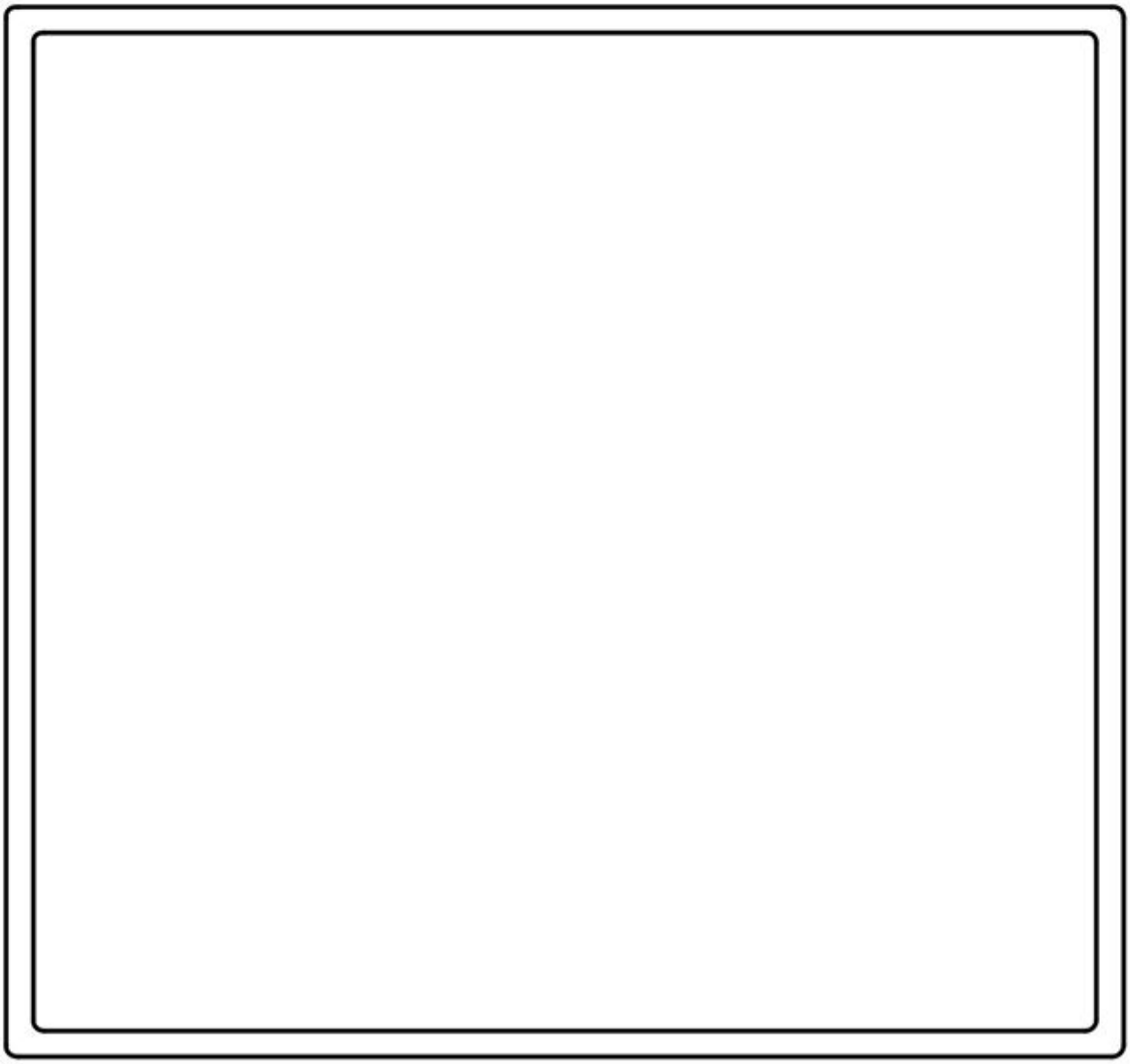

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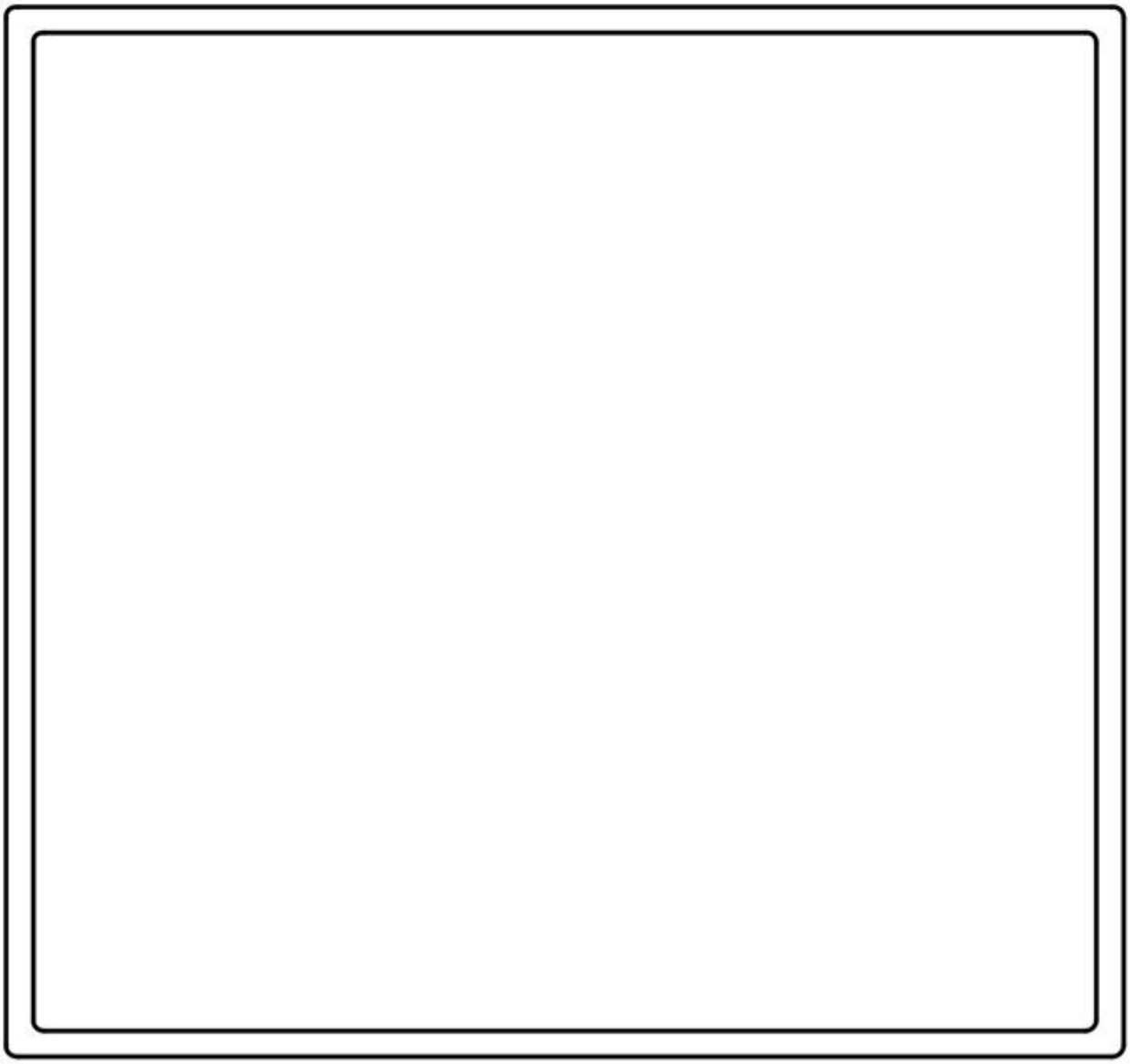

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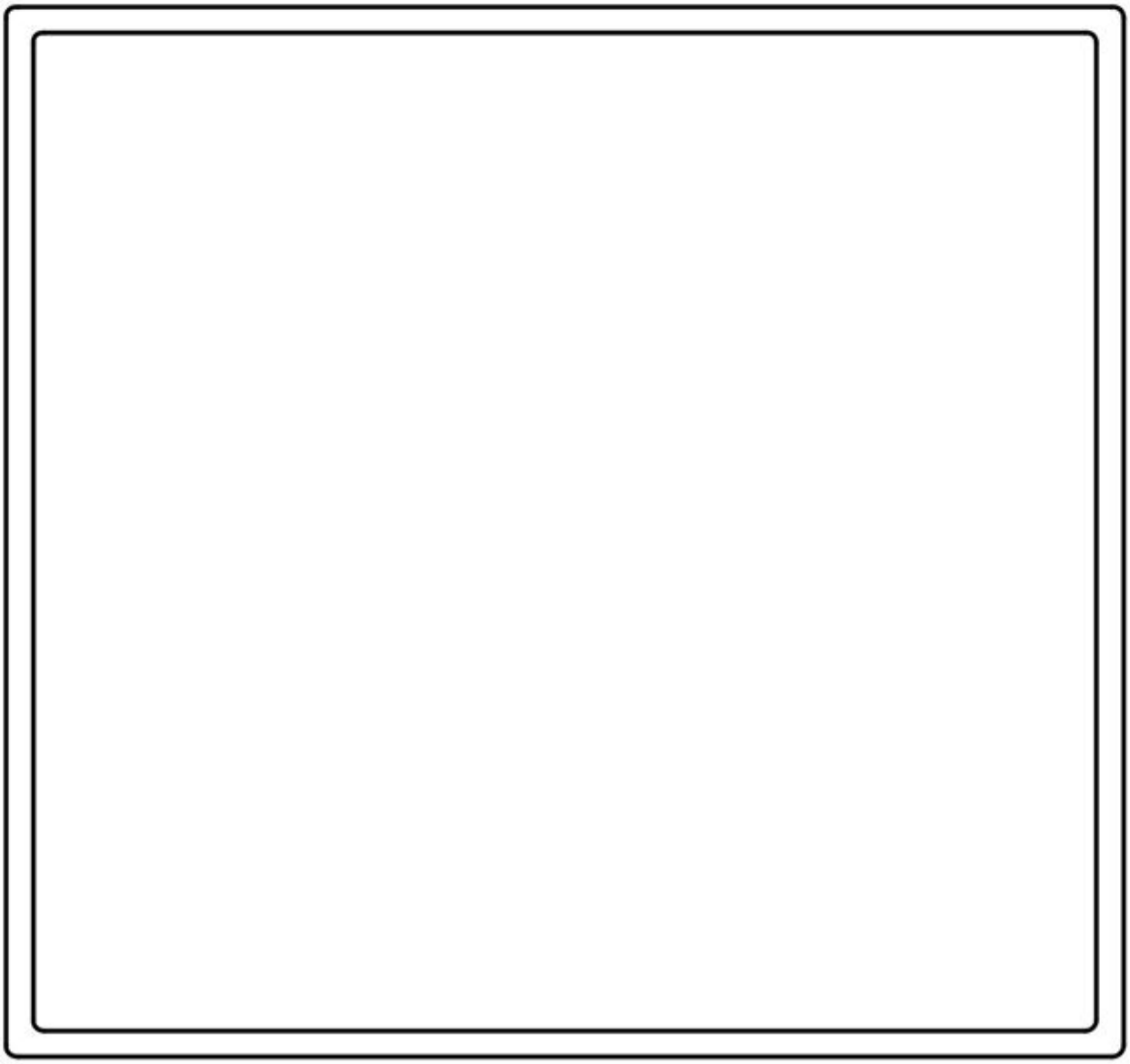

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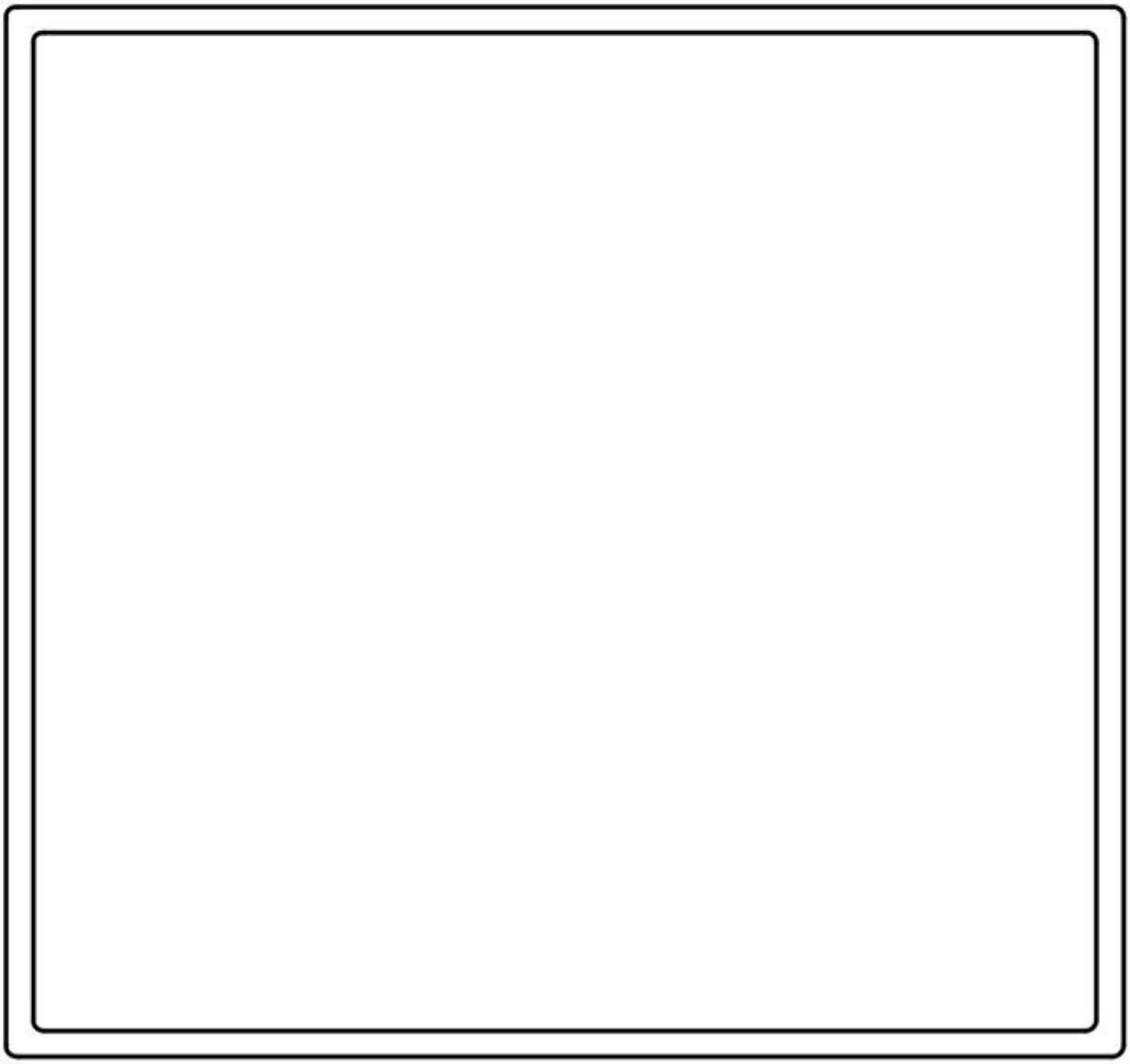

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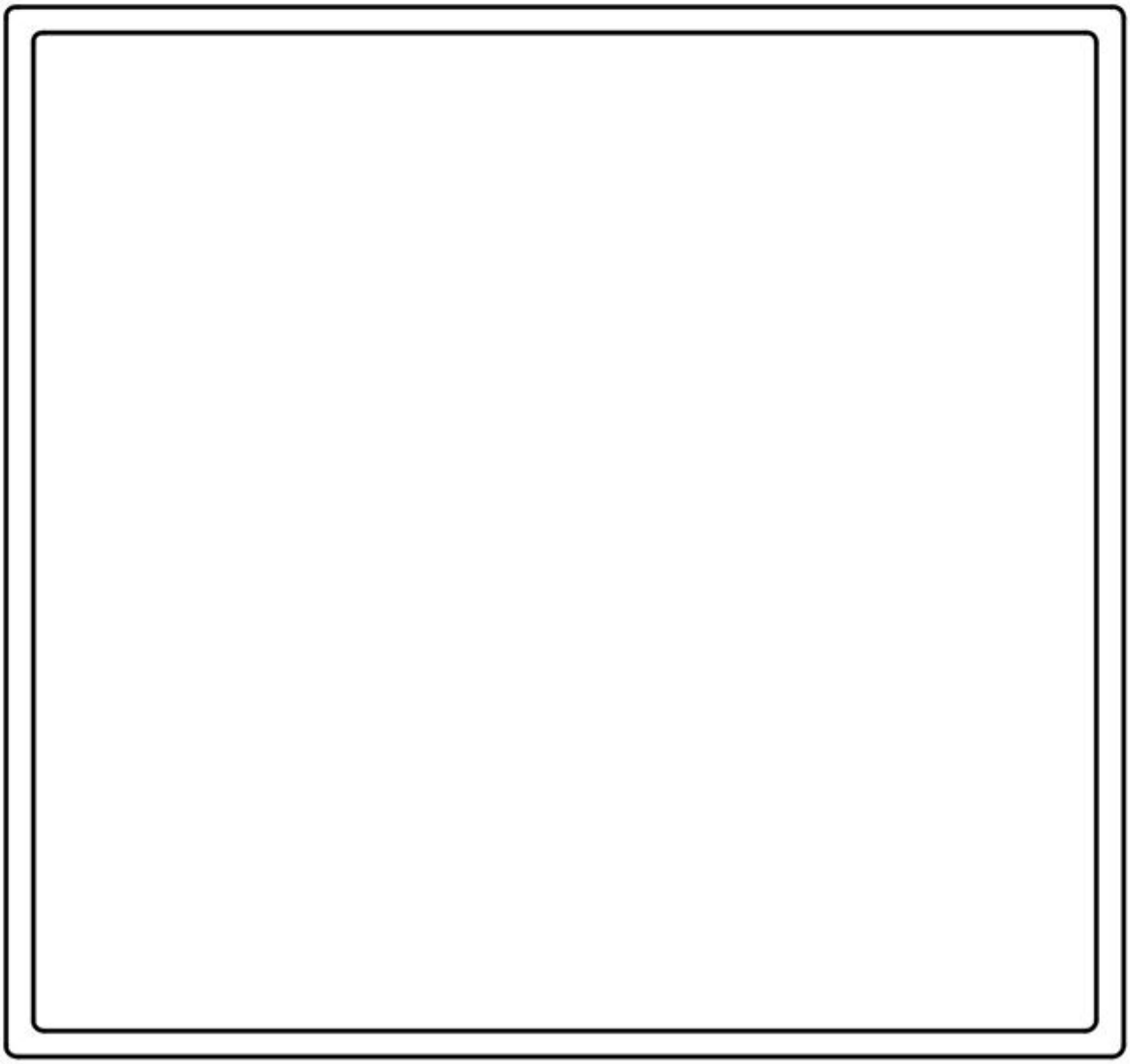

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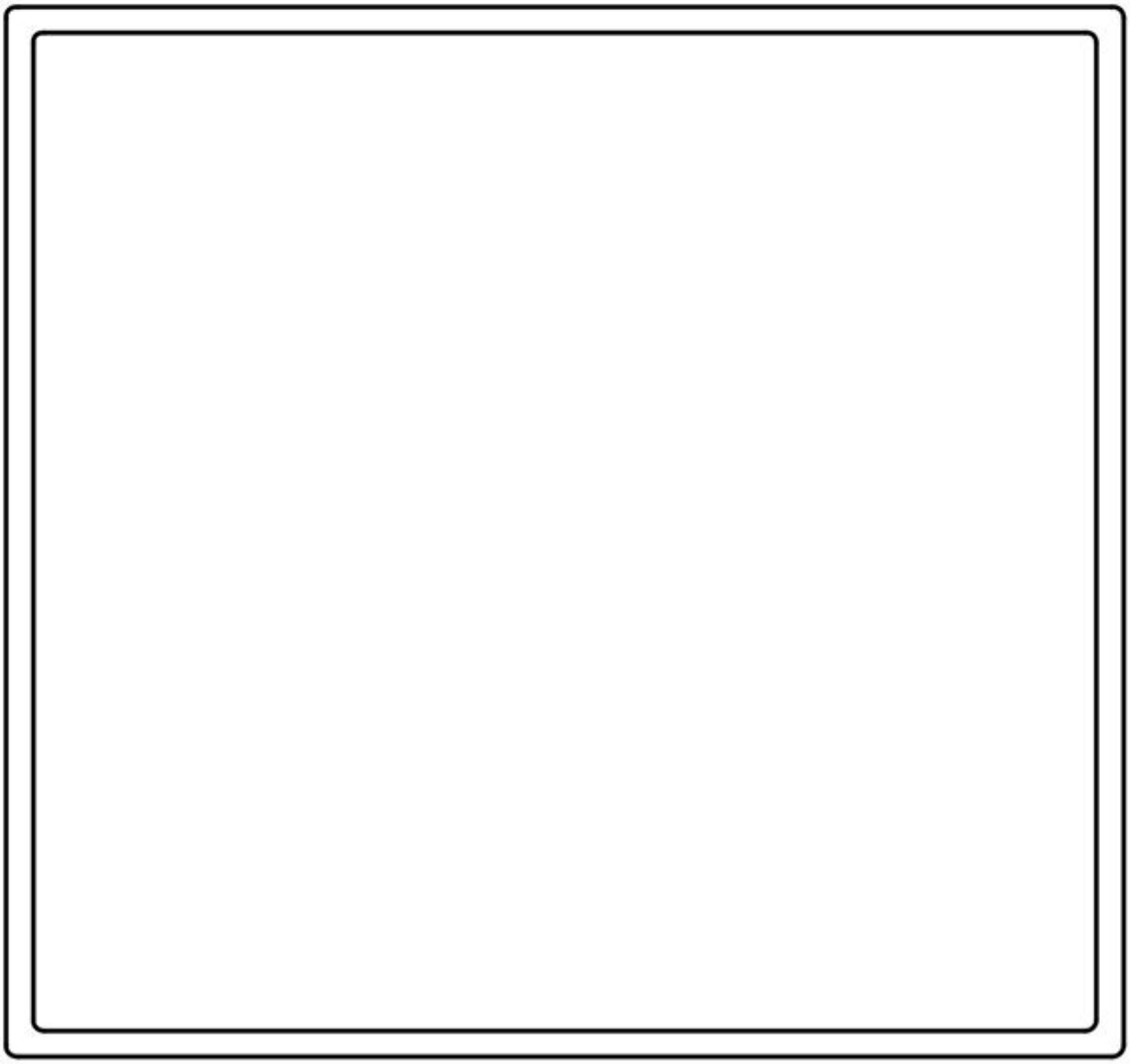

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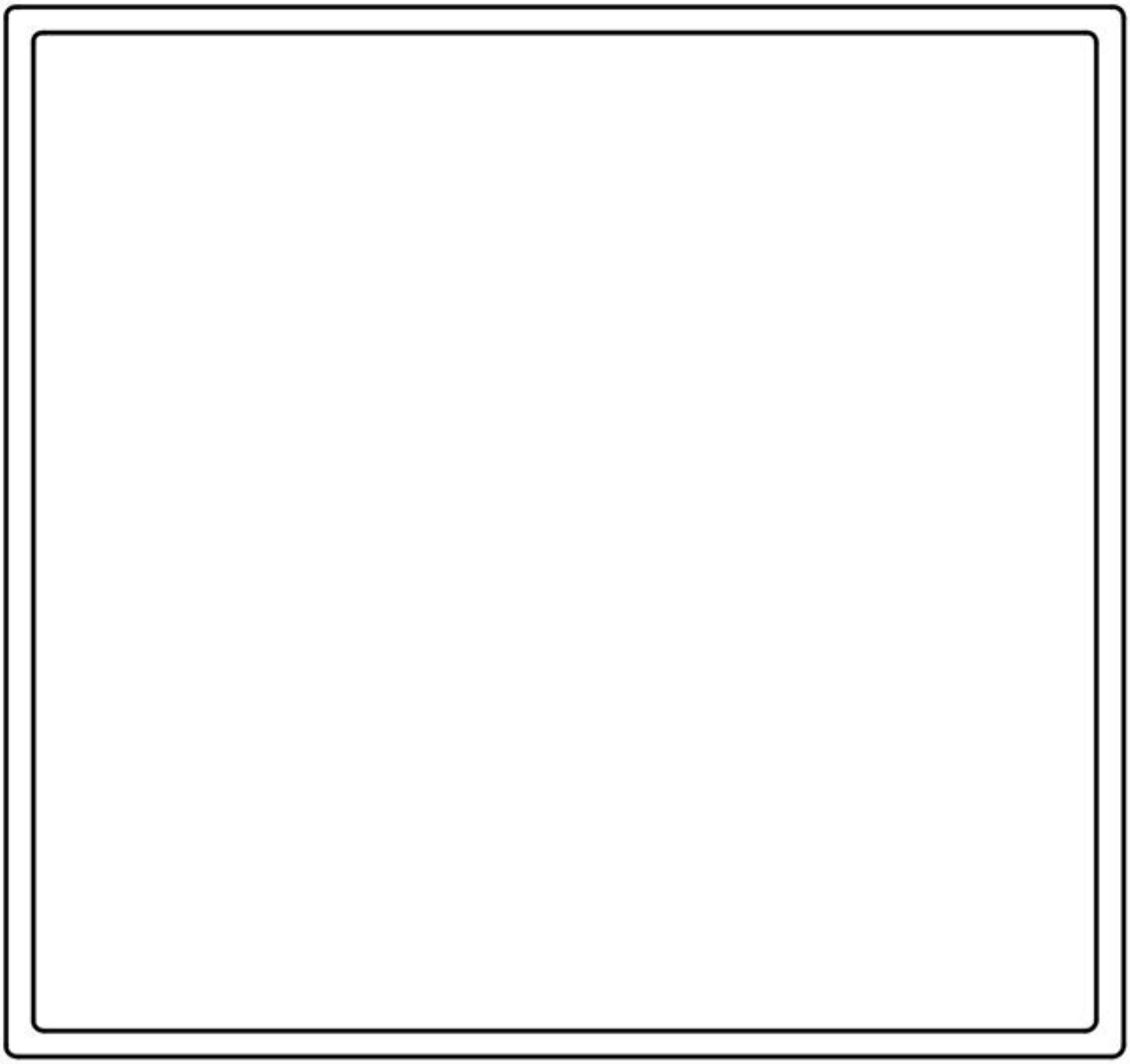

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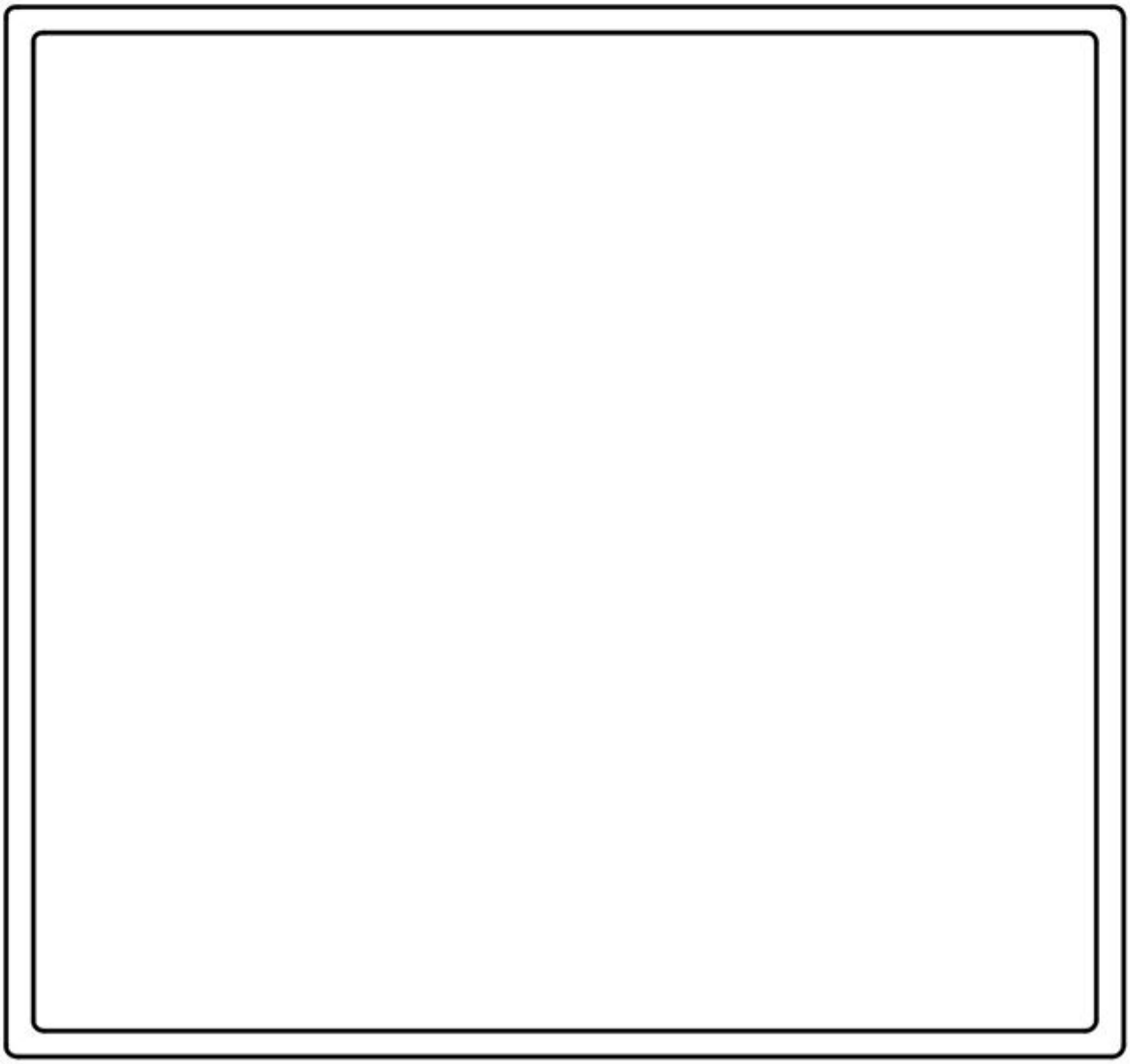

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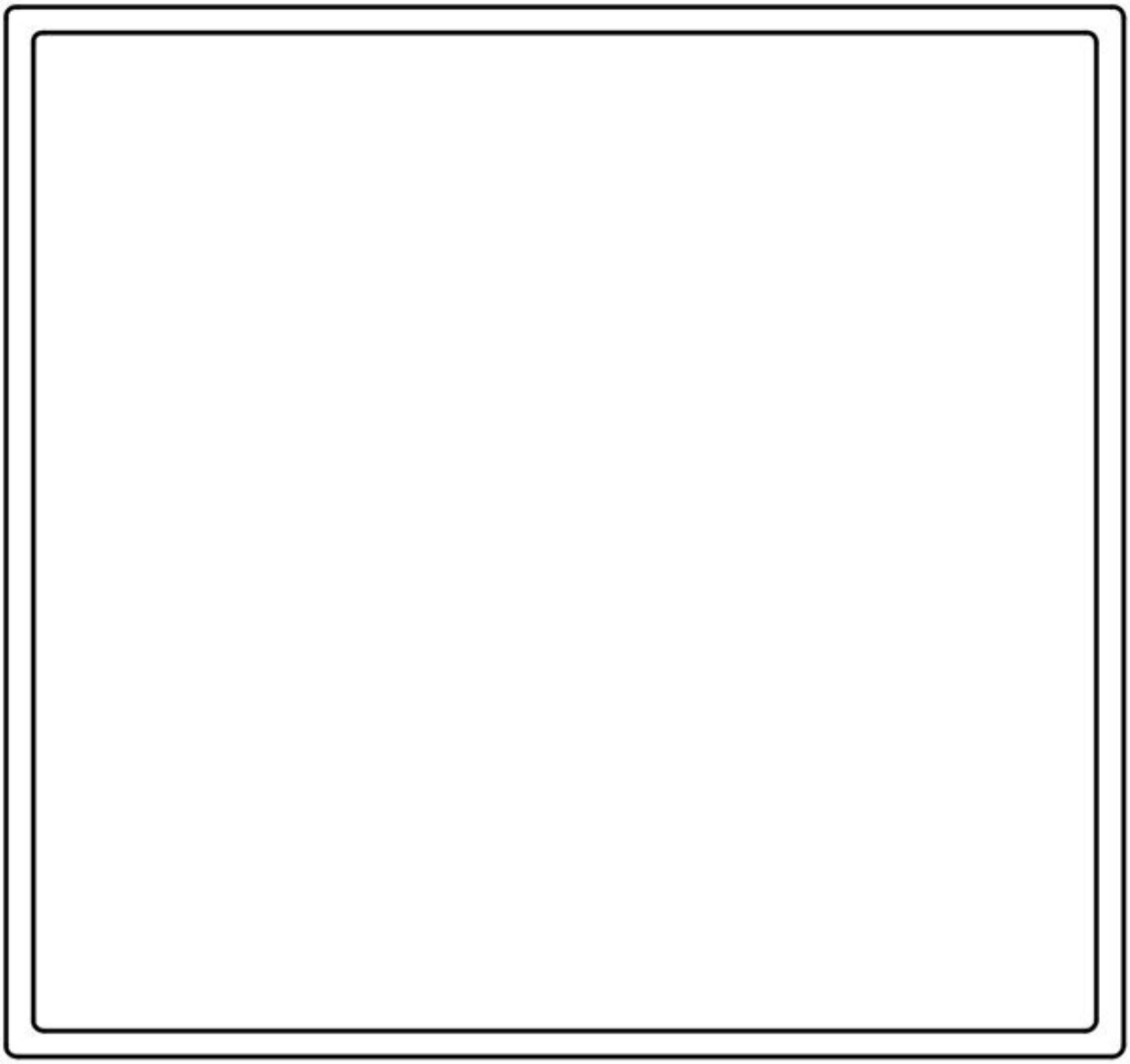

Unit 6 Lesson 20

For Loops in Artist

Resources

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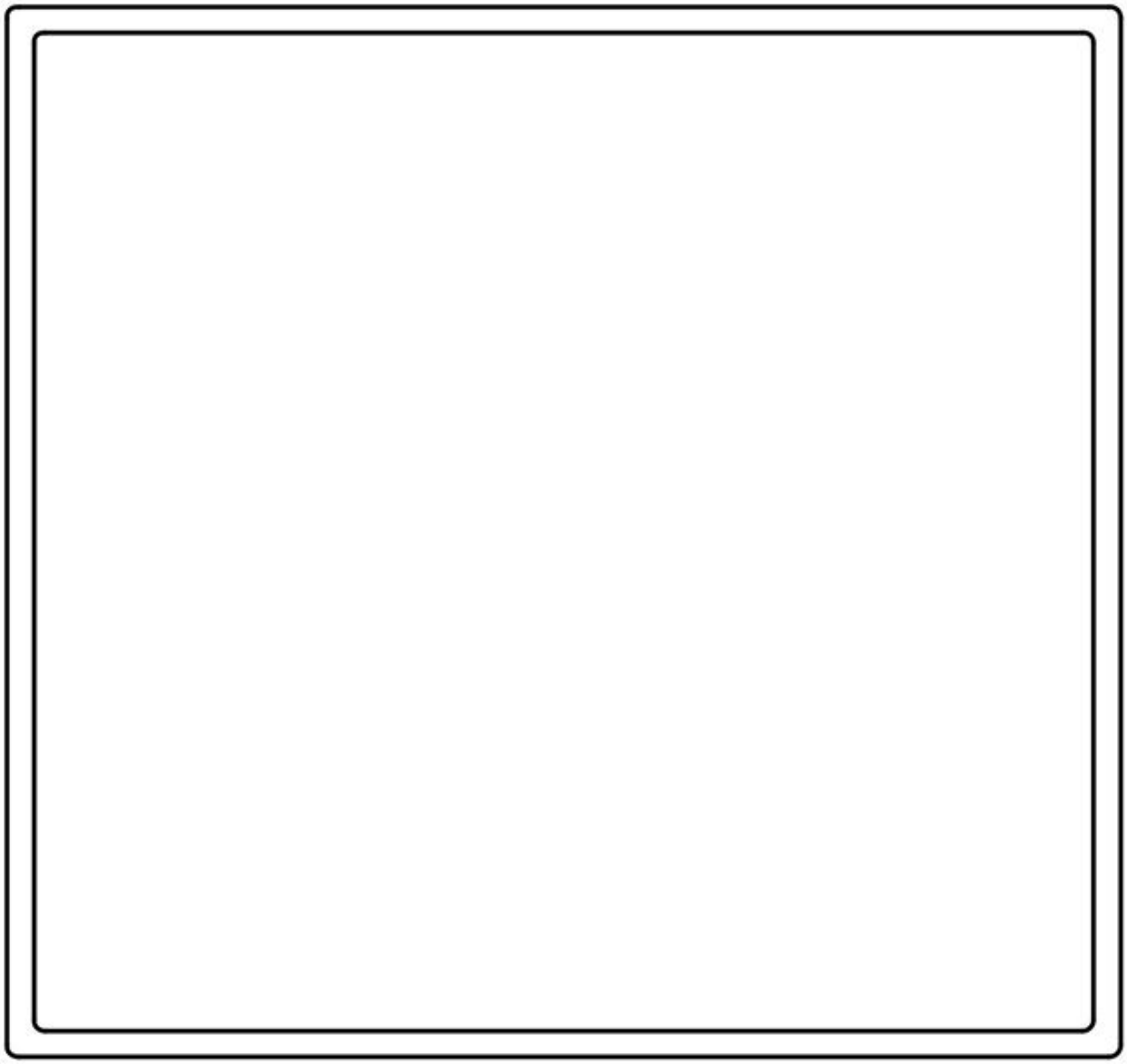

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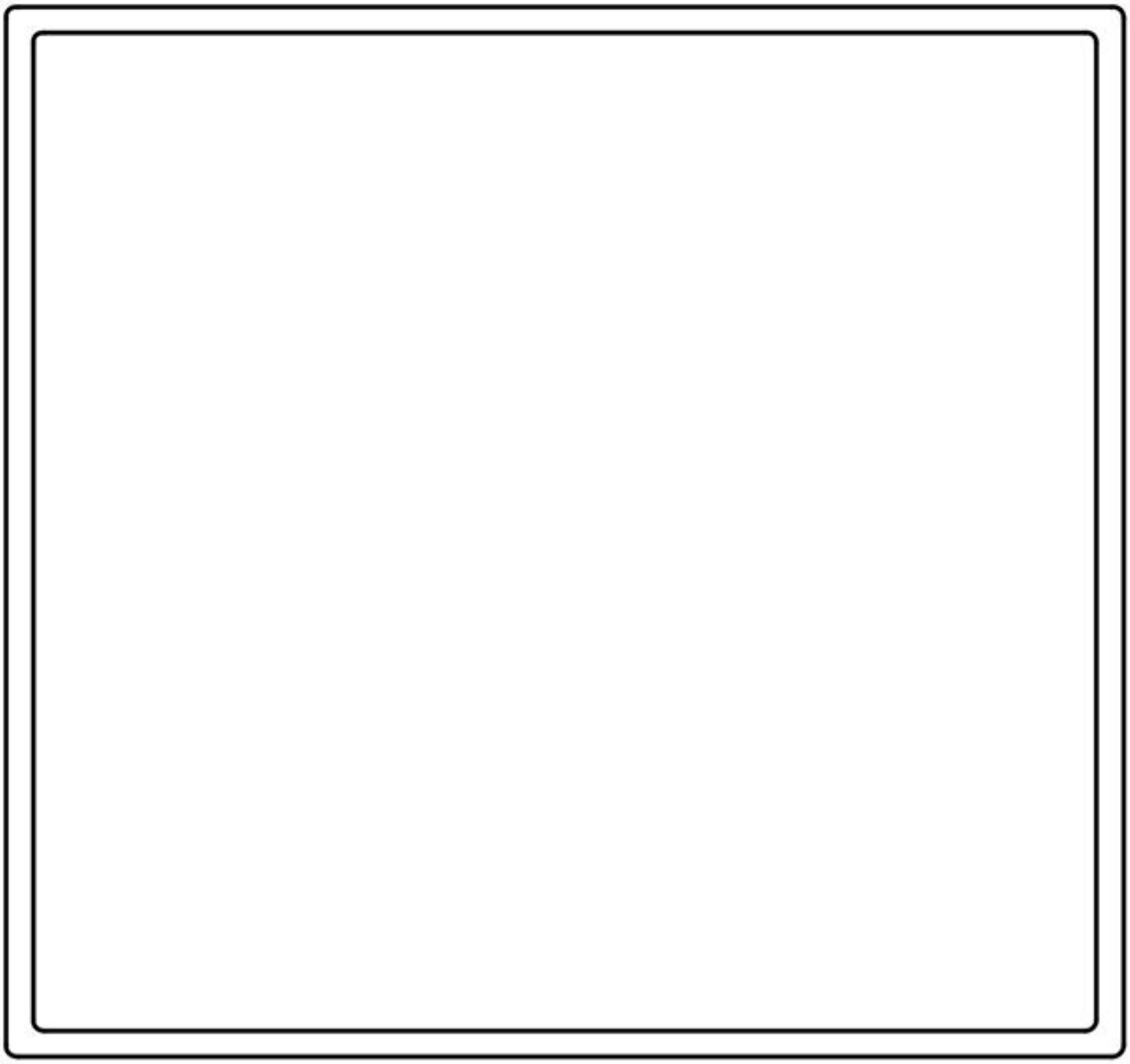

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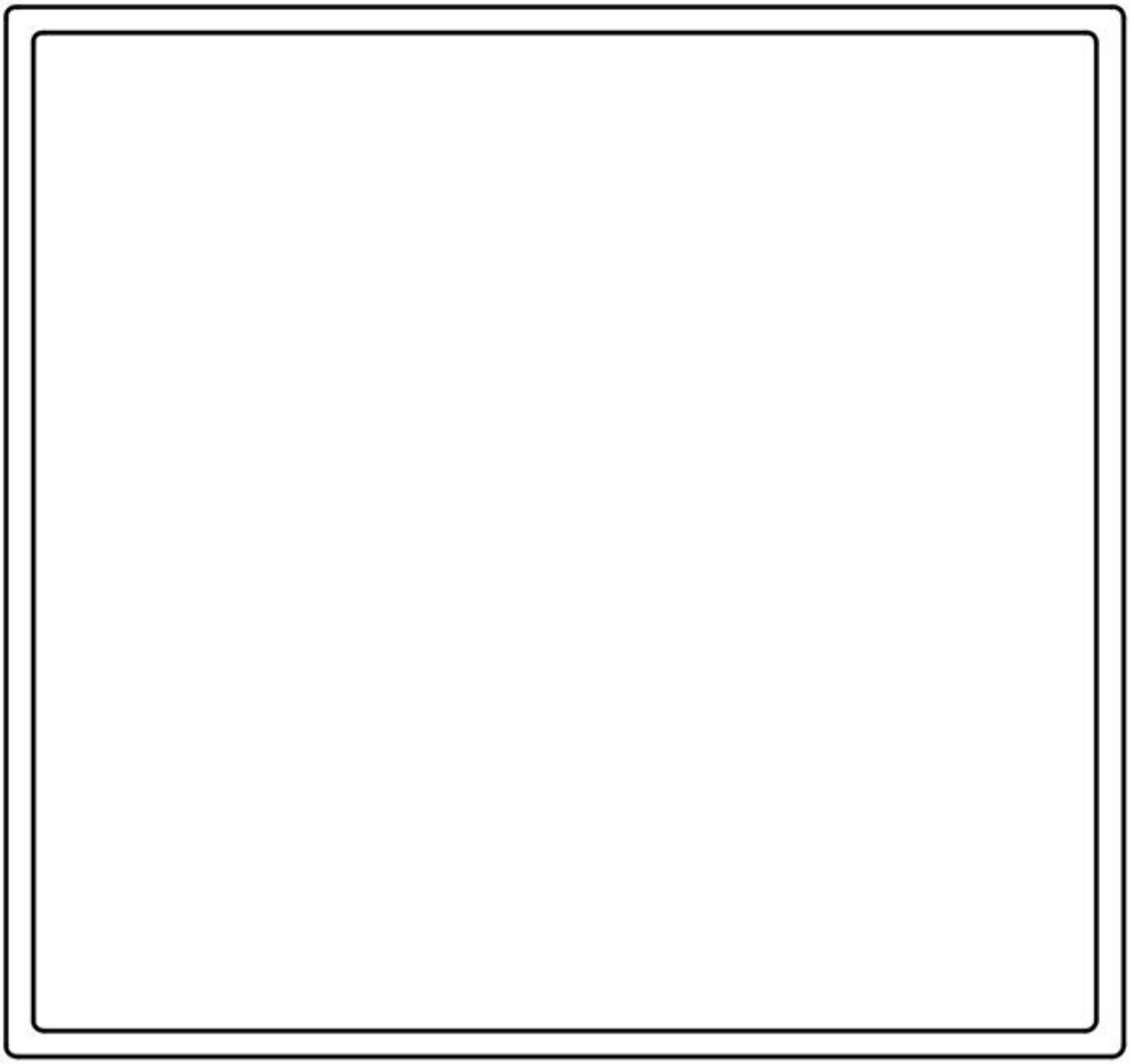

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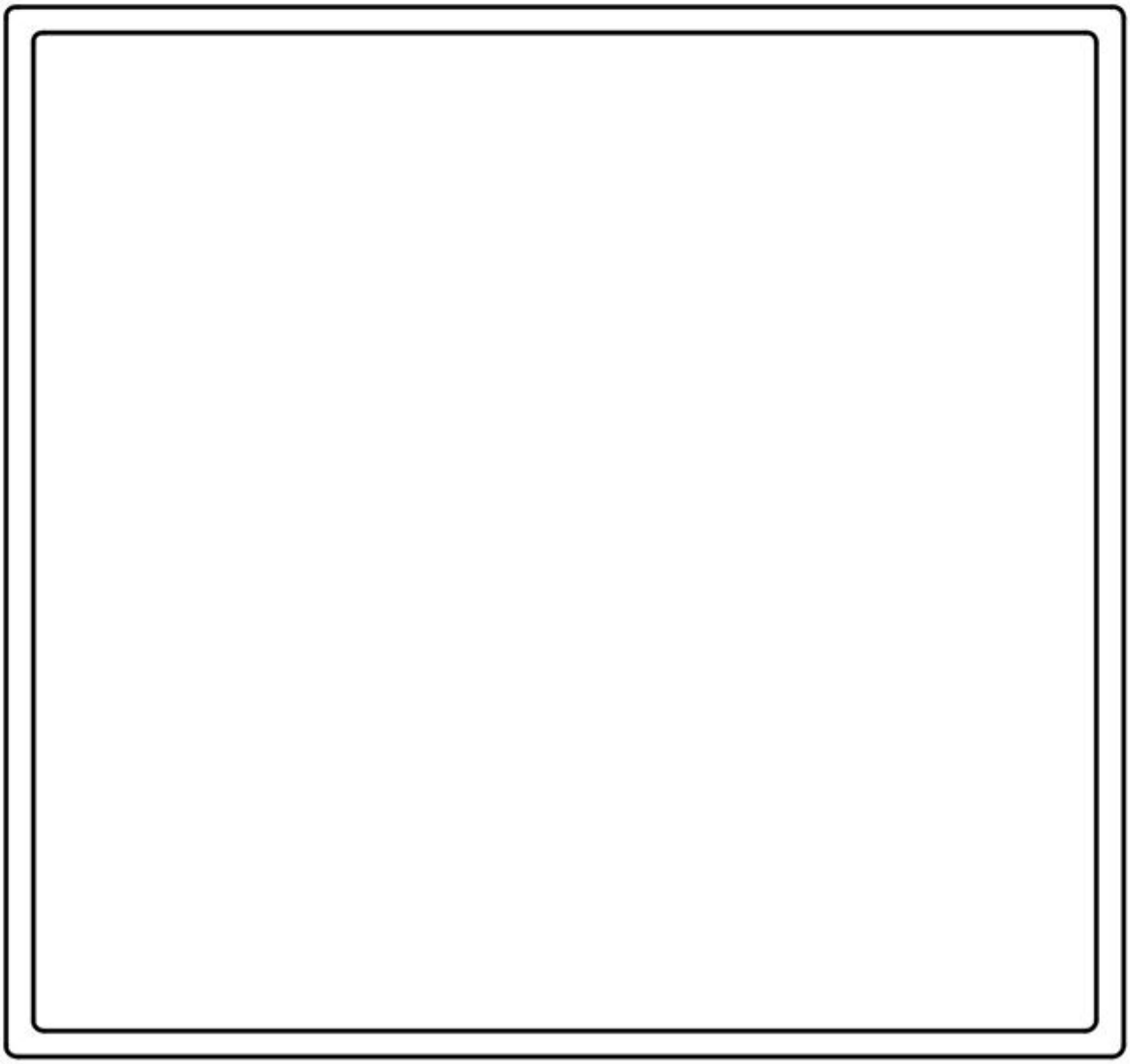

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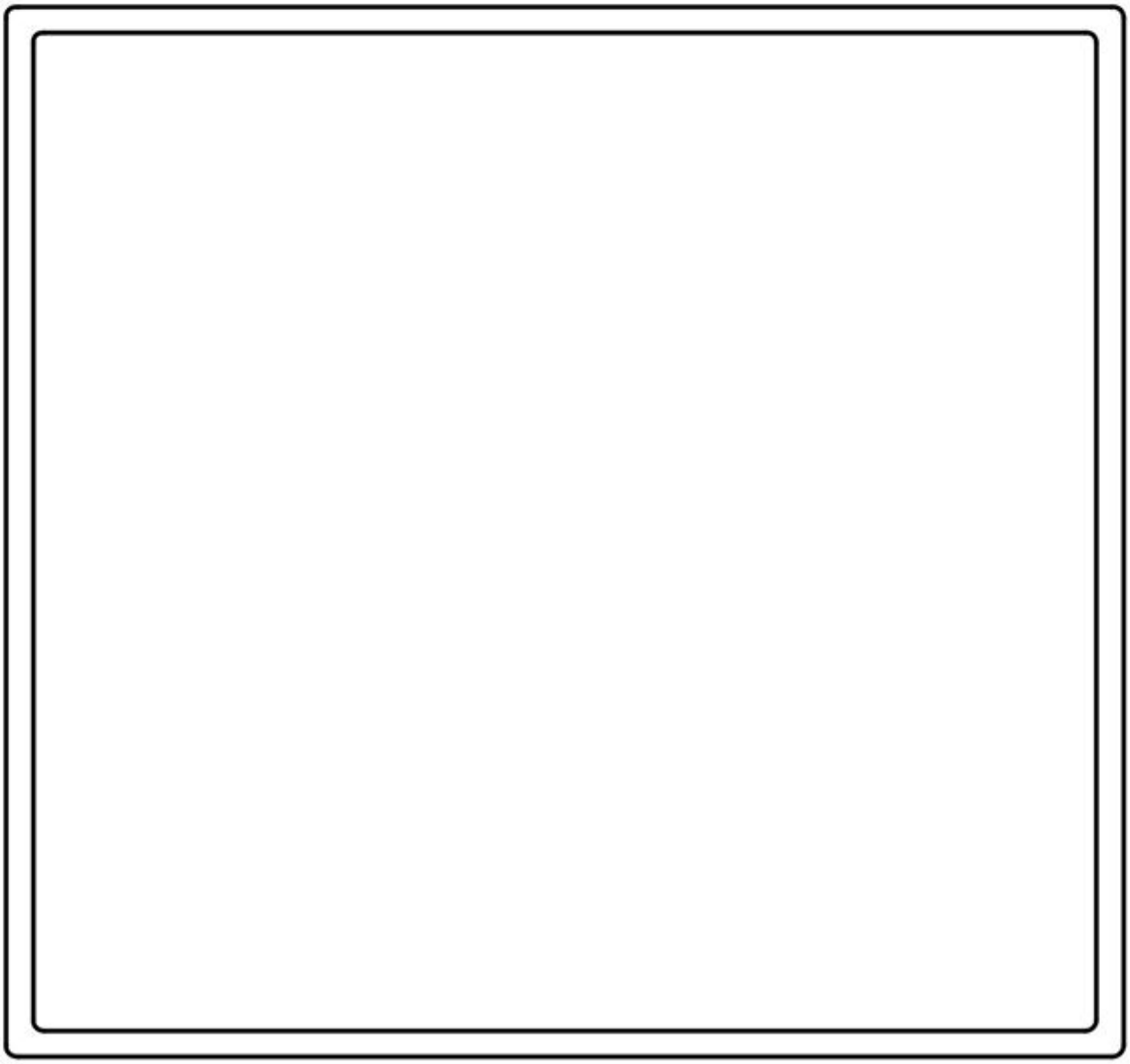

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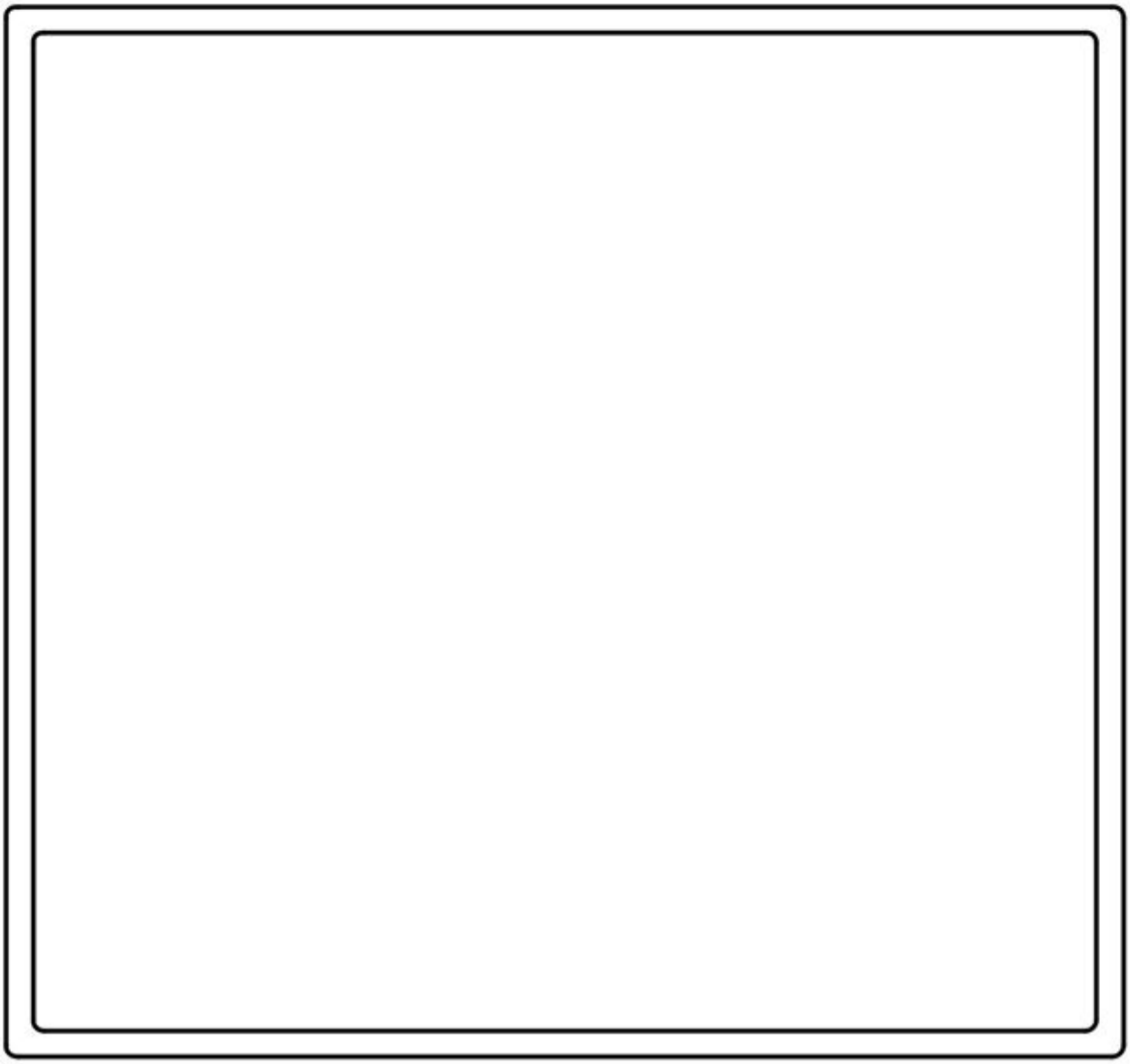

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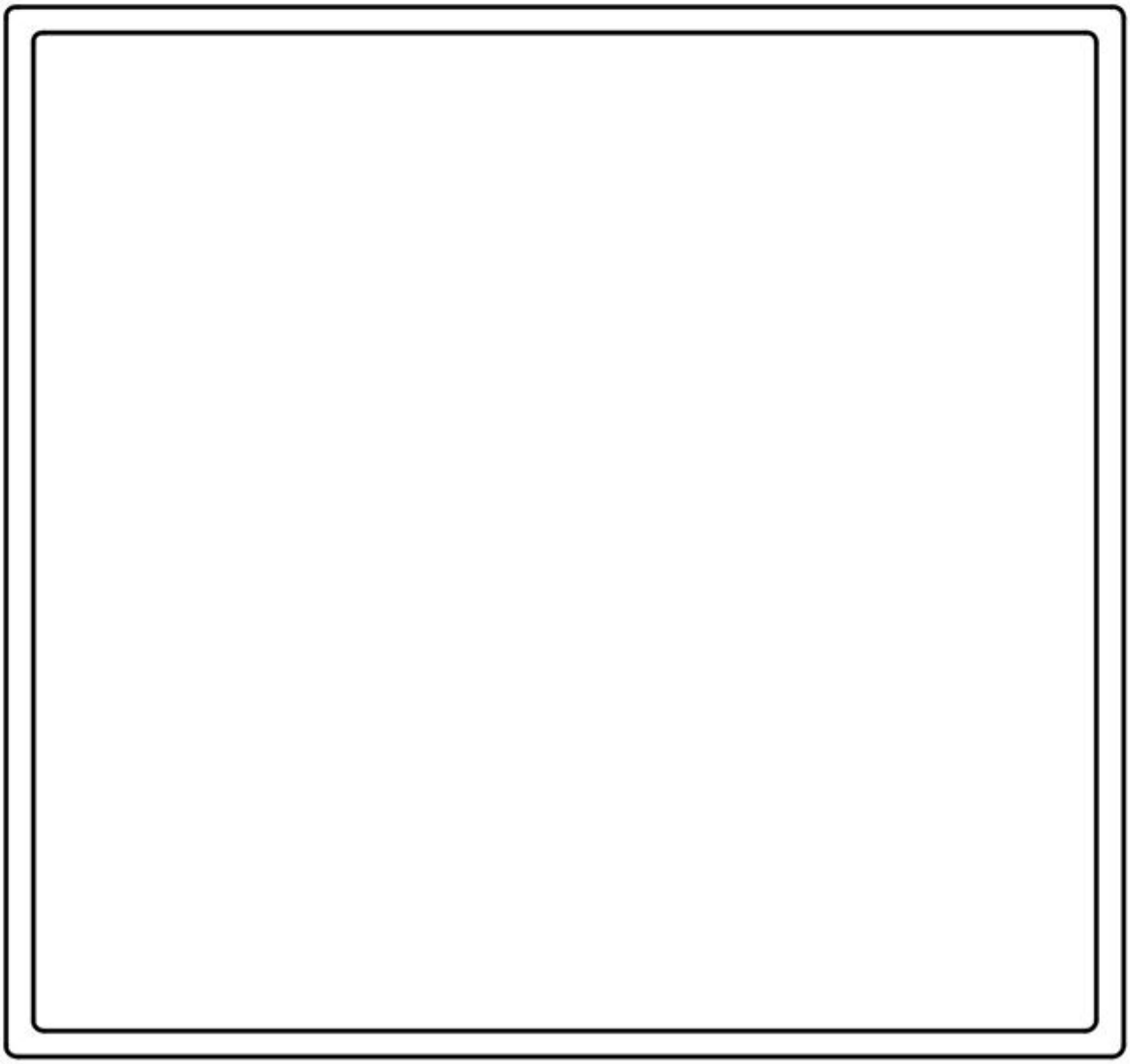

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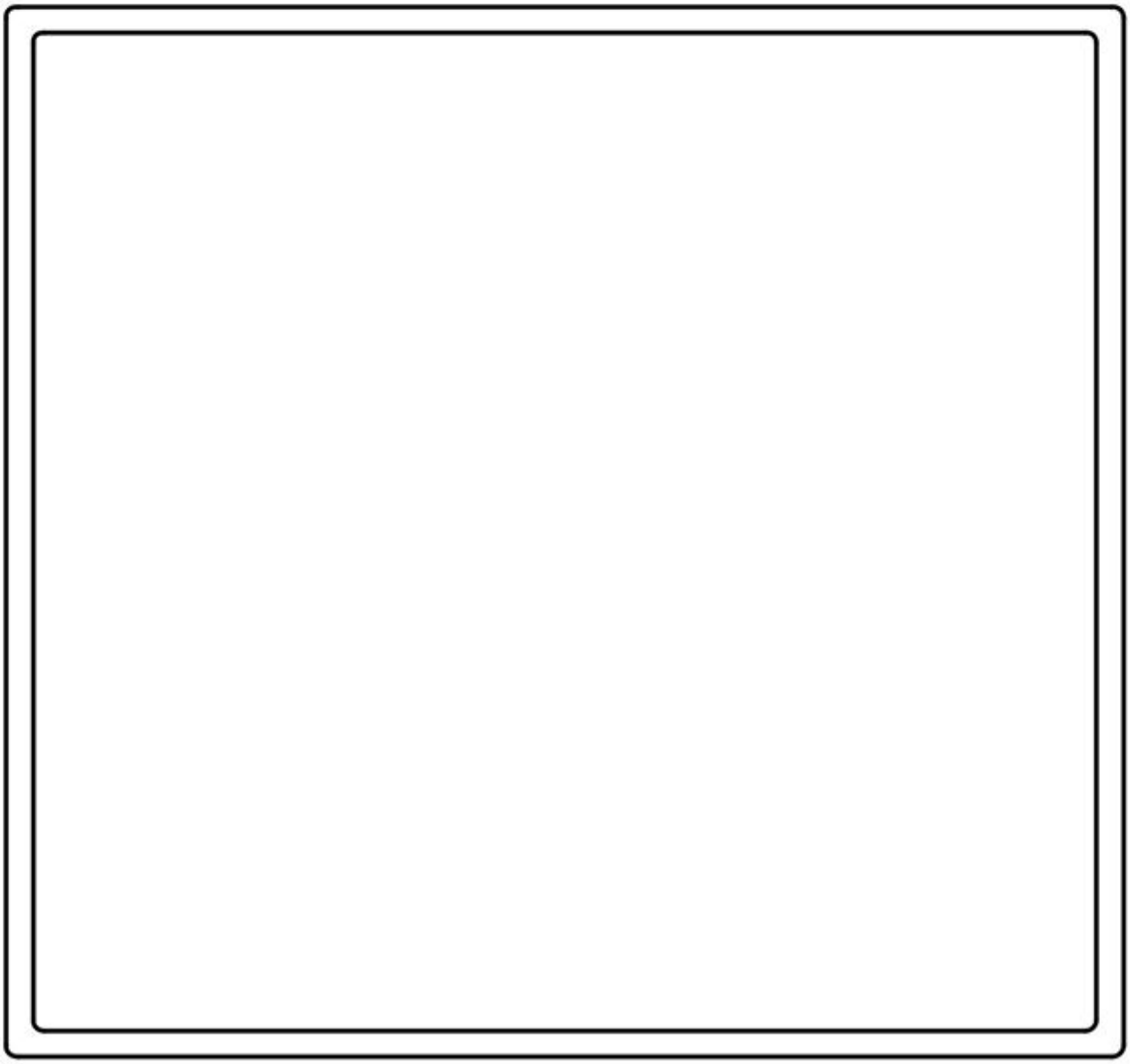

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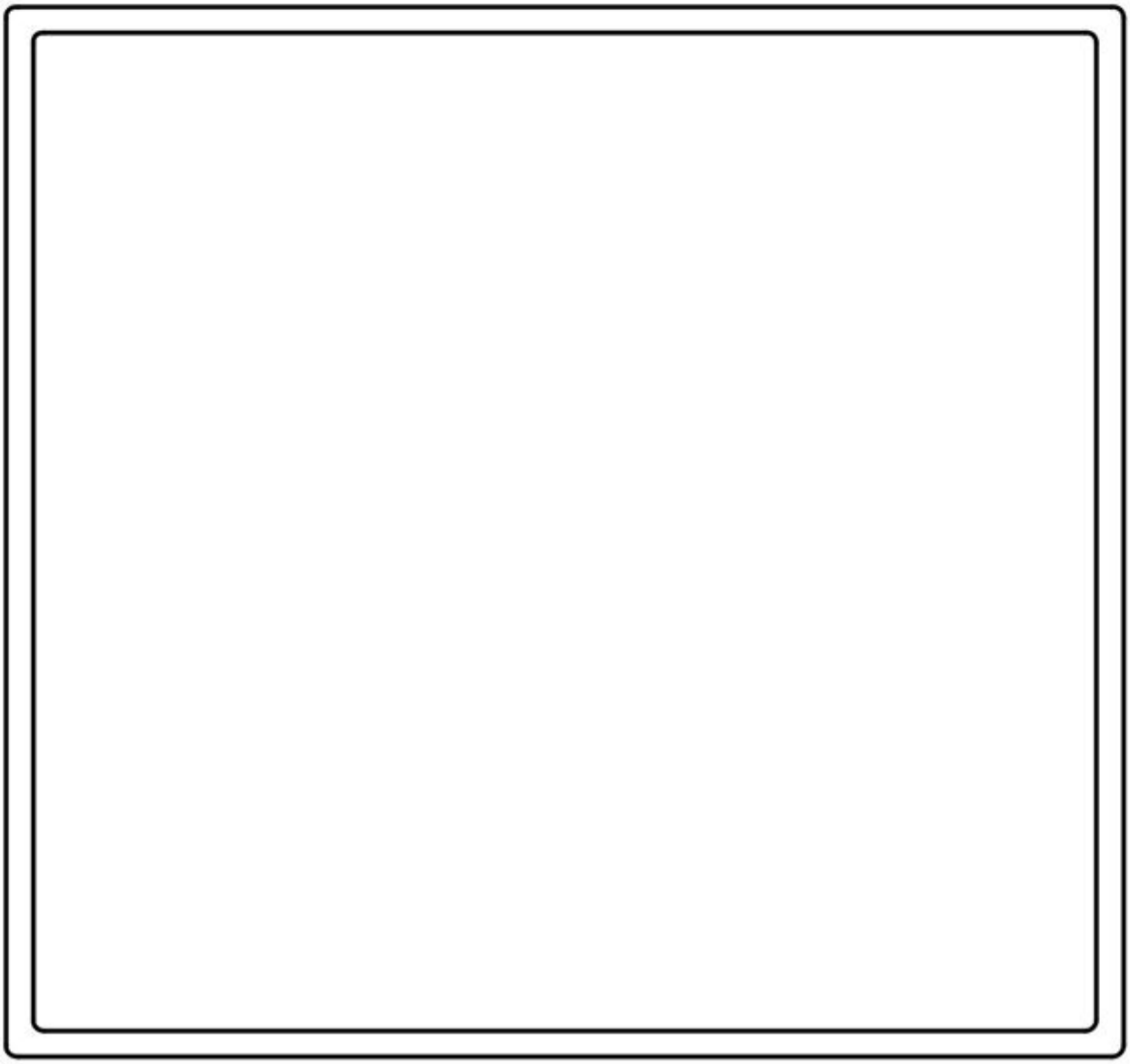

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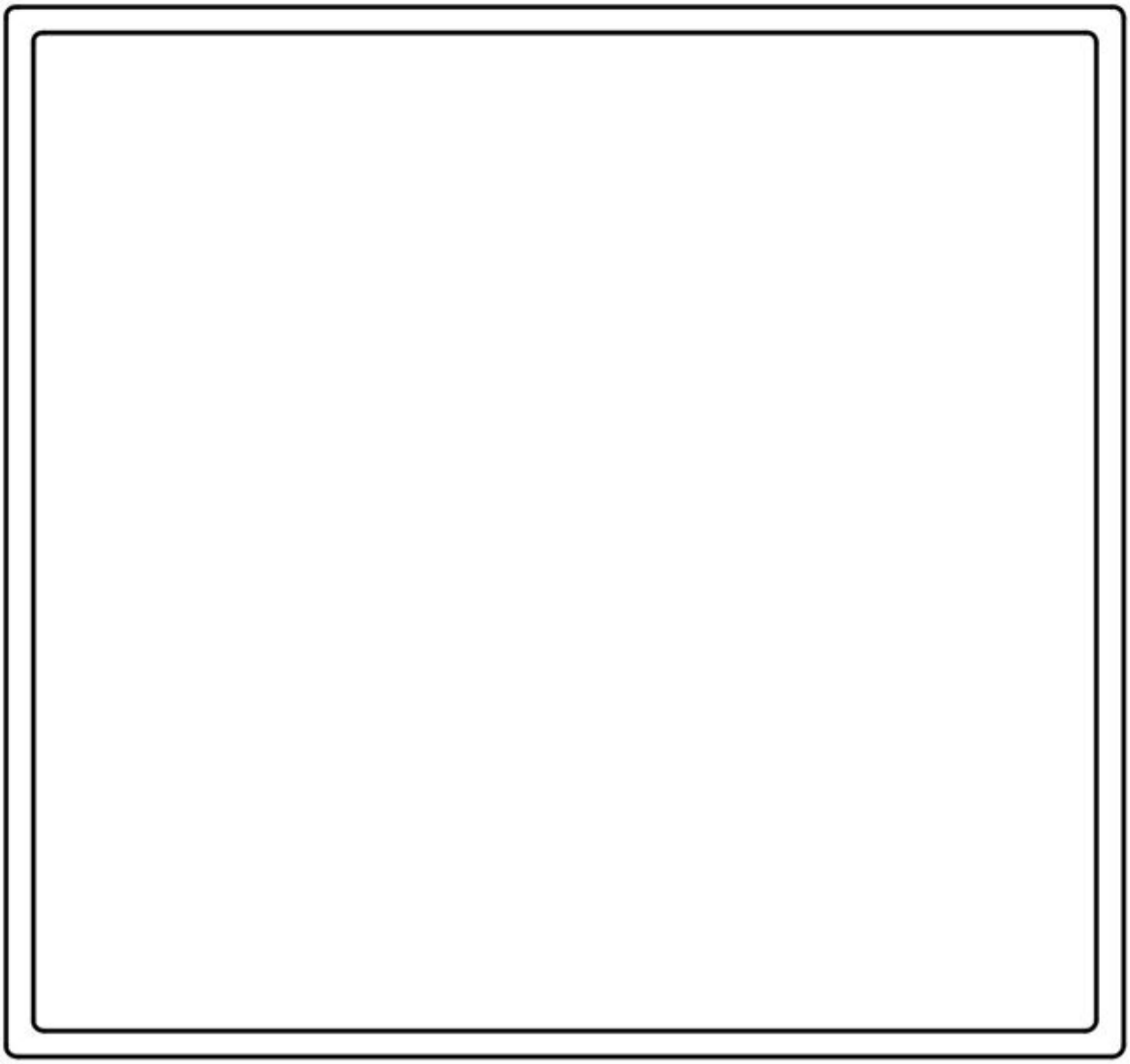

Unit 6 Lesson 21

Functions: Songwriting With Parameters

Resources

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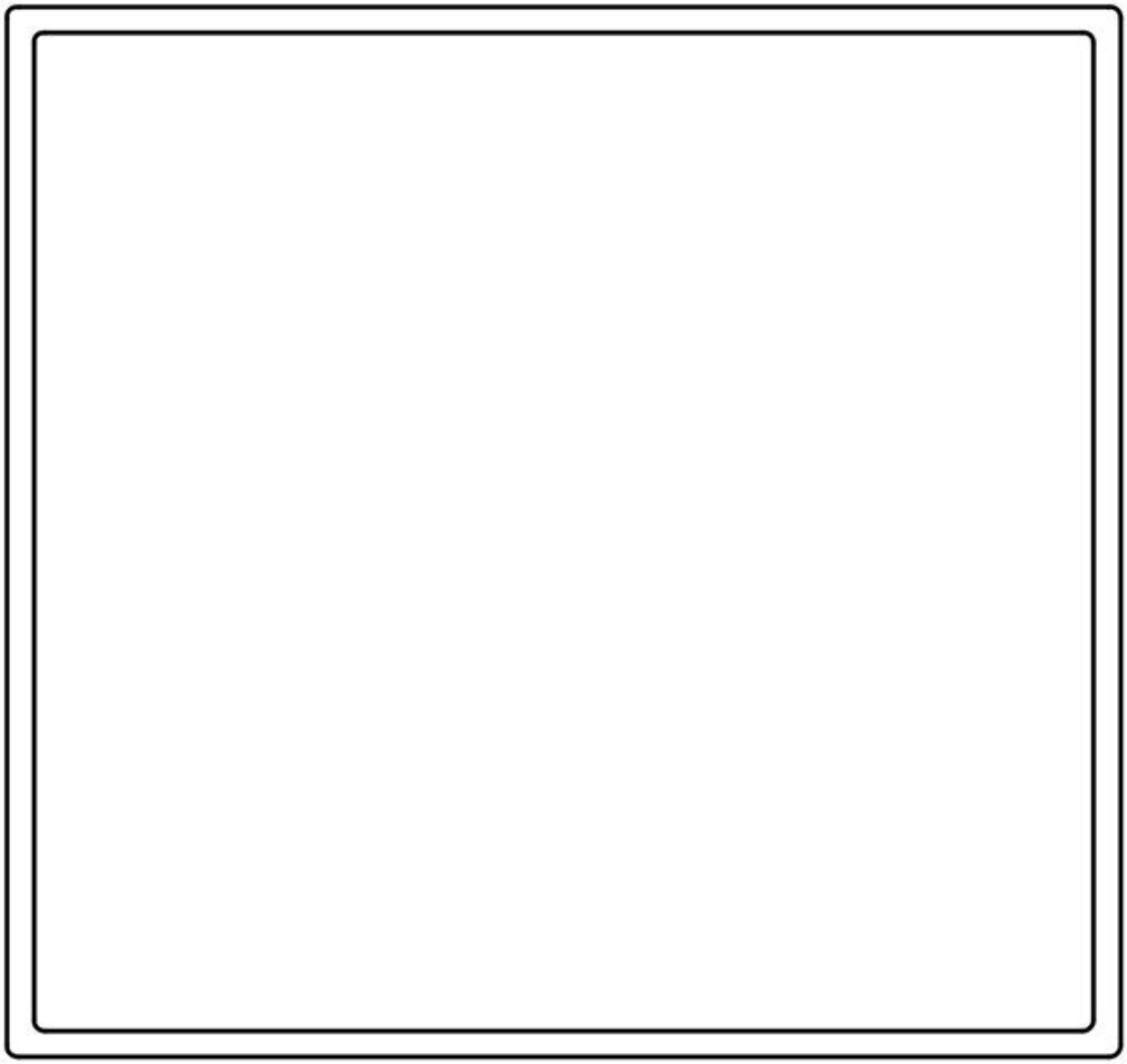

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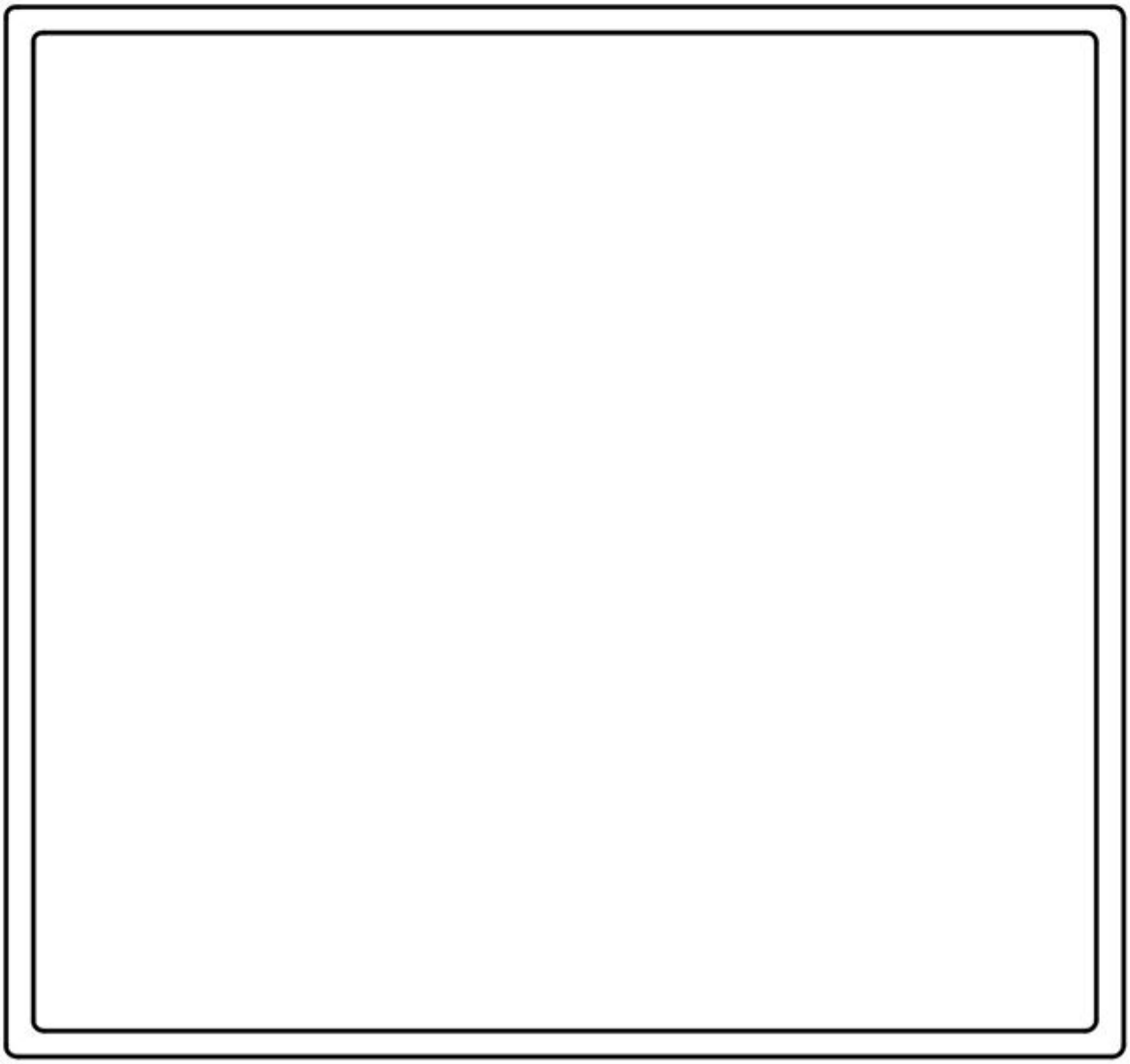

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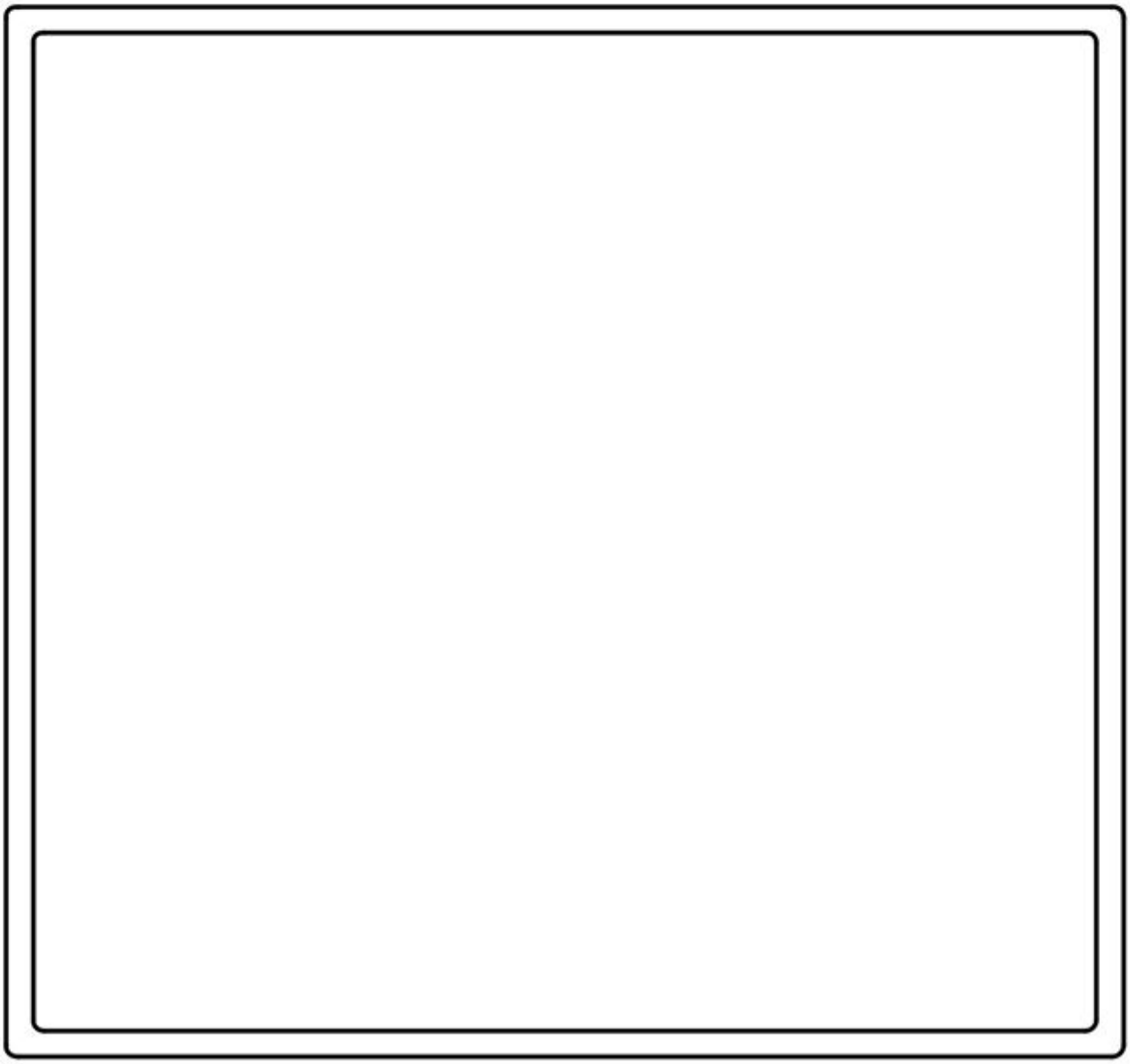

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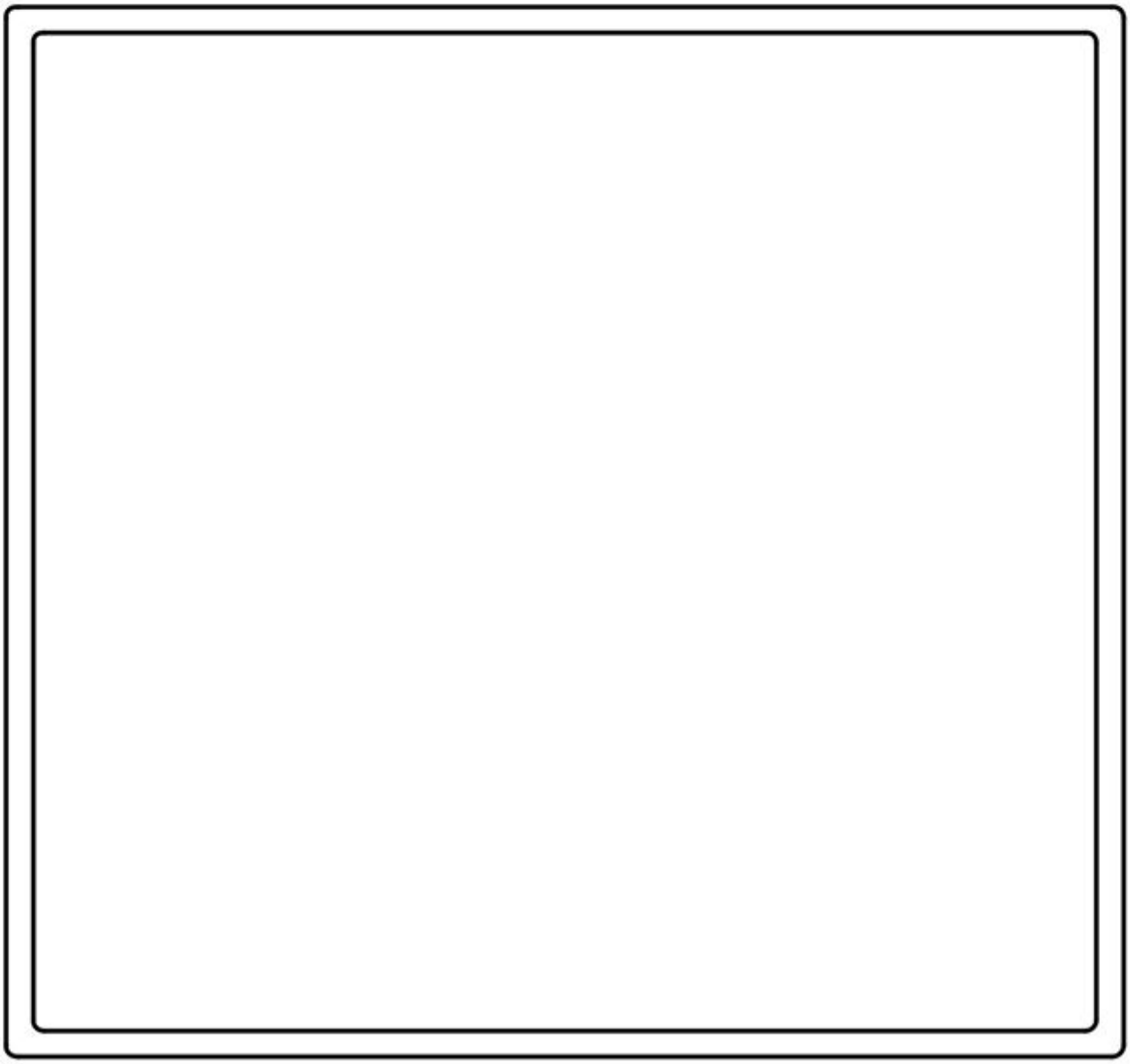

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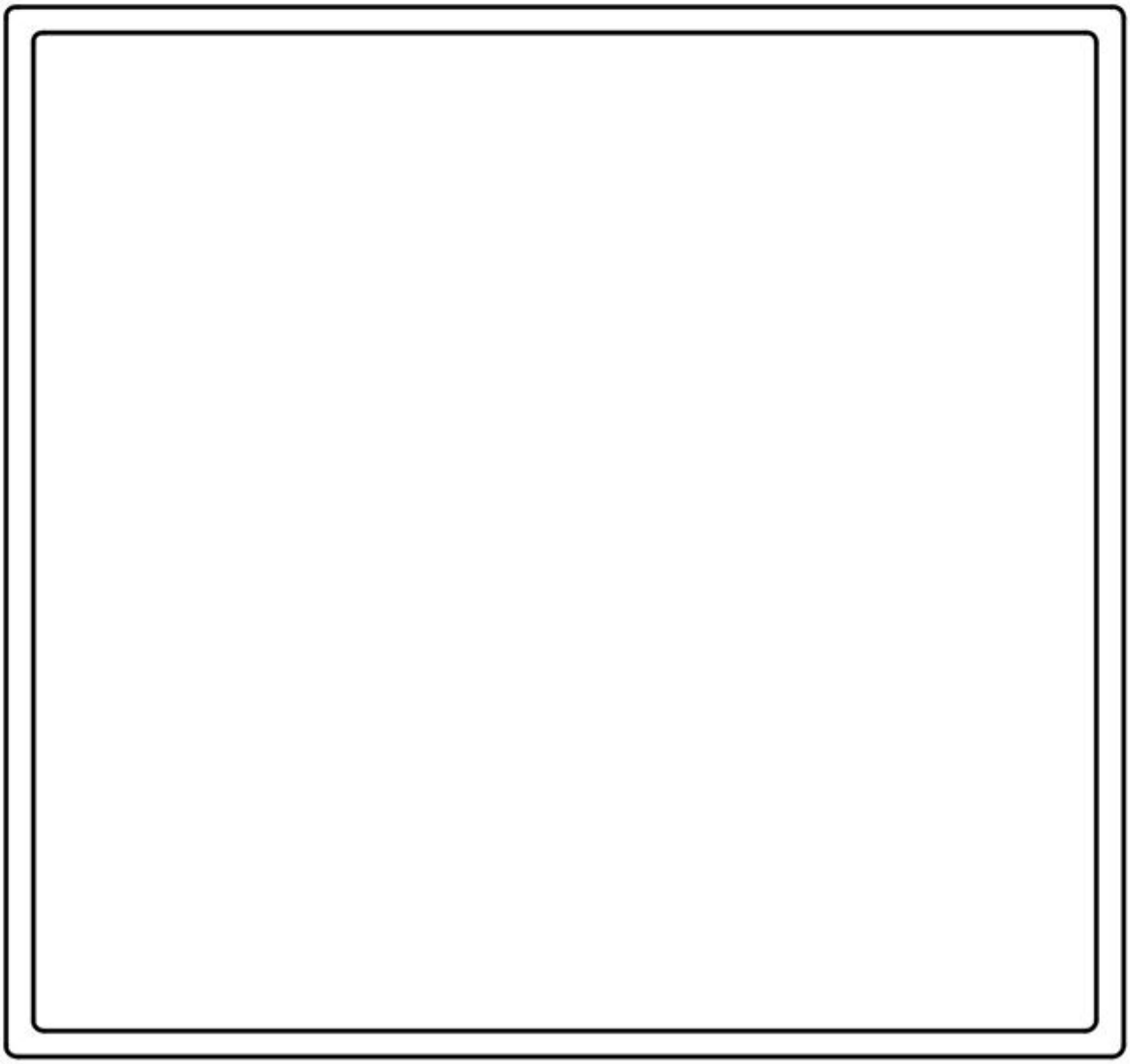

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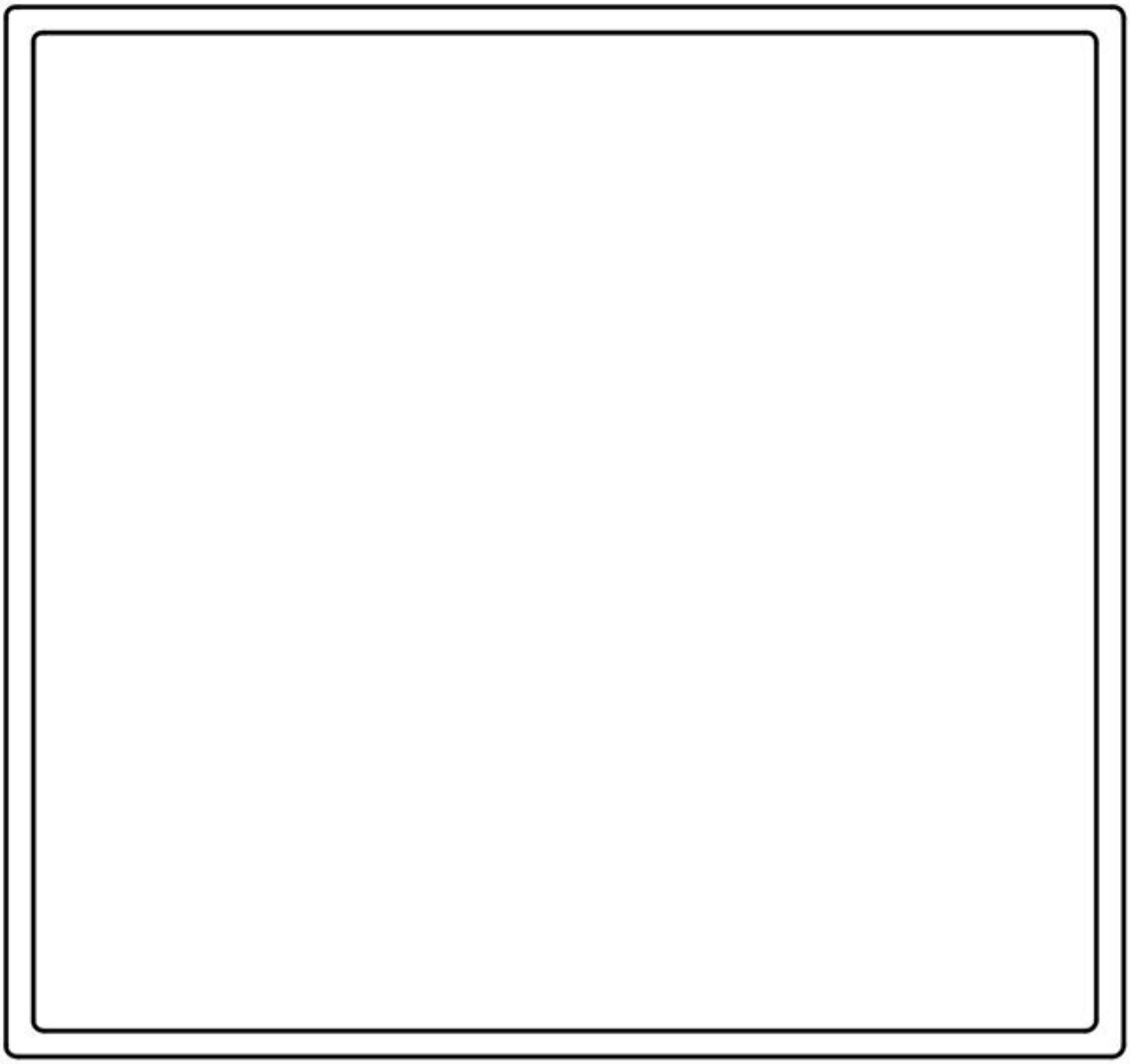

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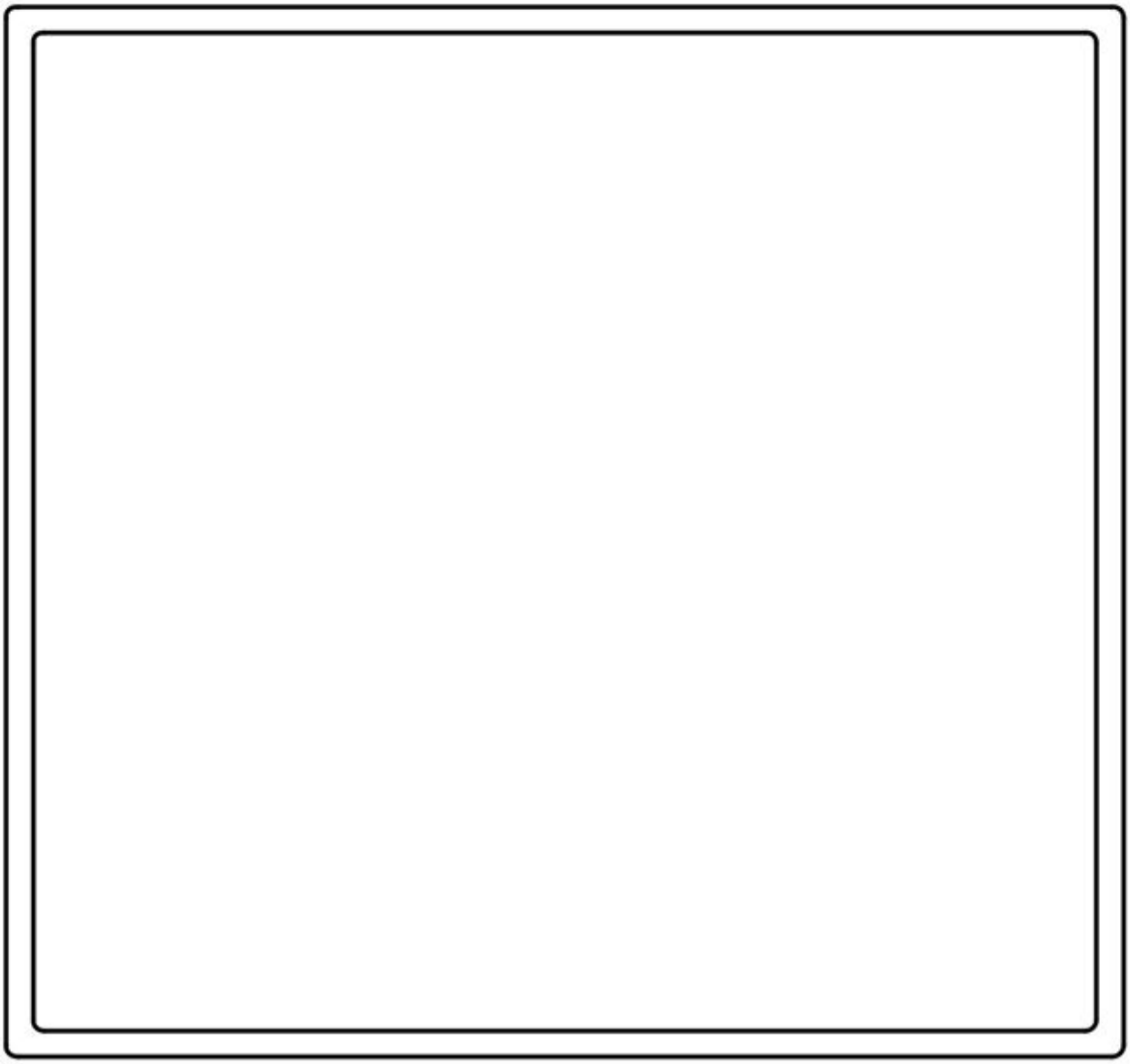

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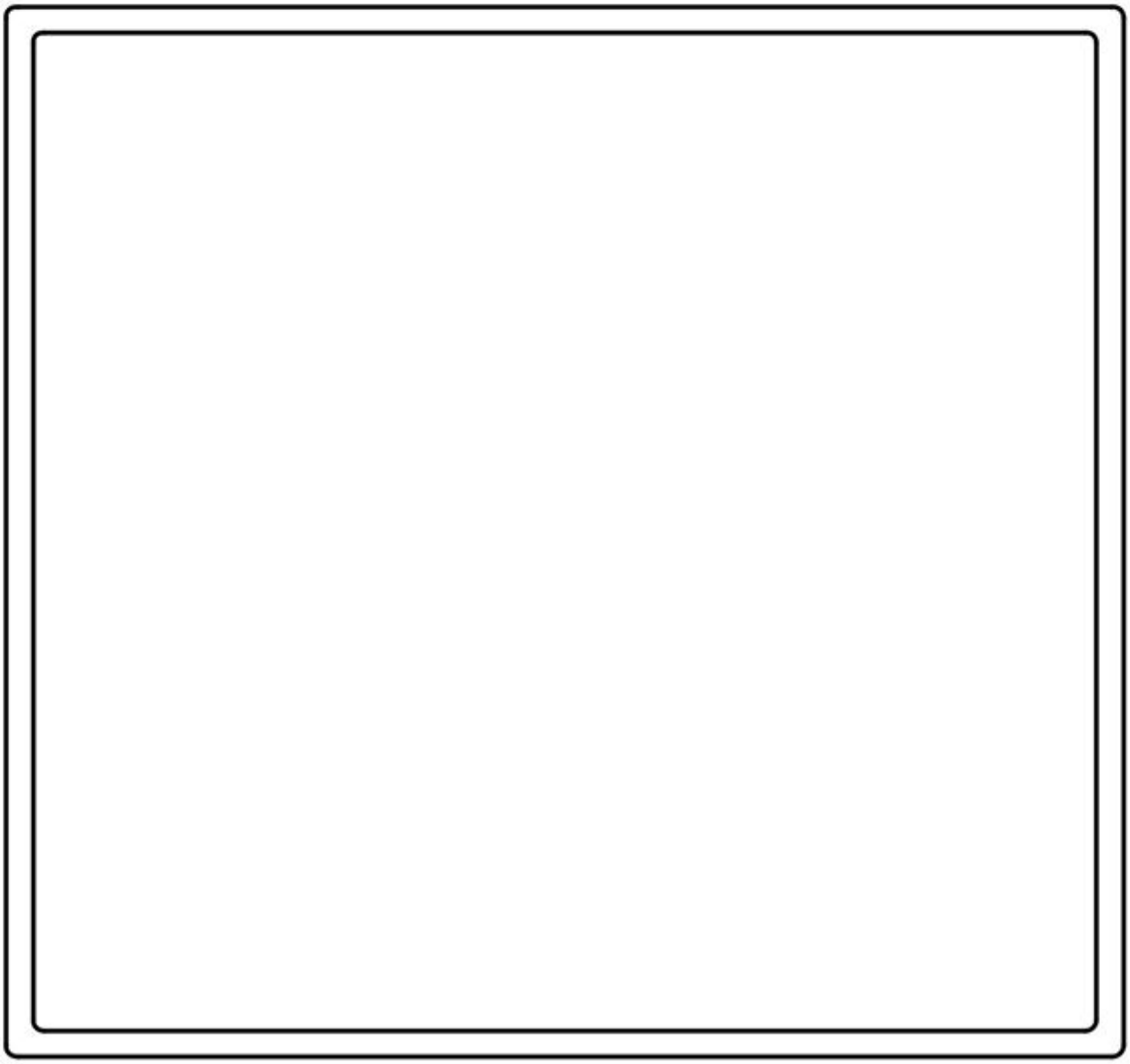

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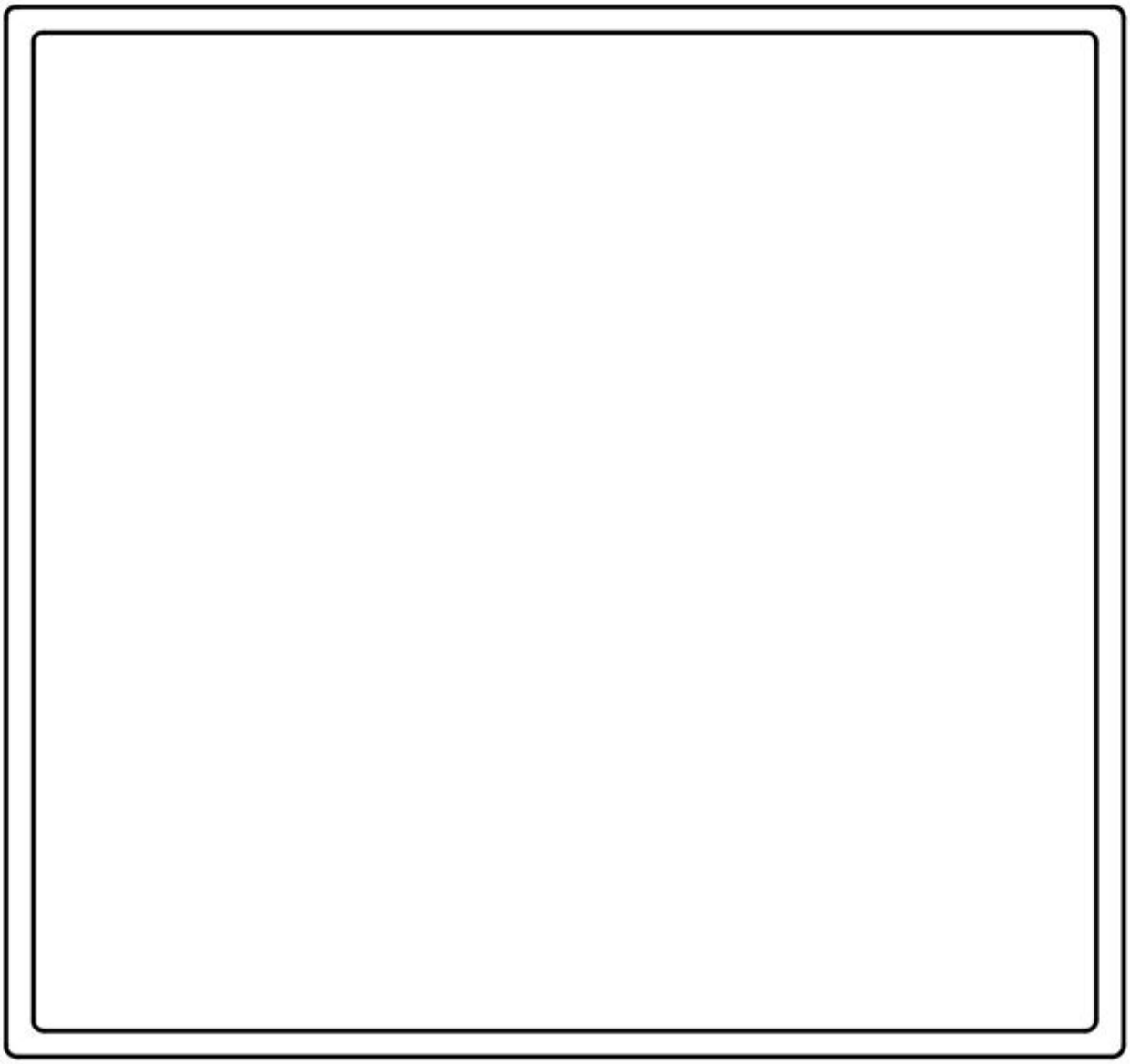

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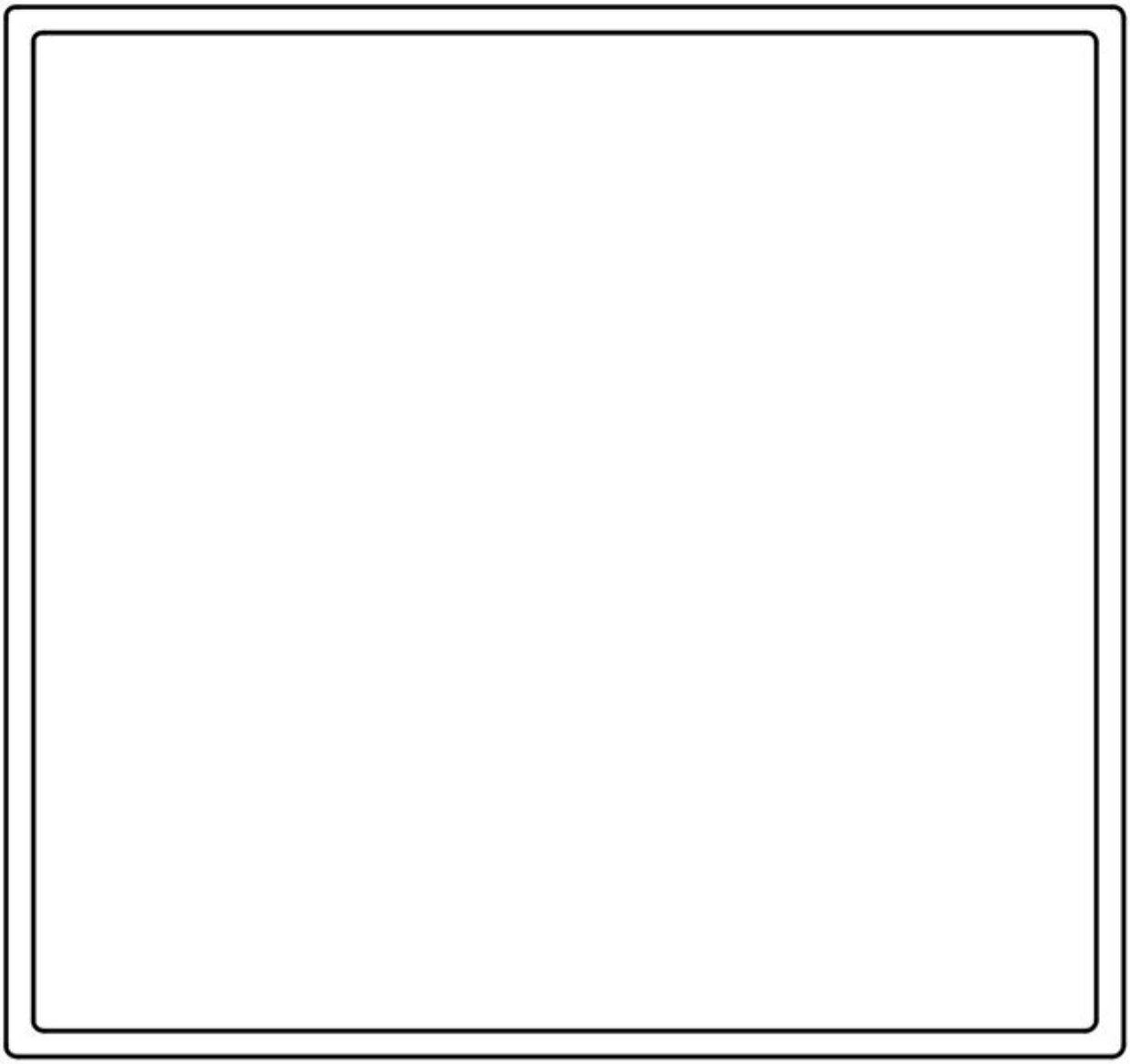
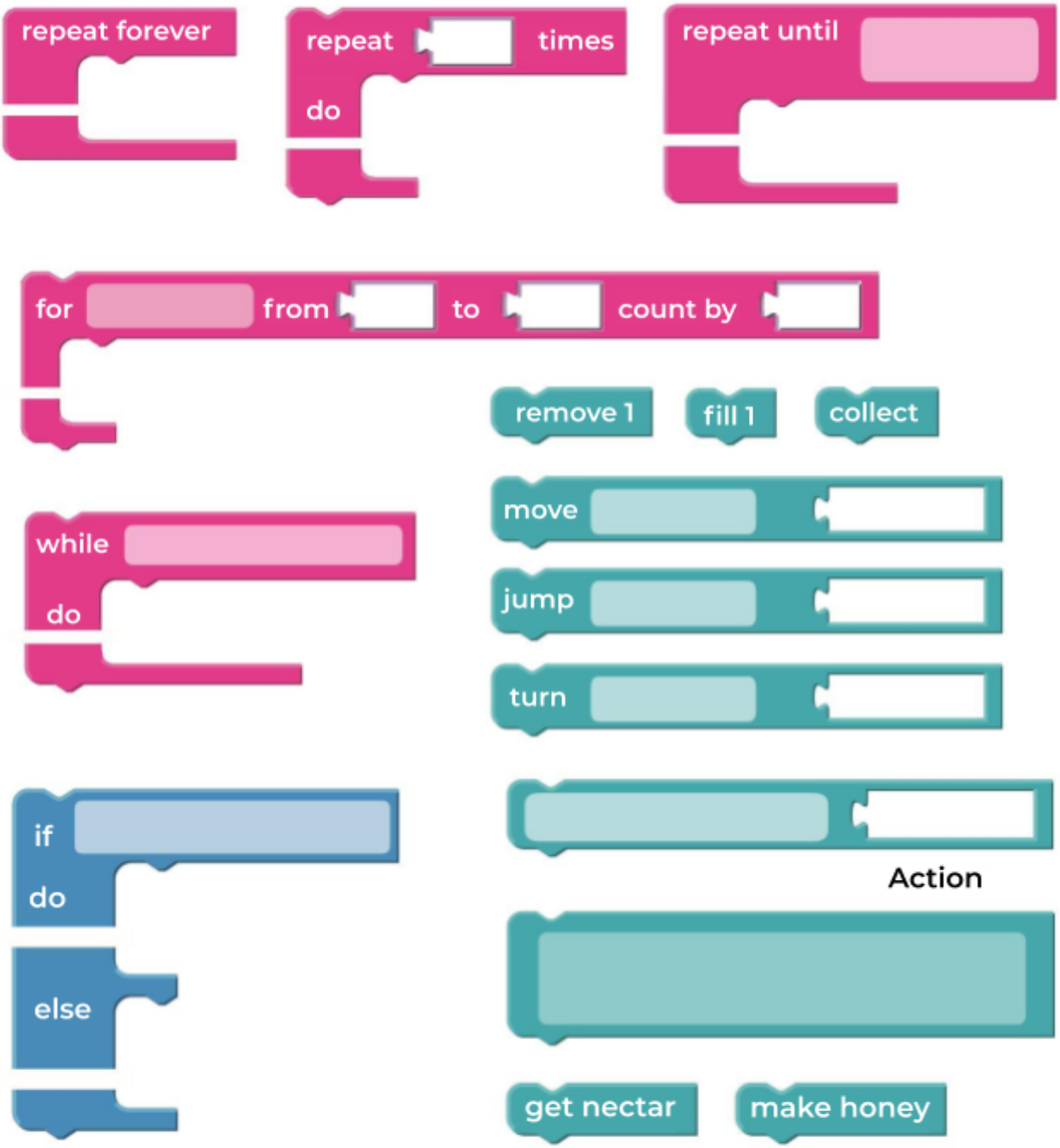


Unit 6 Lesson 22

Functions in Bee

Resources

Unplugged Blocks (Courses C-F)



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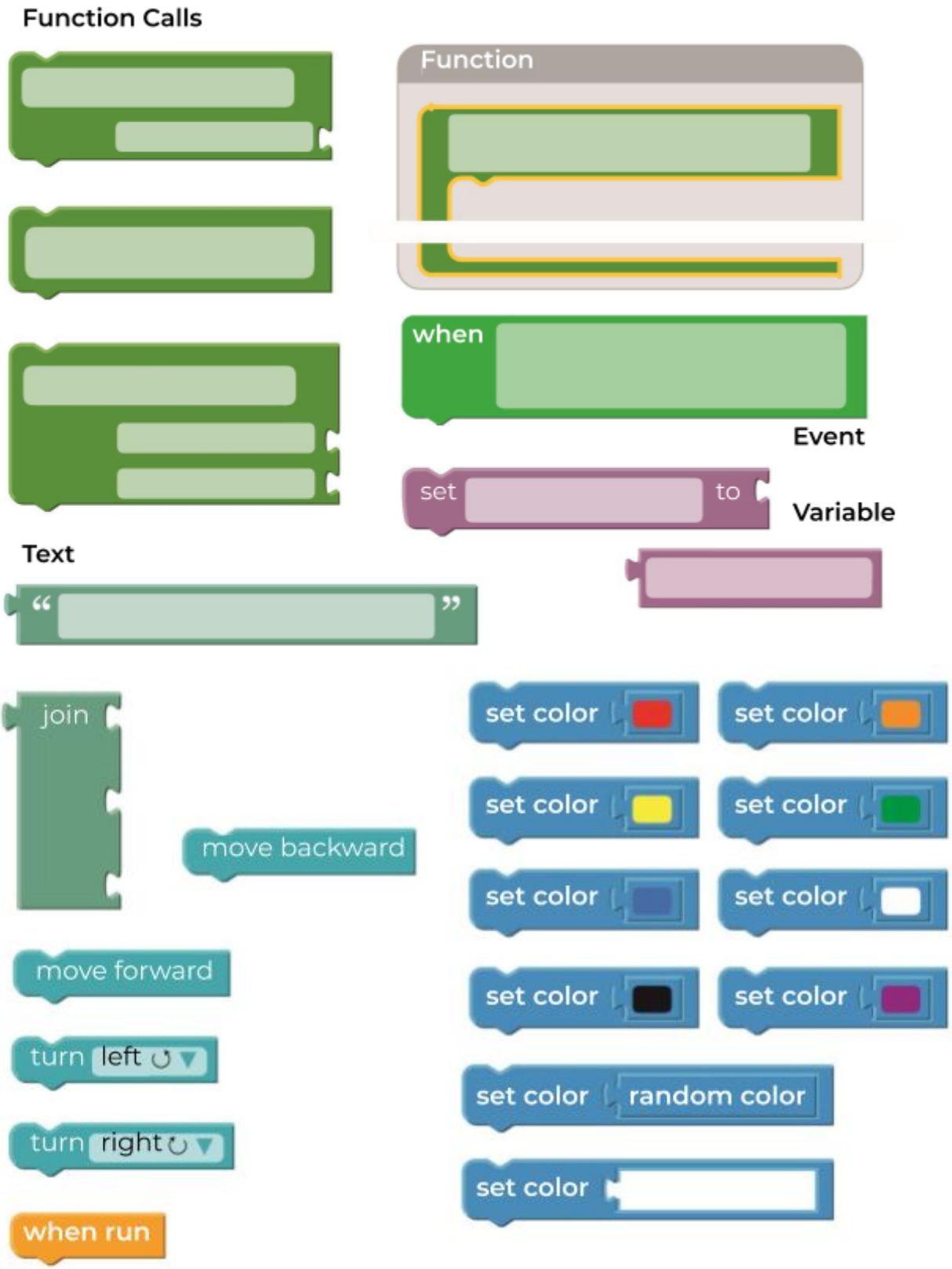

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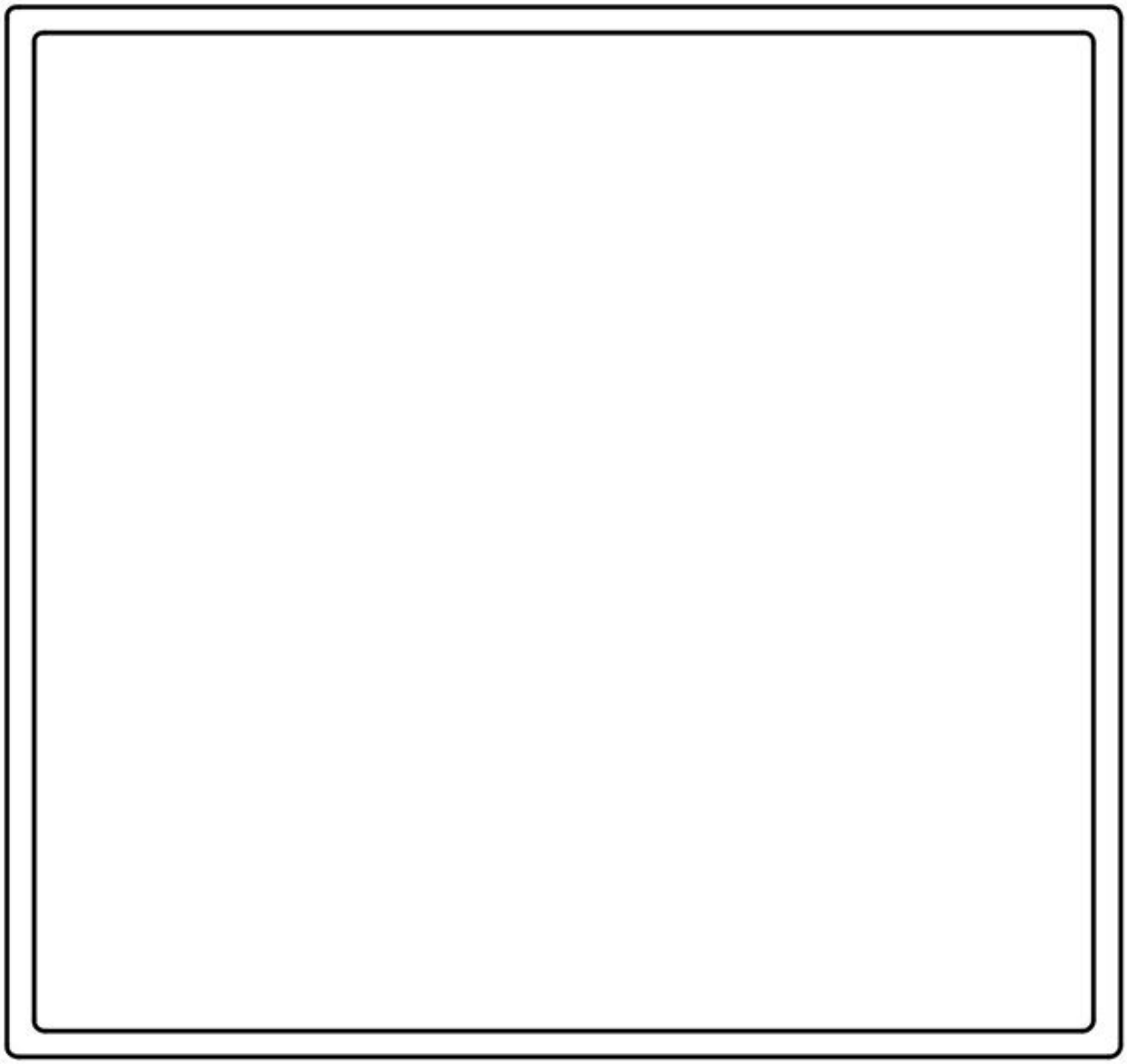

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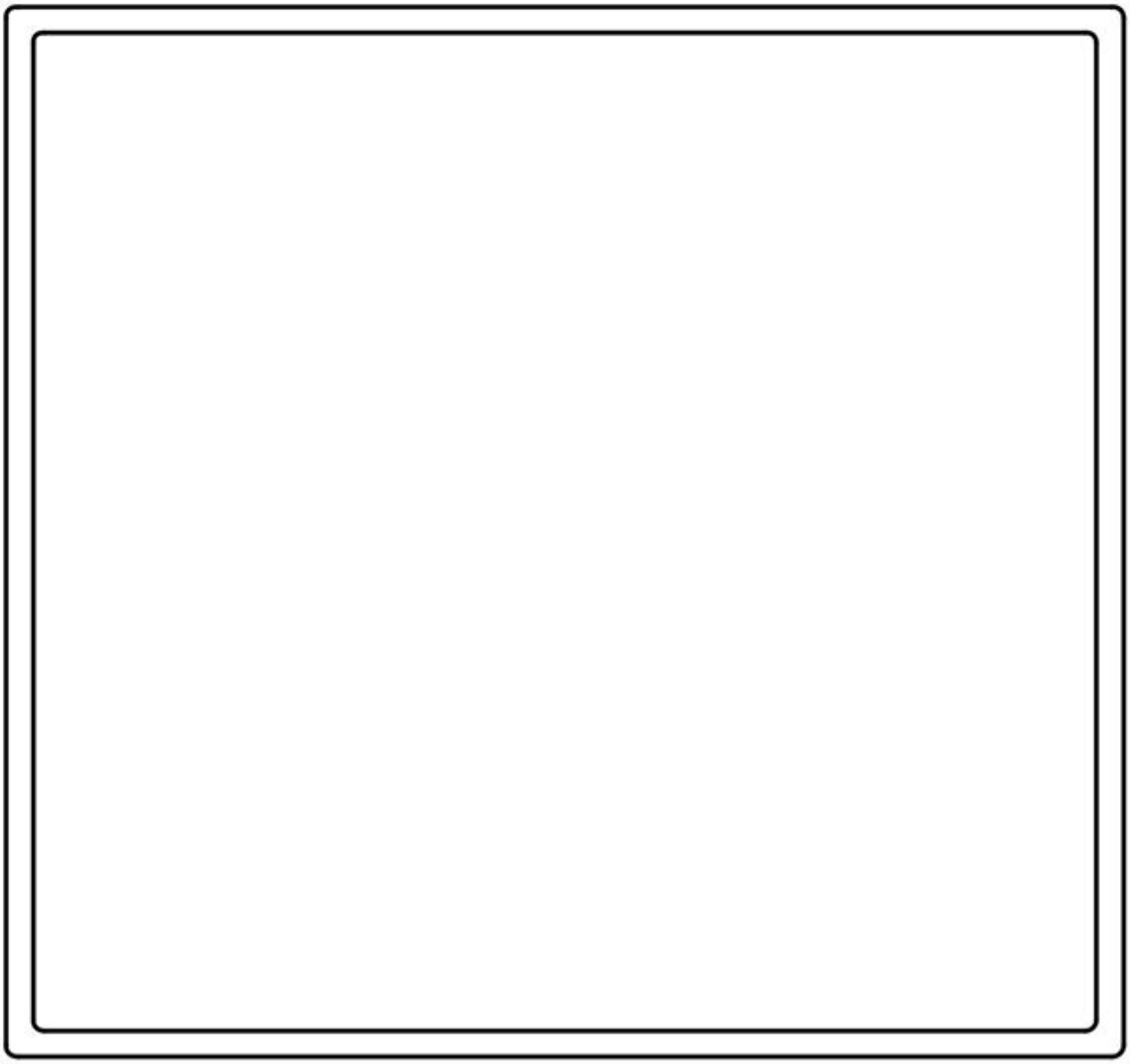

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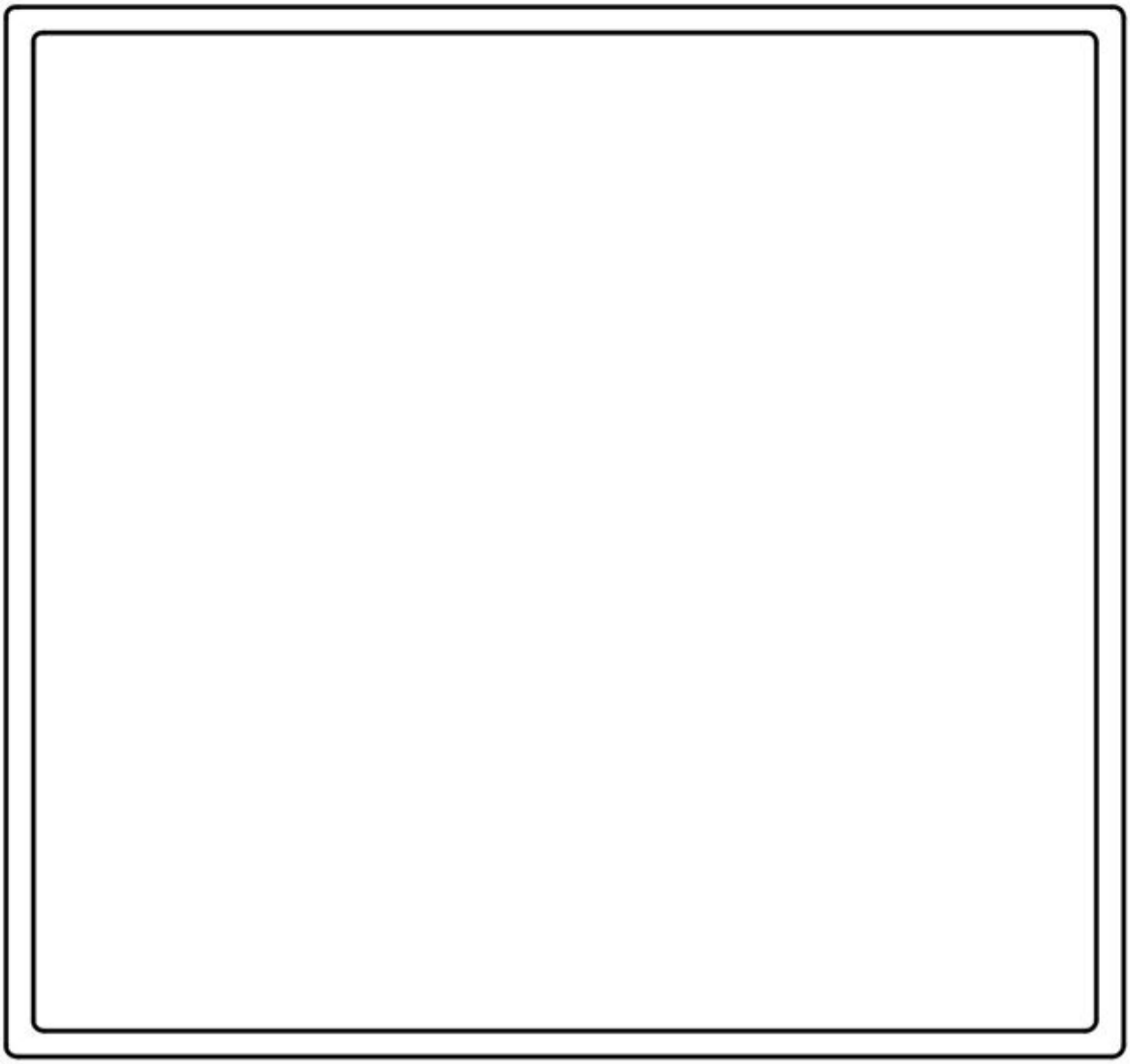

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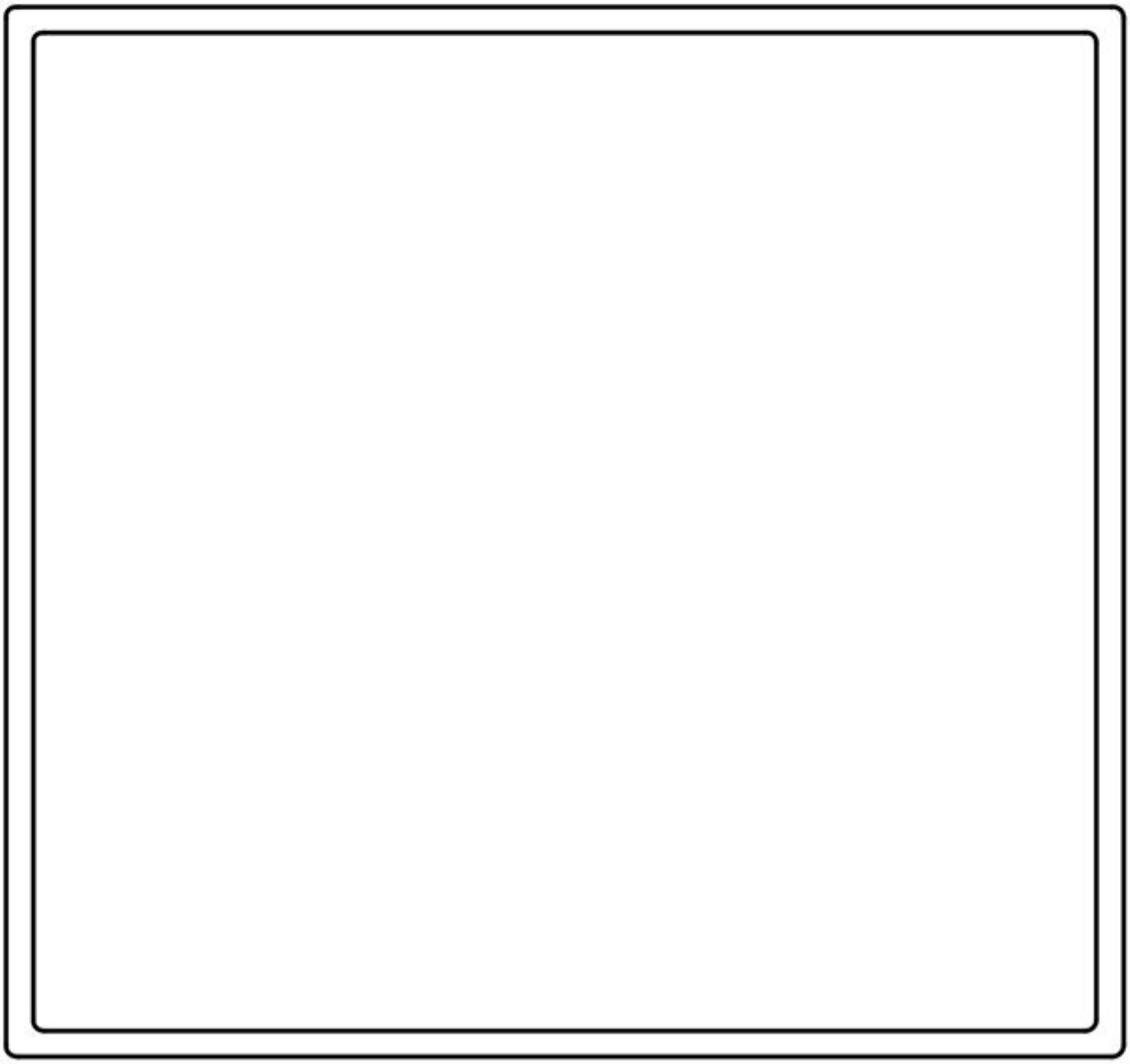

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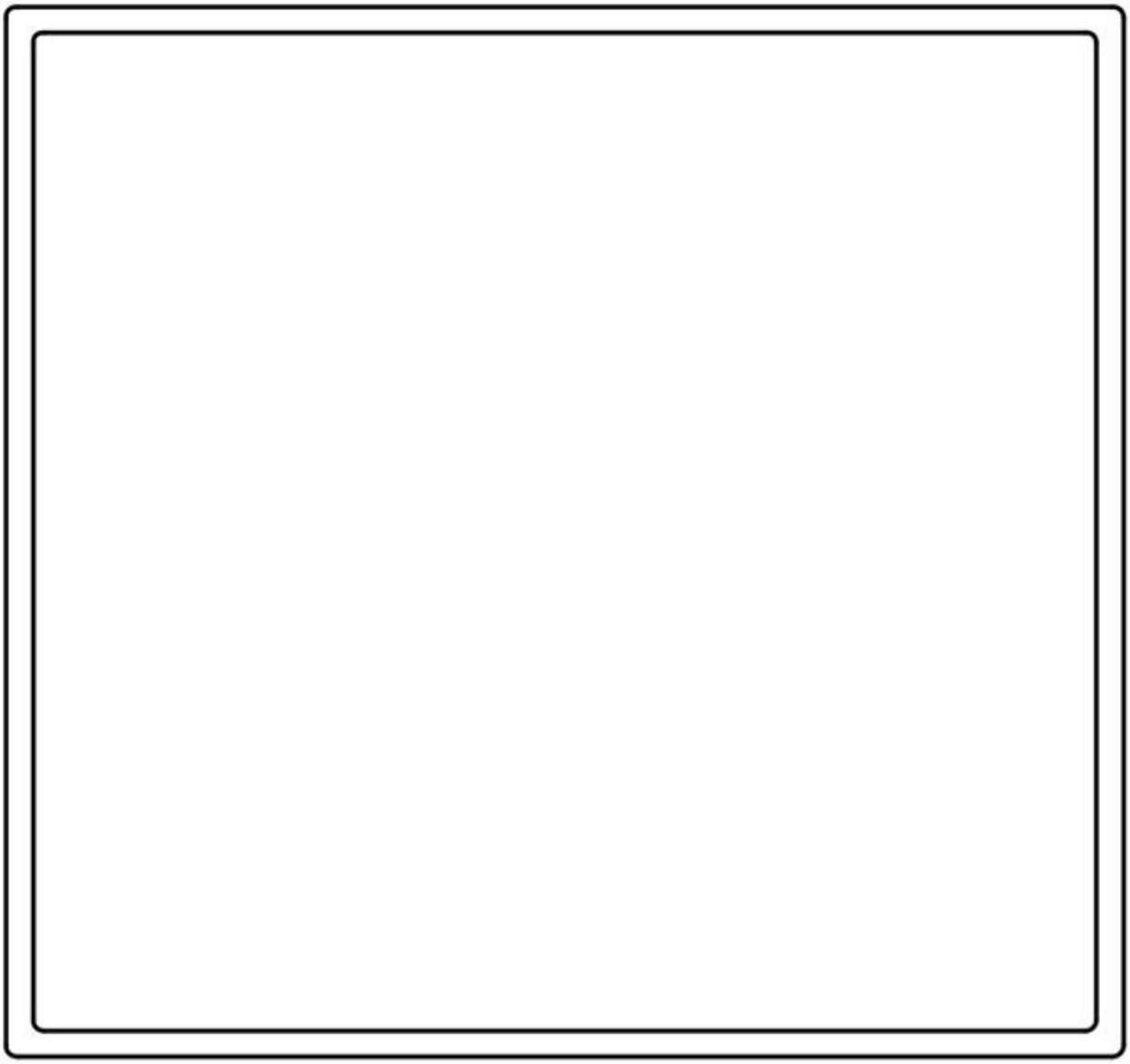

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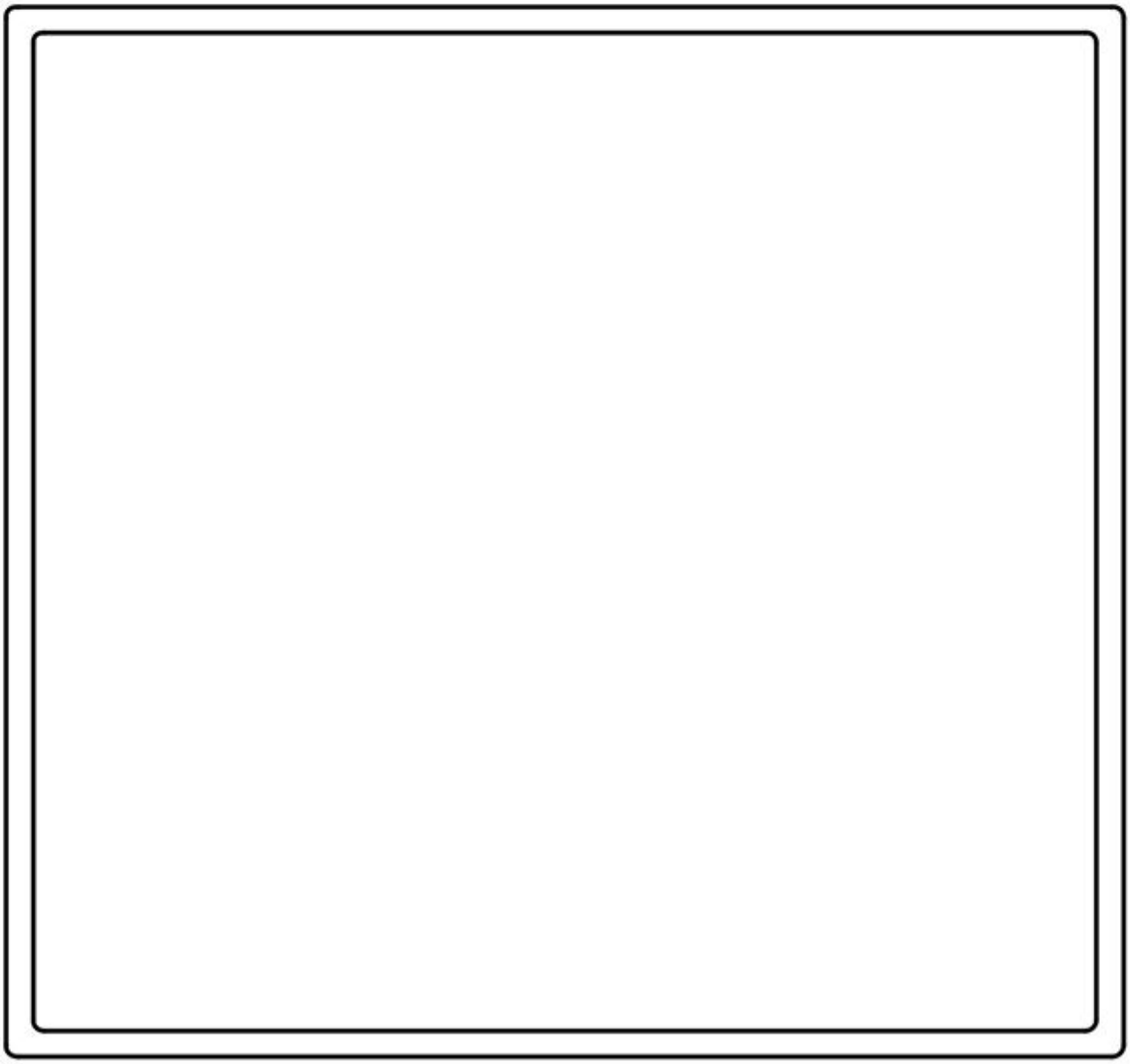

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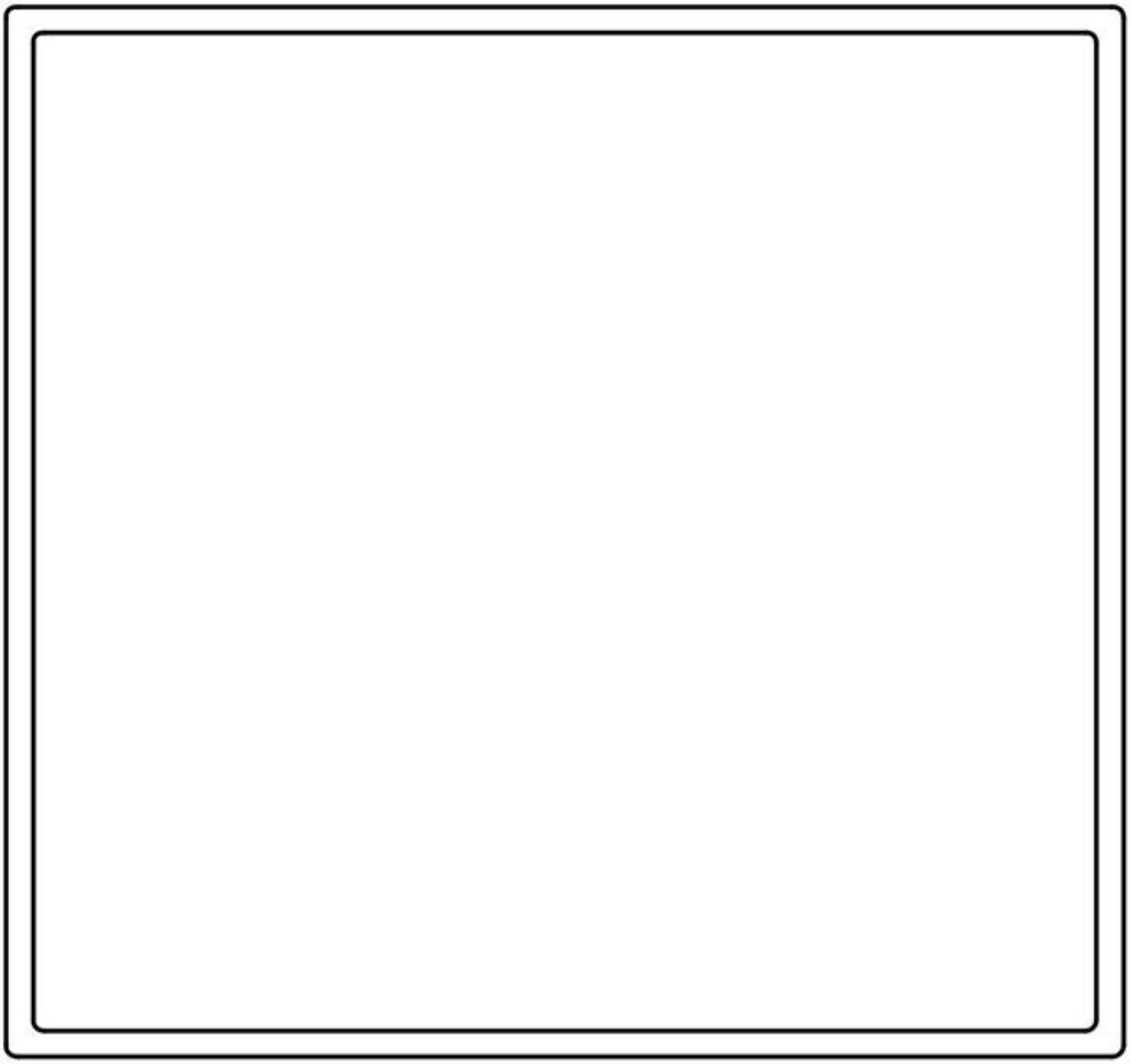

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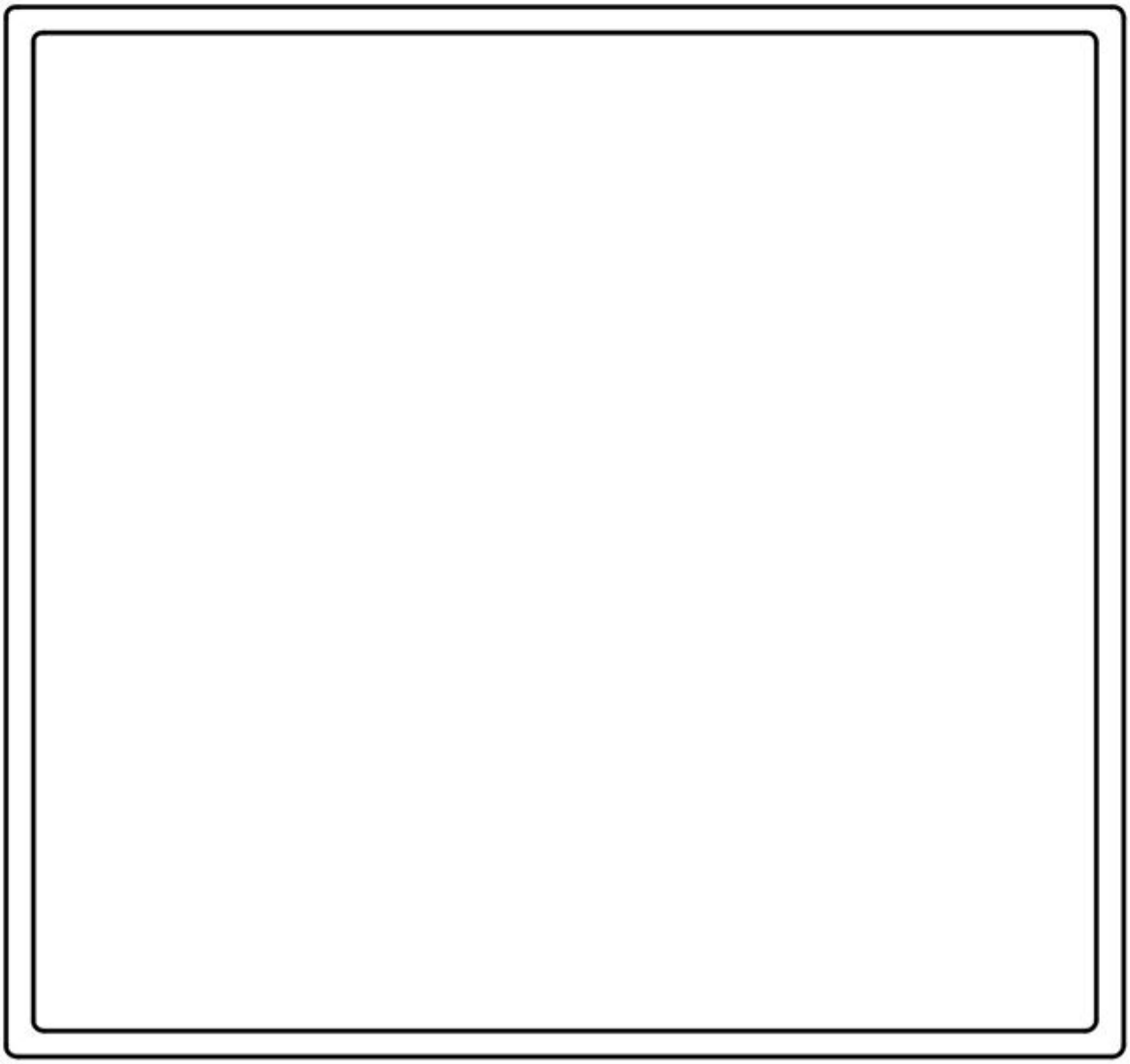

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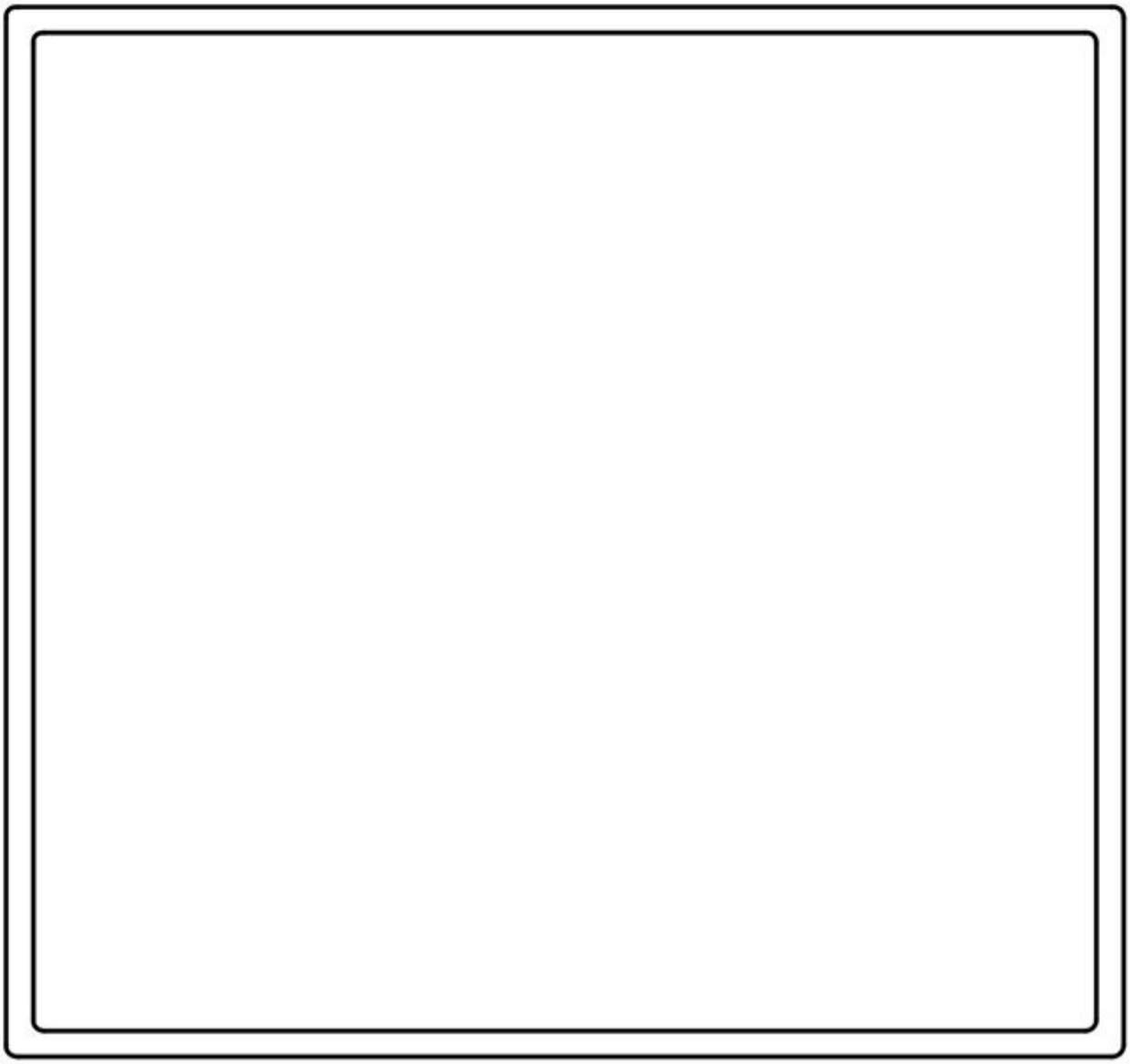

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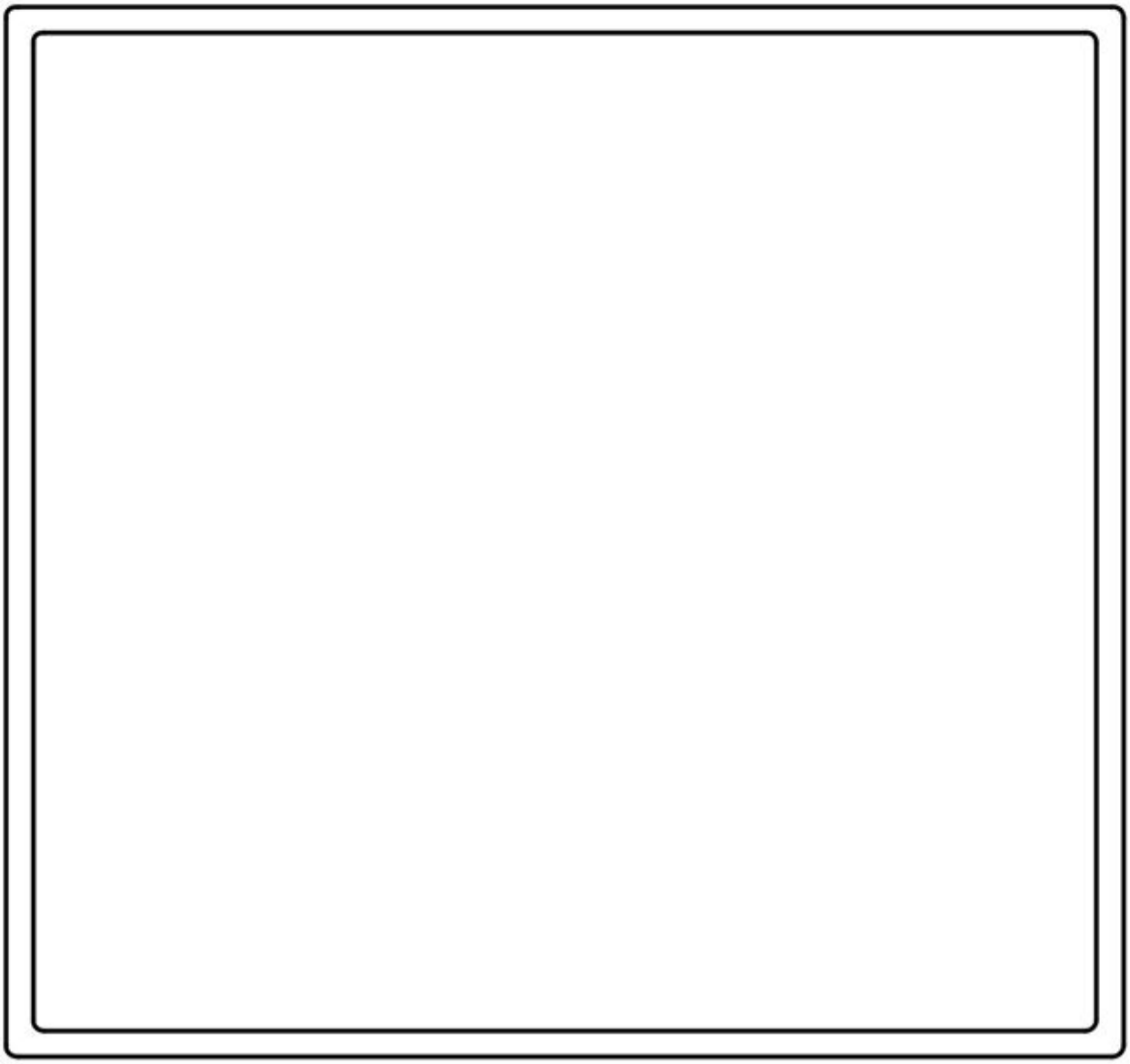

Unit 6 Lesson 23

Functions with Parameters in Artist

Resources

Main Activity Notes

Teachers play a vital role in computer science education and supporting a collaborative and vibrant classroom environment. During online activities, the role of the teacher is primarily one of encouragement and support. Online lessons are meant to be student-centered, so teachers should avoid stepping in when students get stuck. Some ideas on how to do this are:

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- If a student is still stuck after all of this, ask leading questions to get the student to spot an error on their own.

Teacher Tip:

Show the students the ***right*** way to help classmates:

- Don't sit in the classmate's chair
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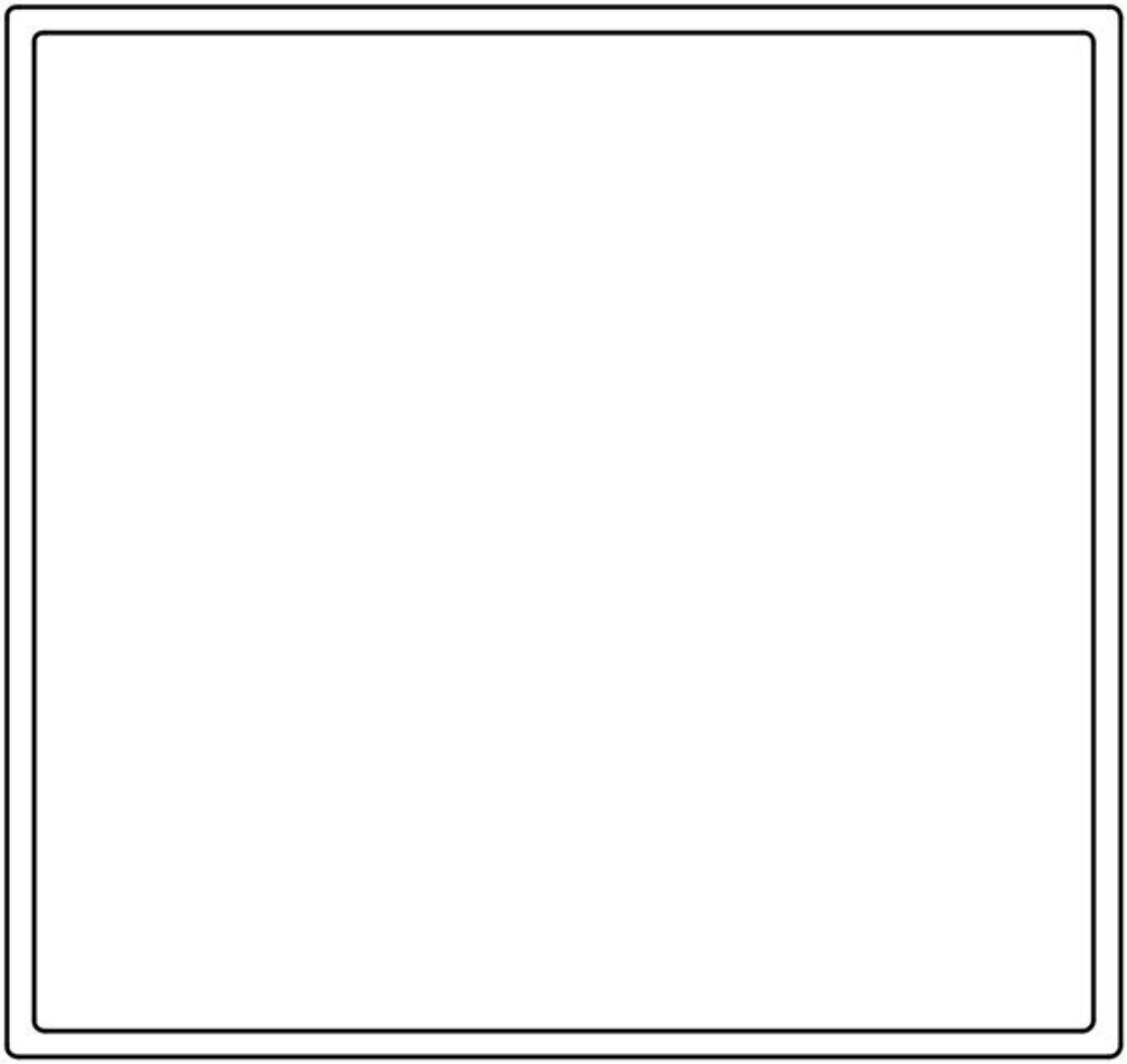

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My Think Spot Journal

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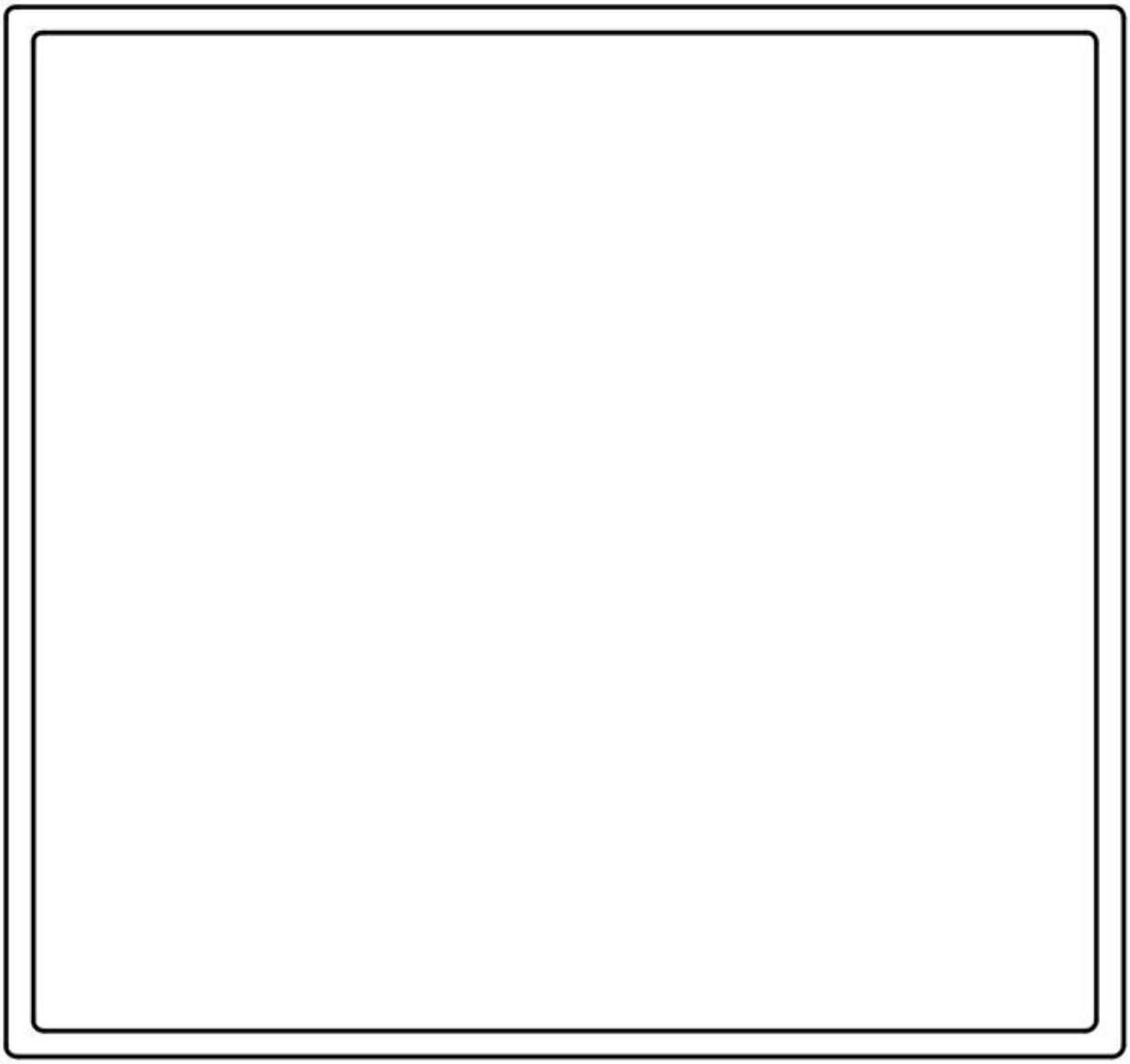

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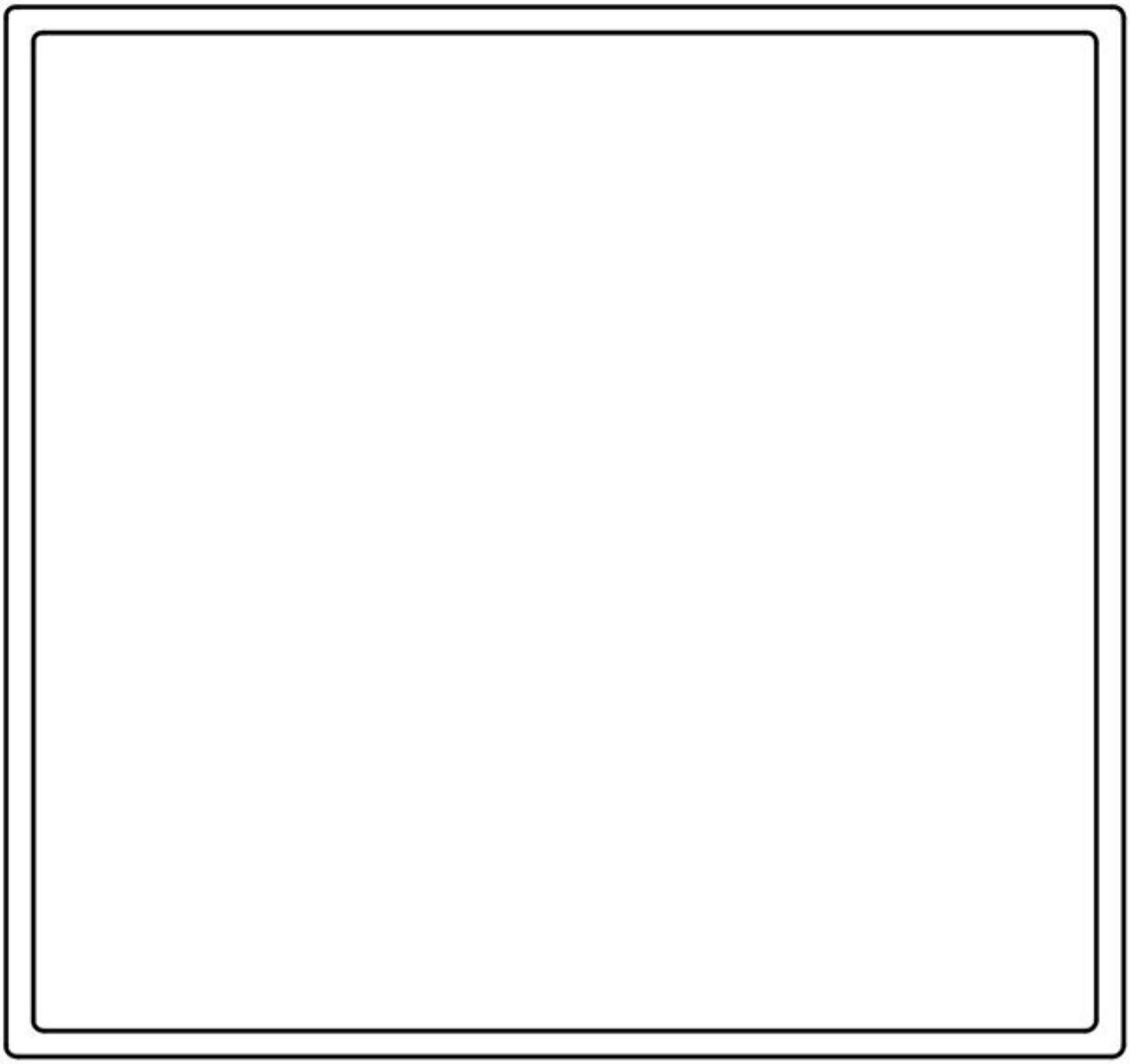

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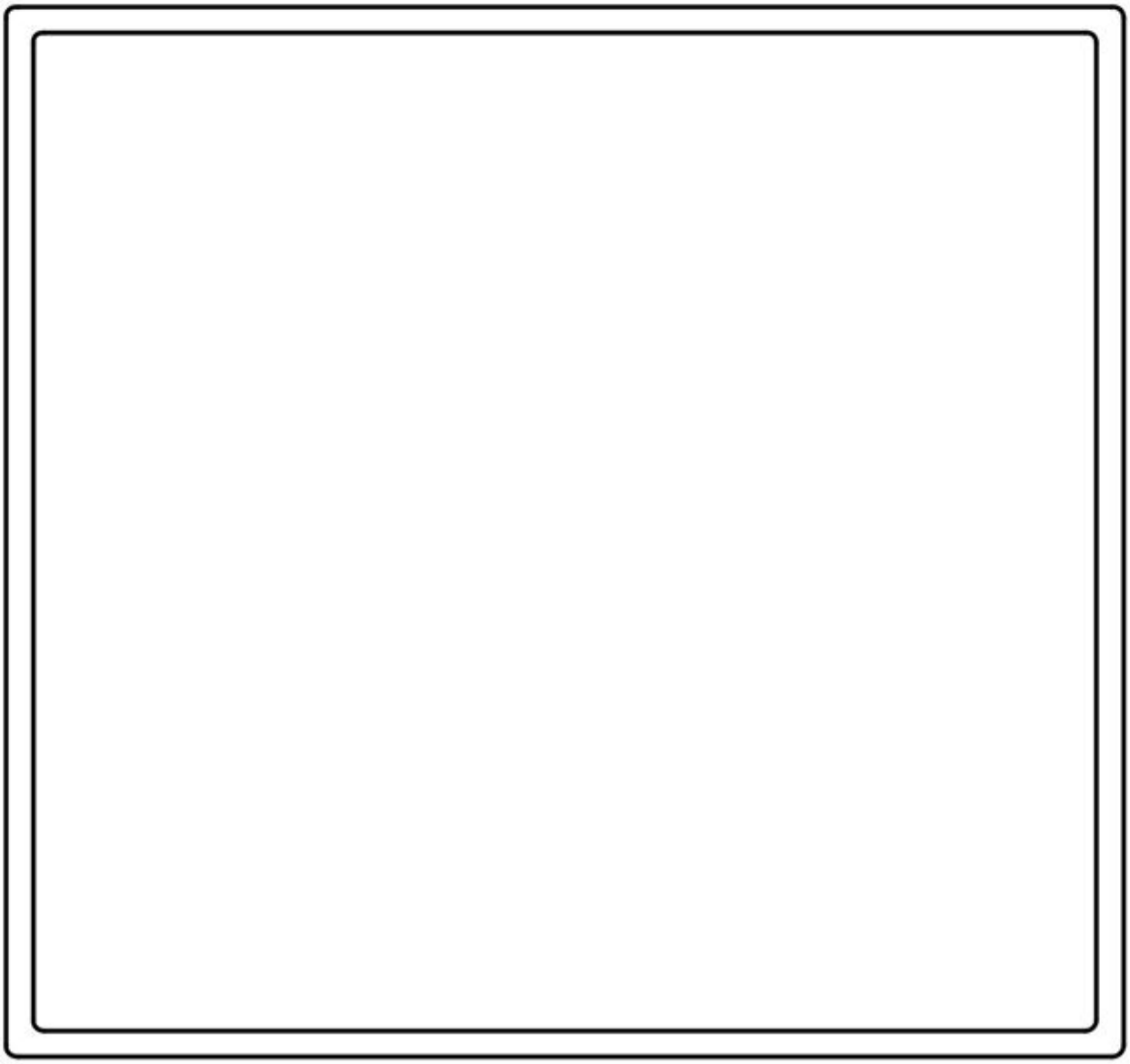

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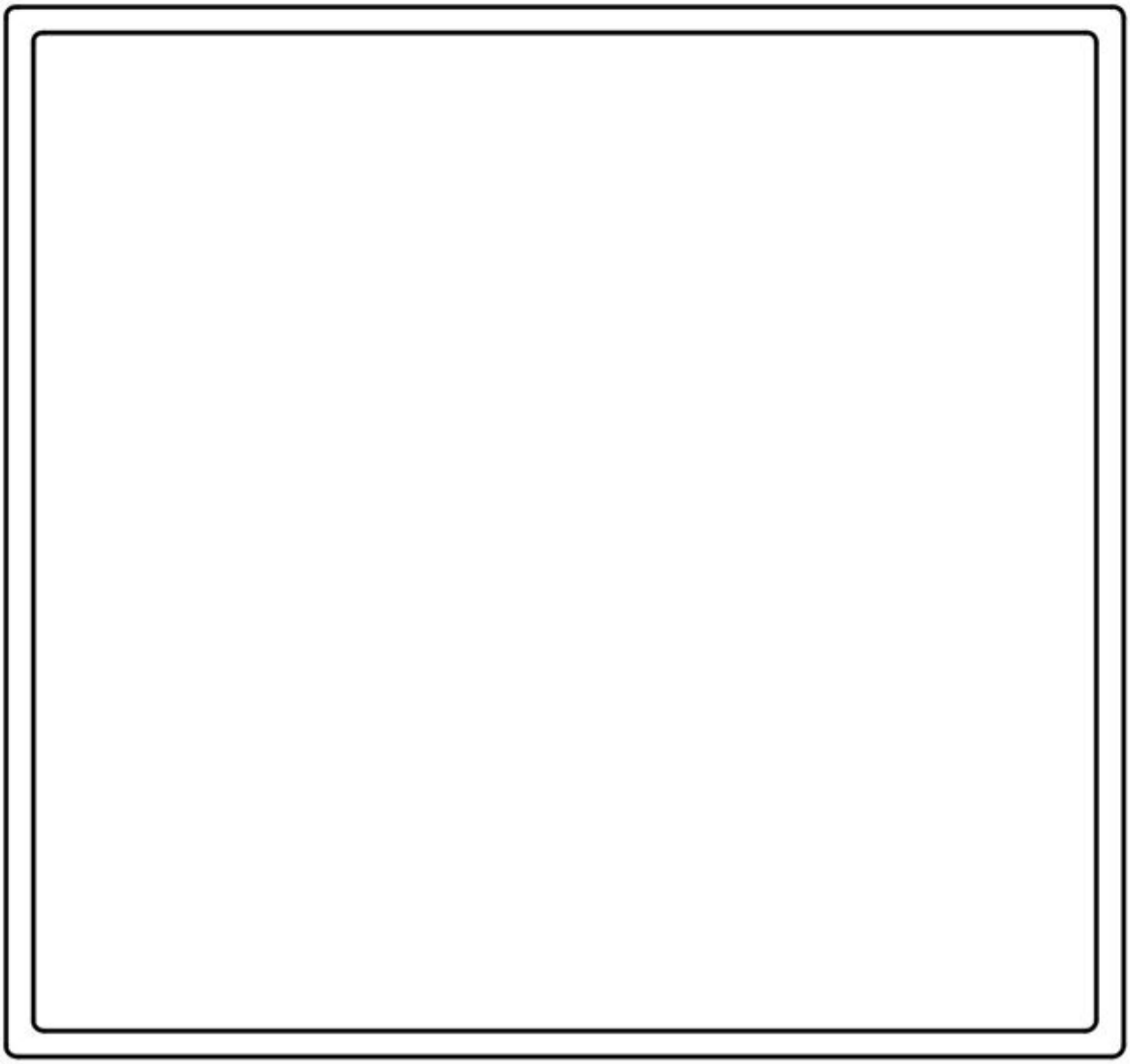

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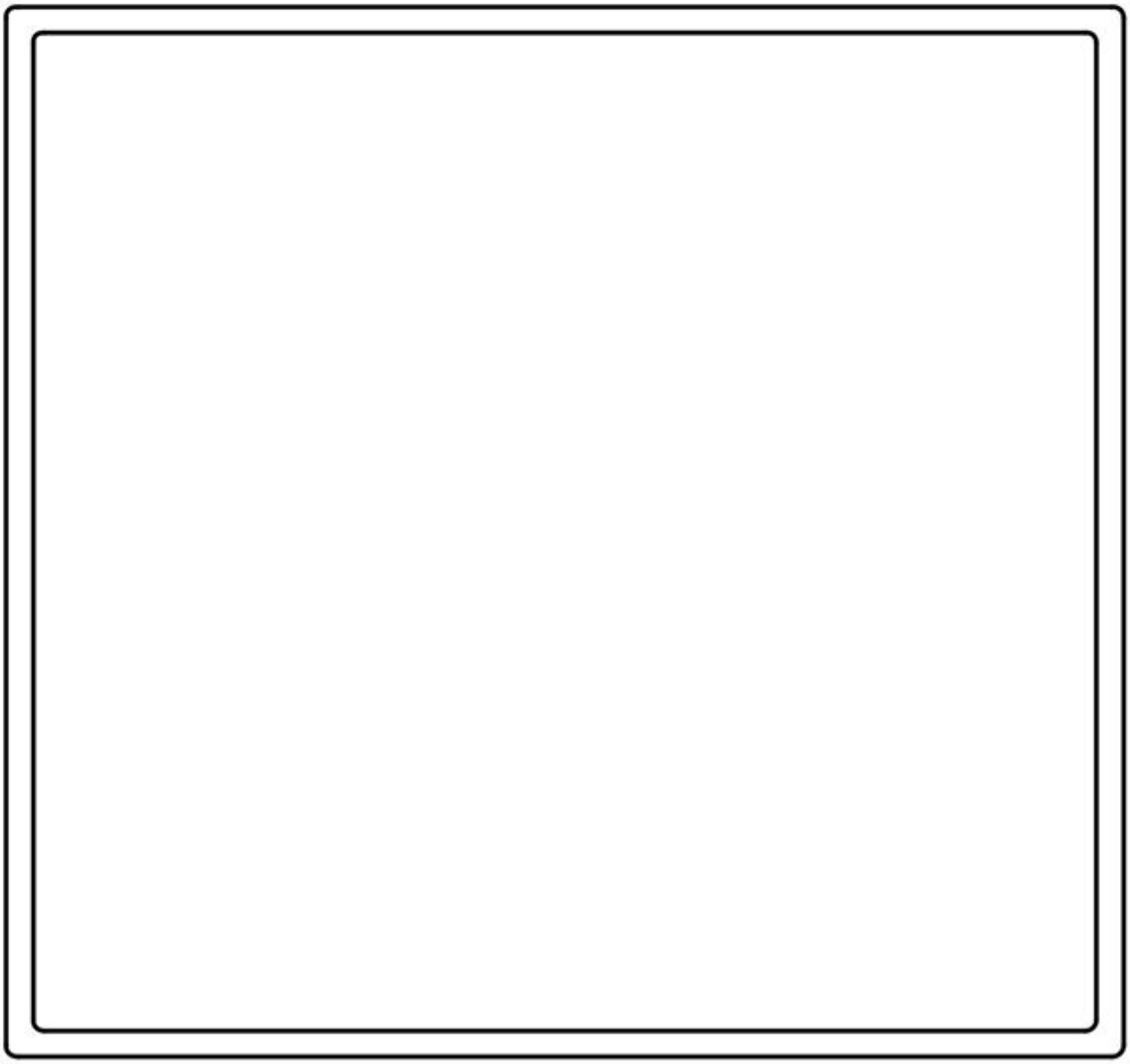

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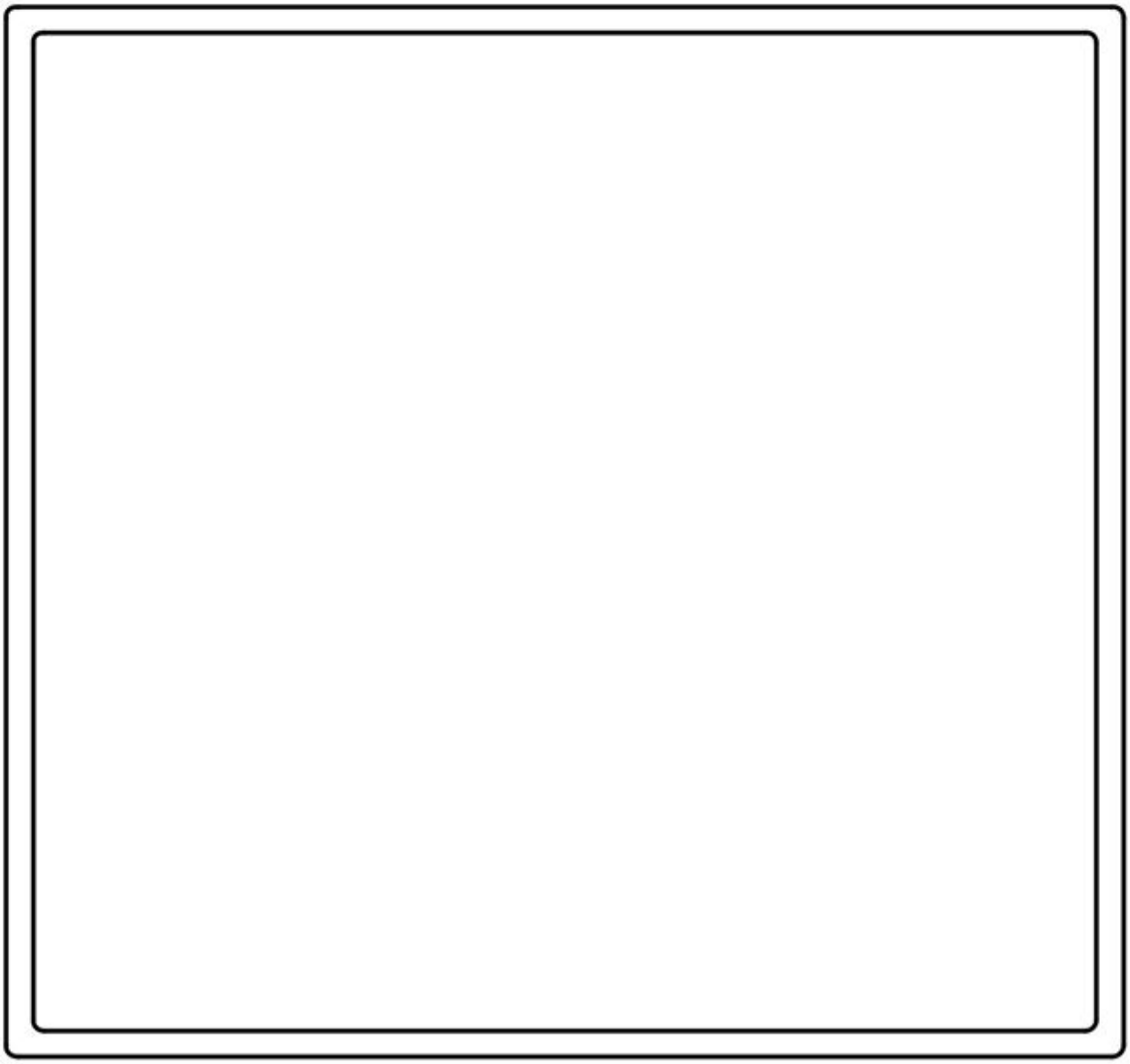

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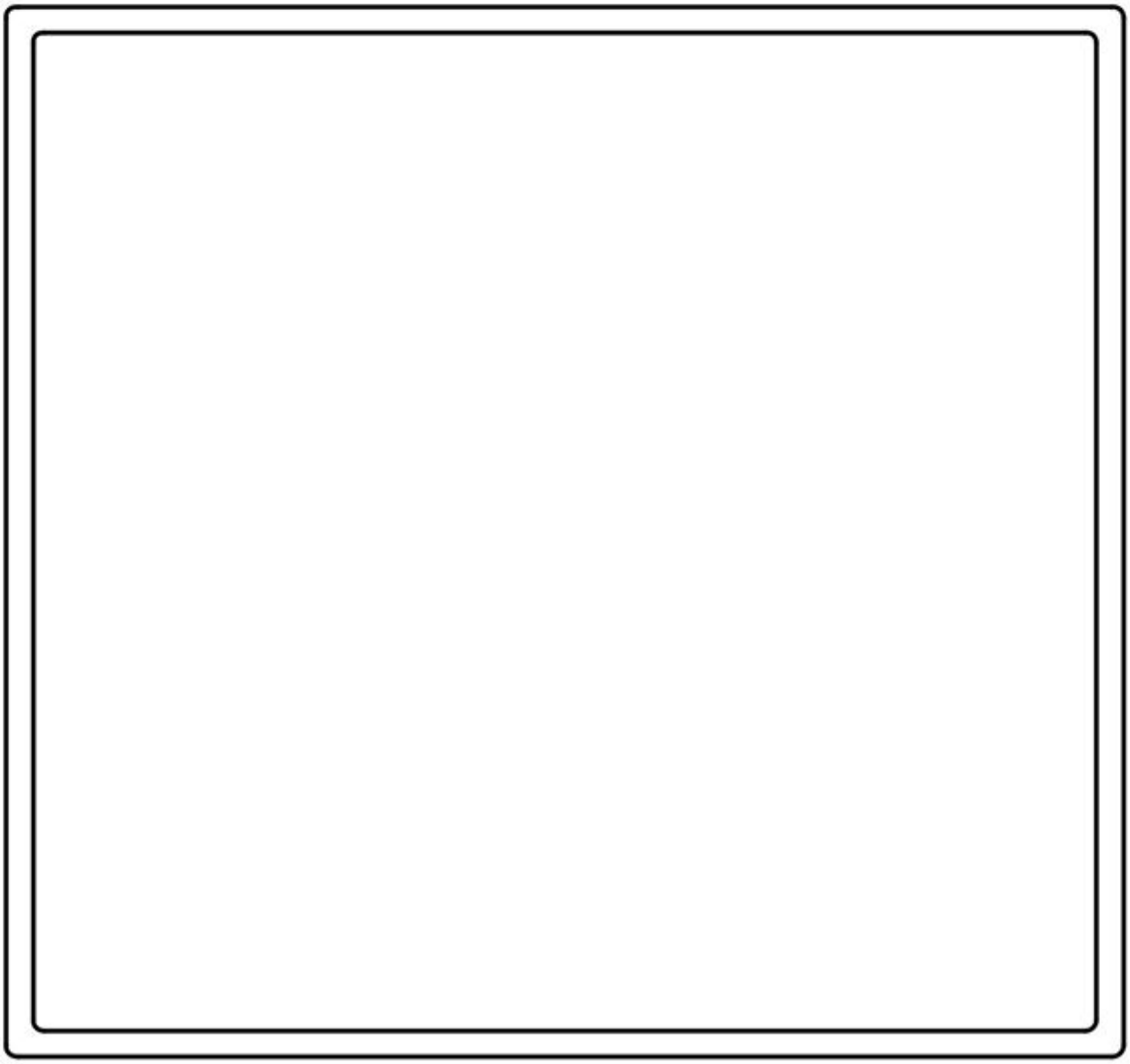

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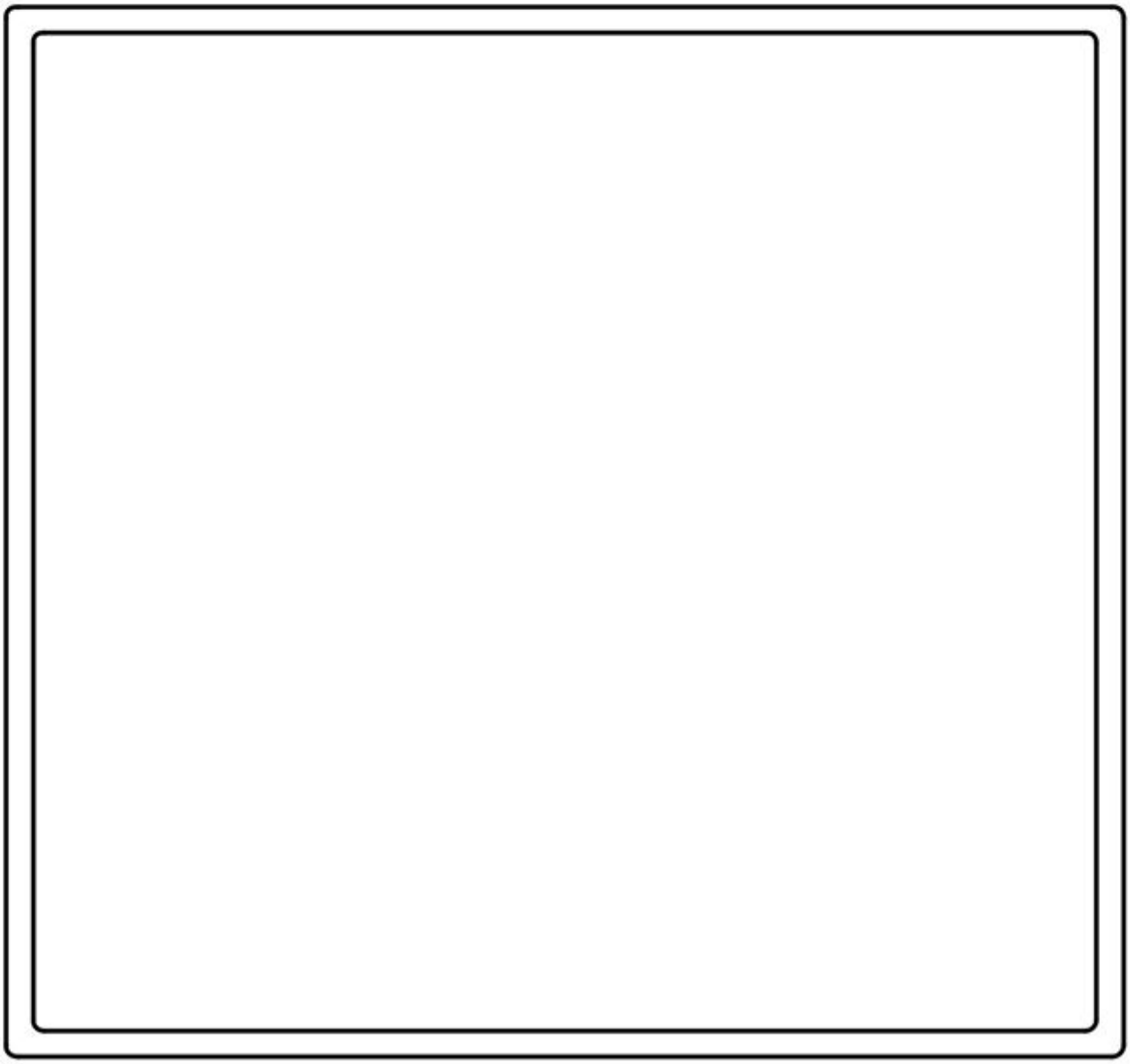

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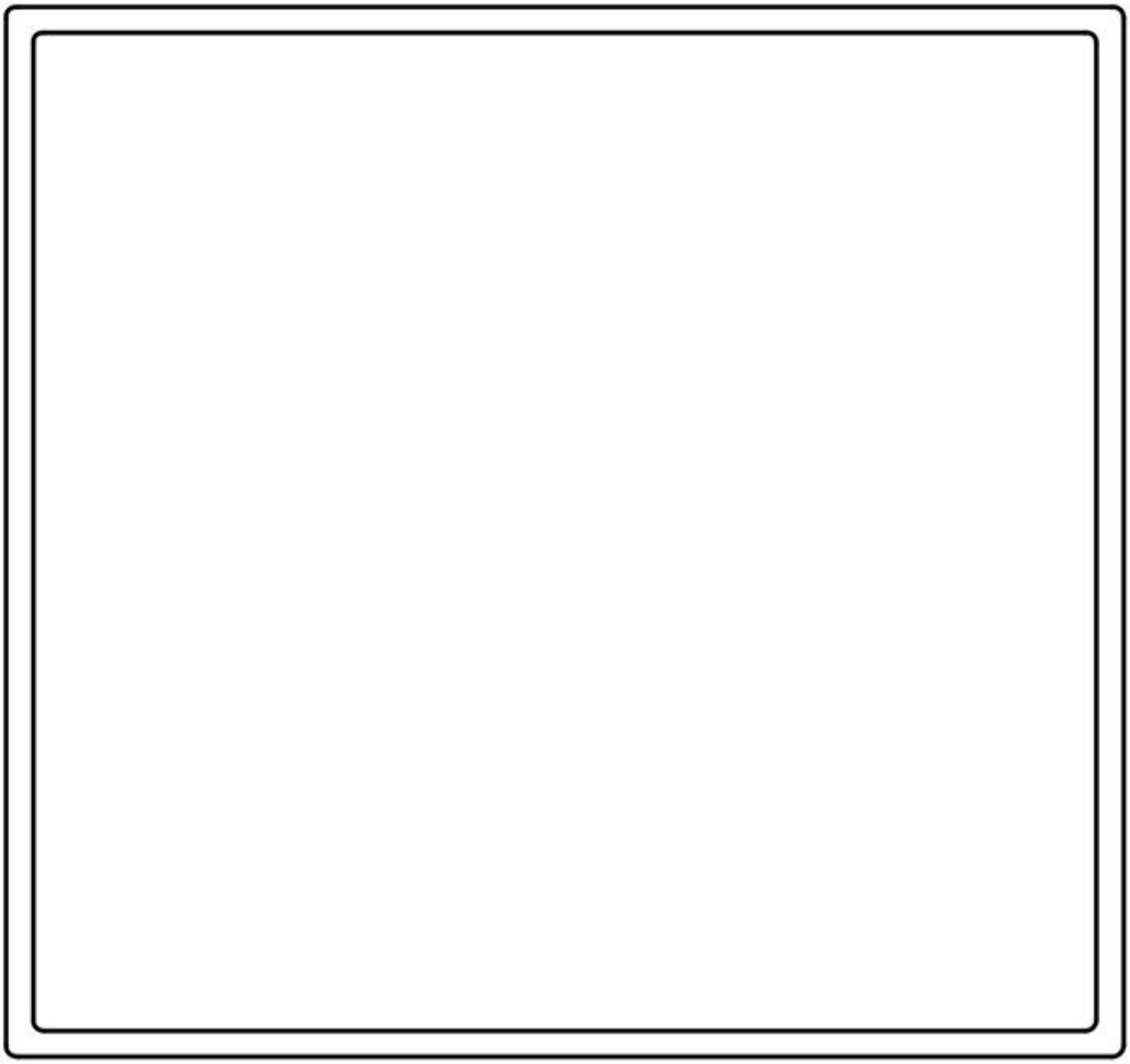

Unit 6 Lesson 24

Functions with Parameters in Bee

Resources

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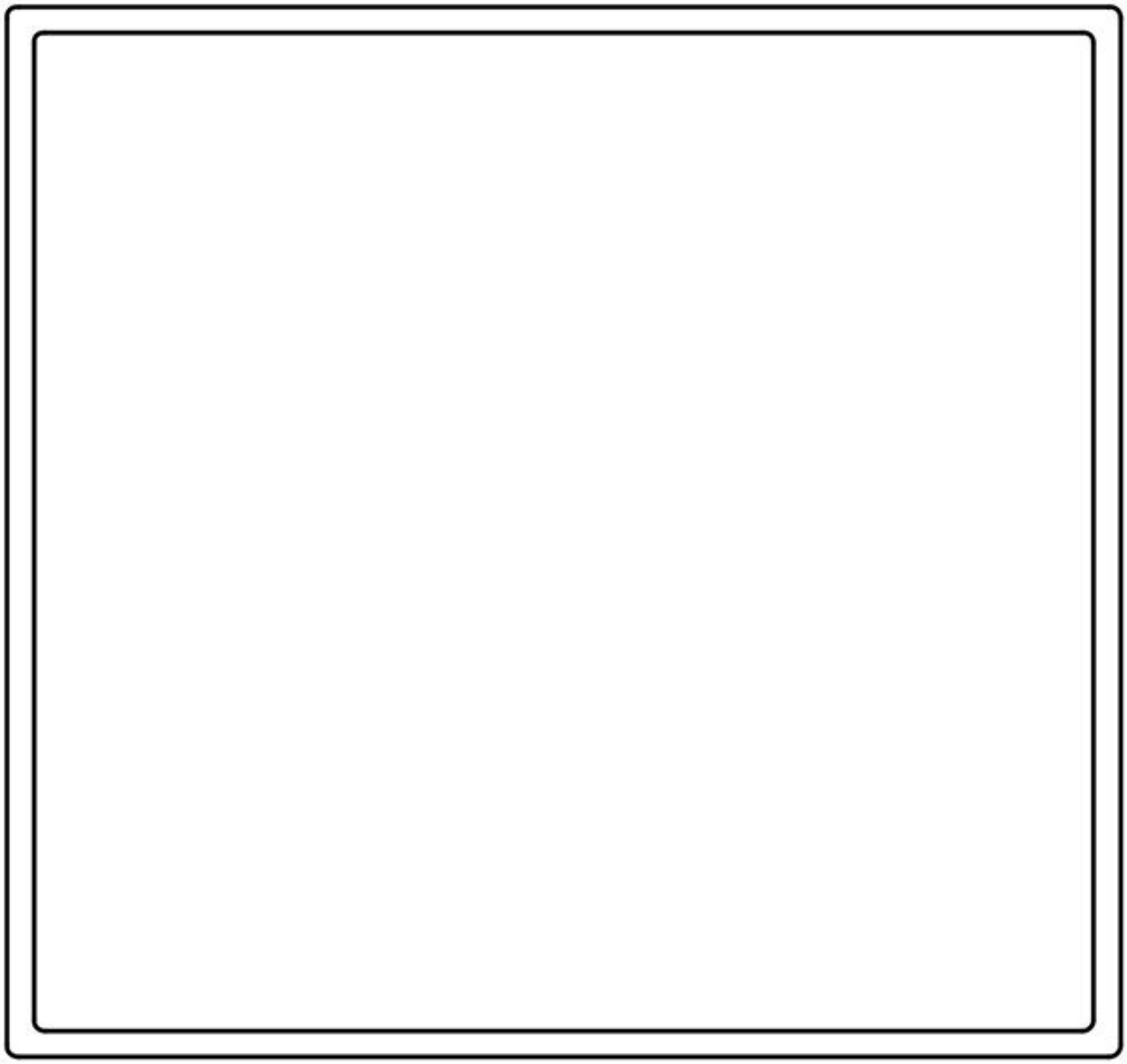

Grade: Date:

My Think Spot Journal

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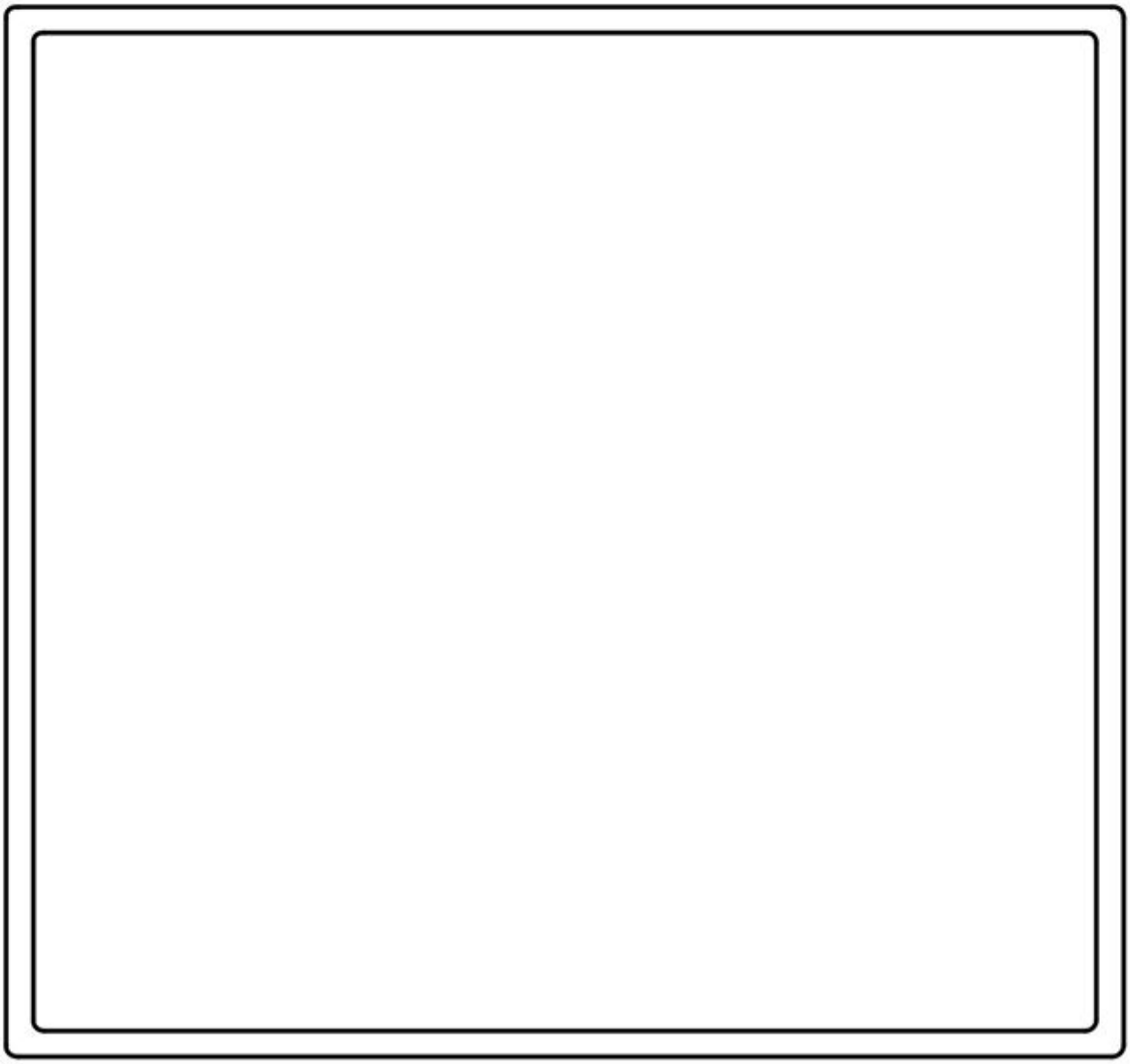

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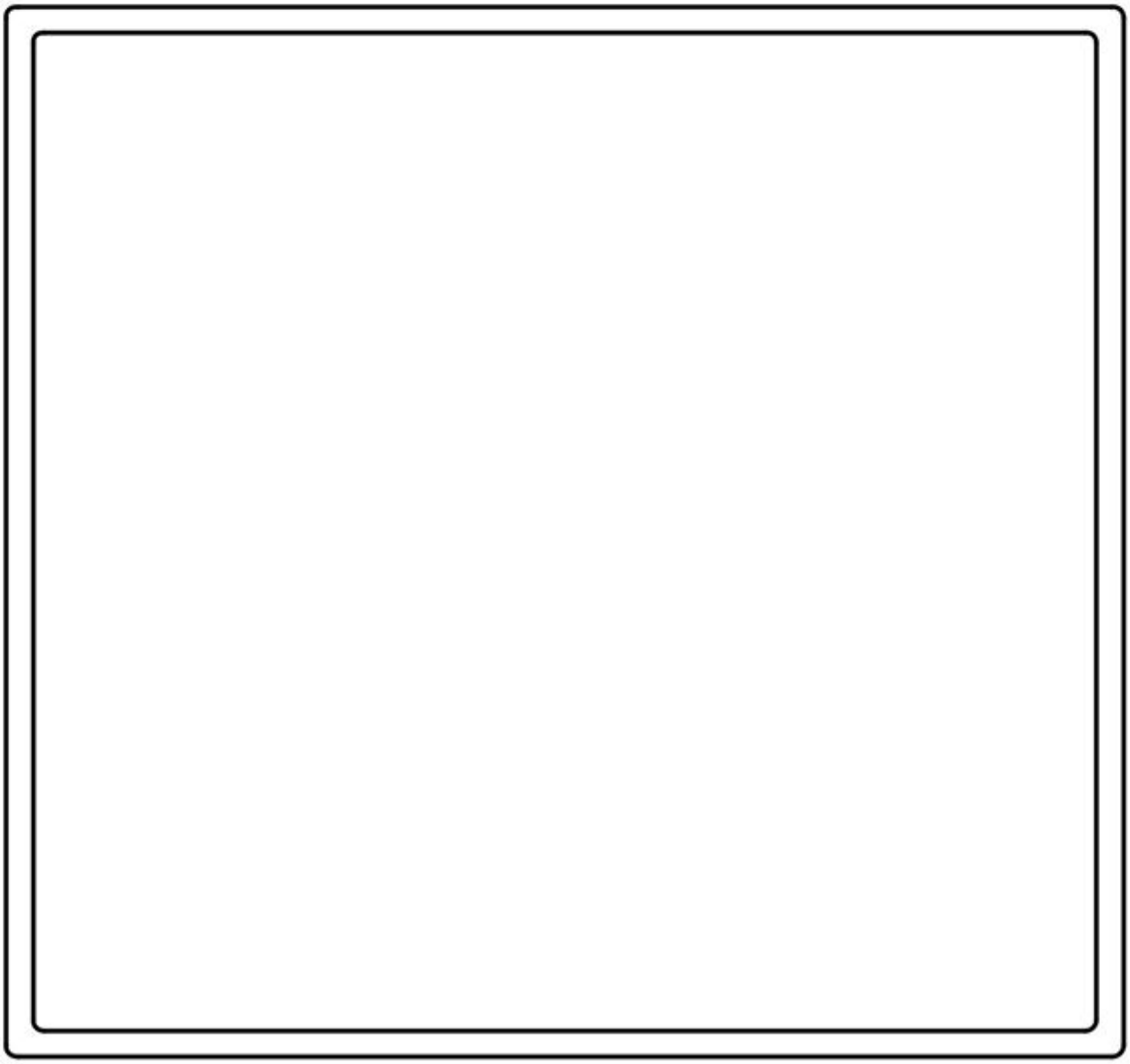

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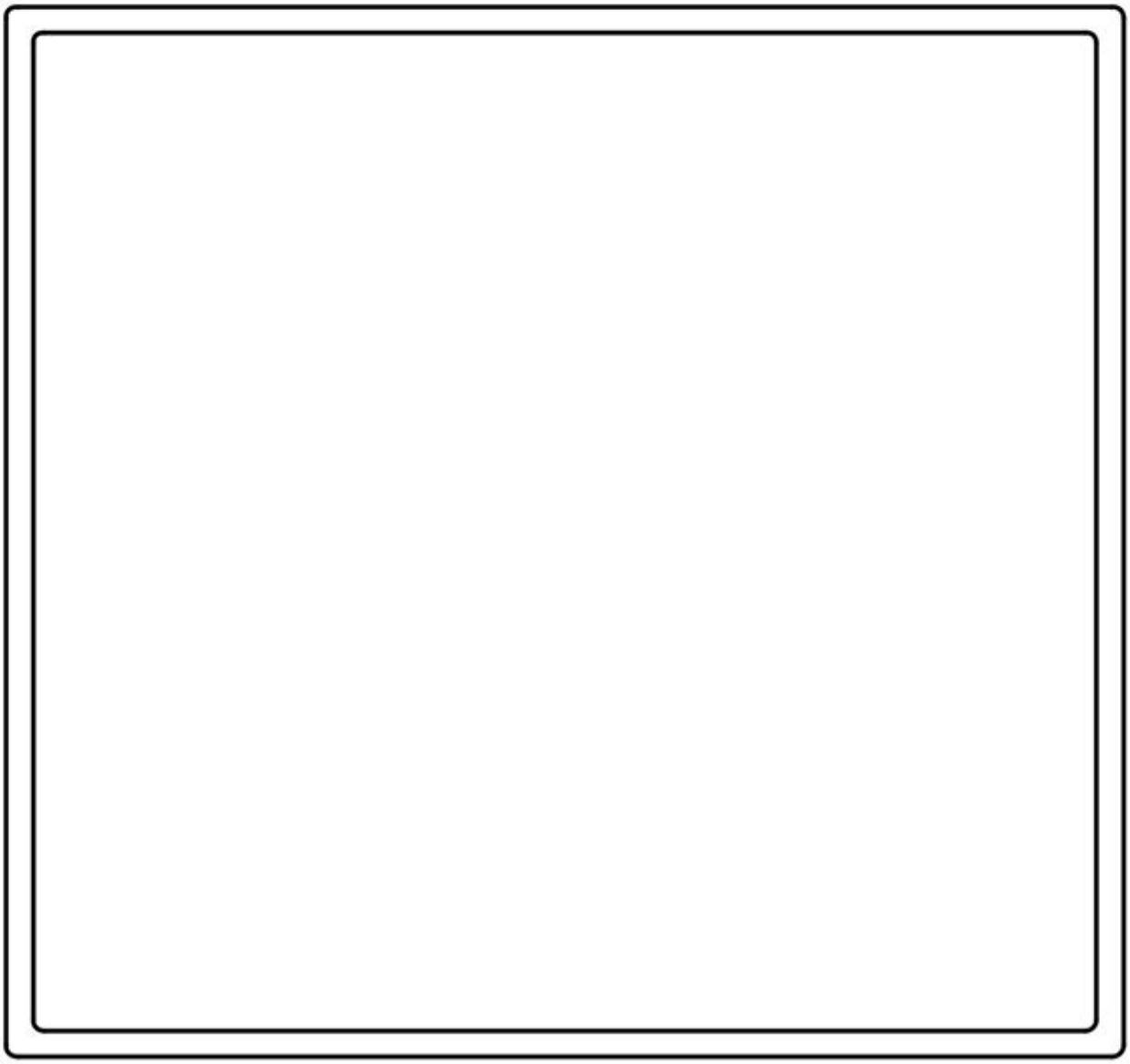

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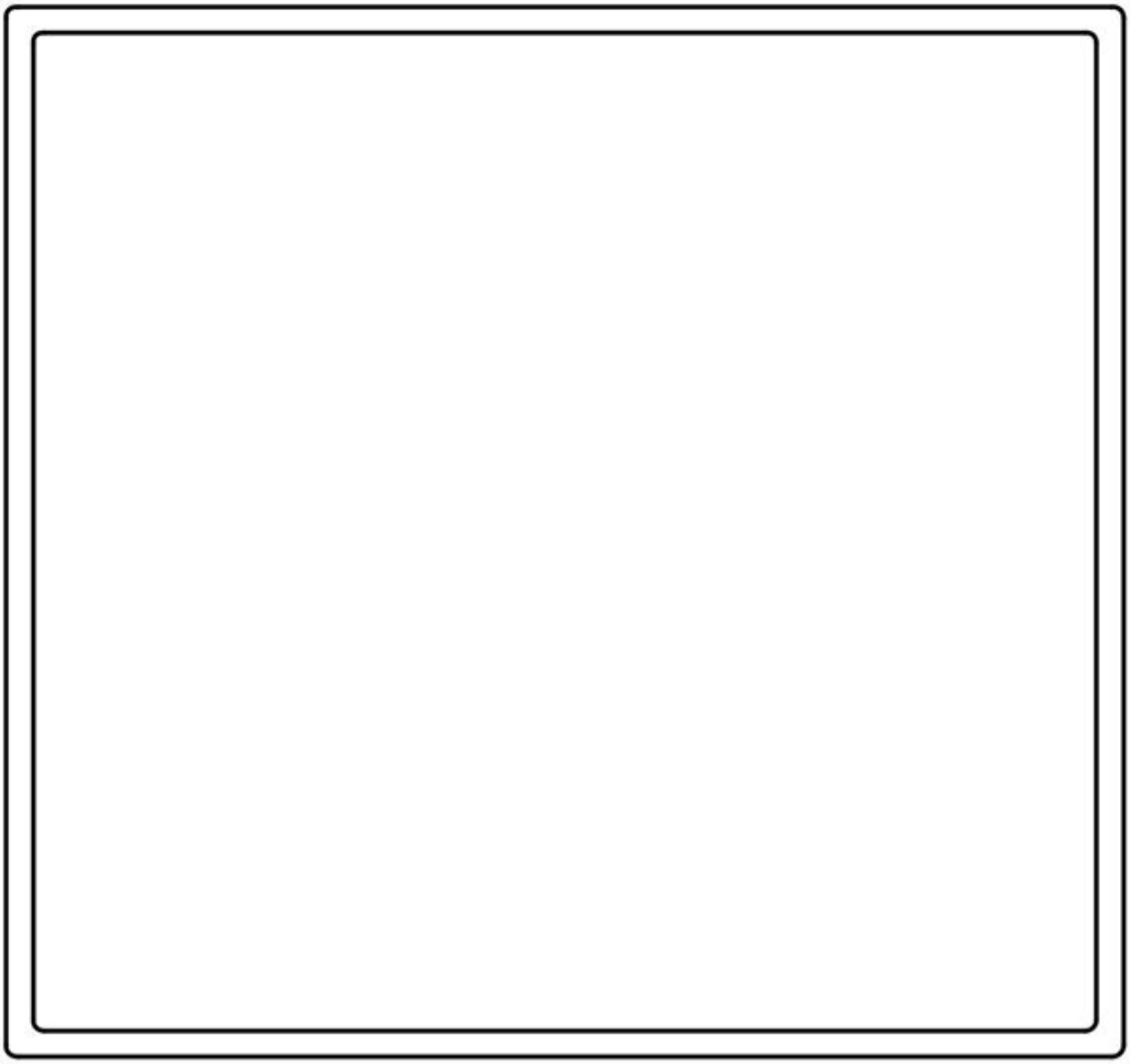

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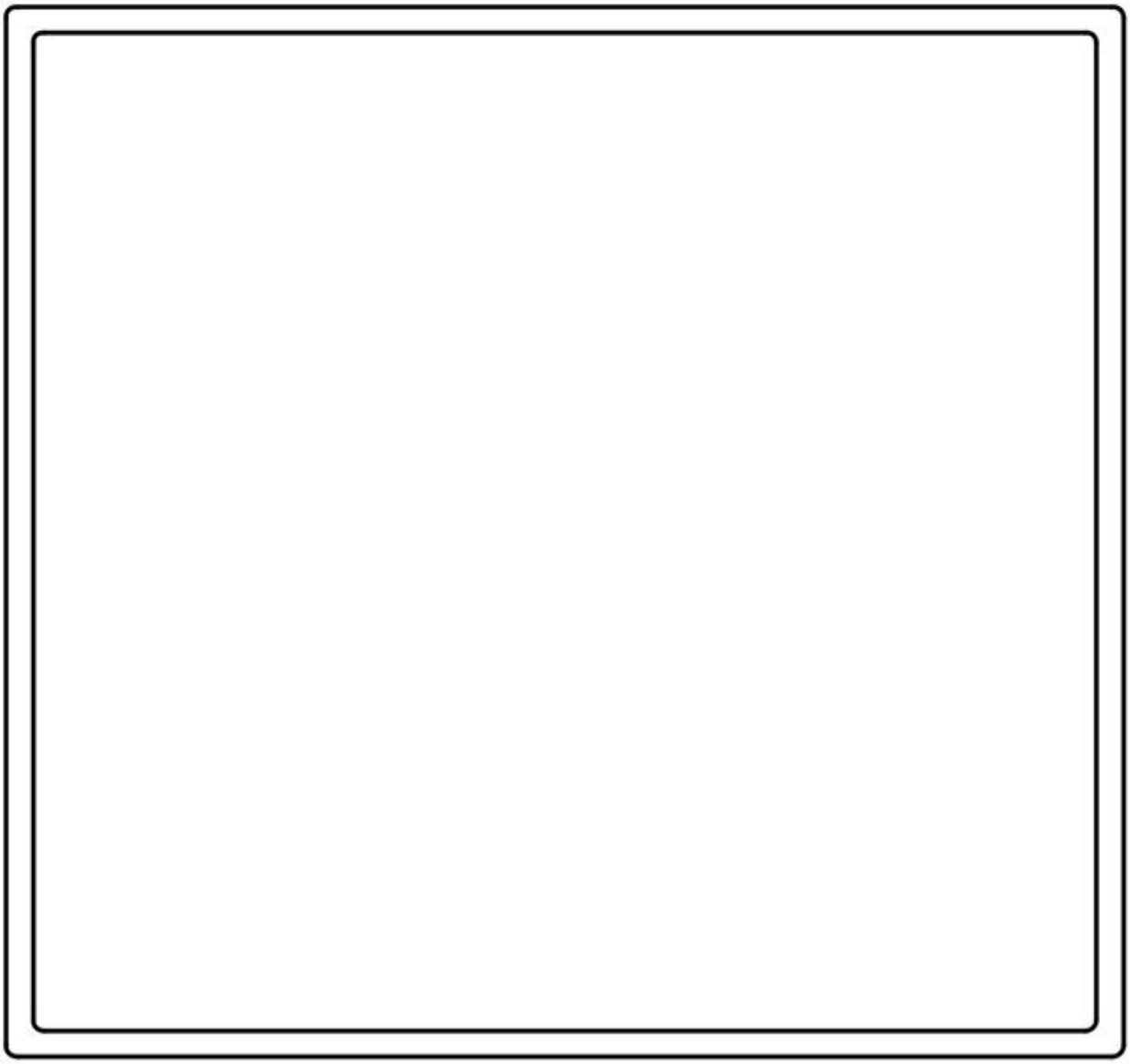

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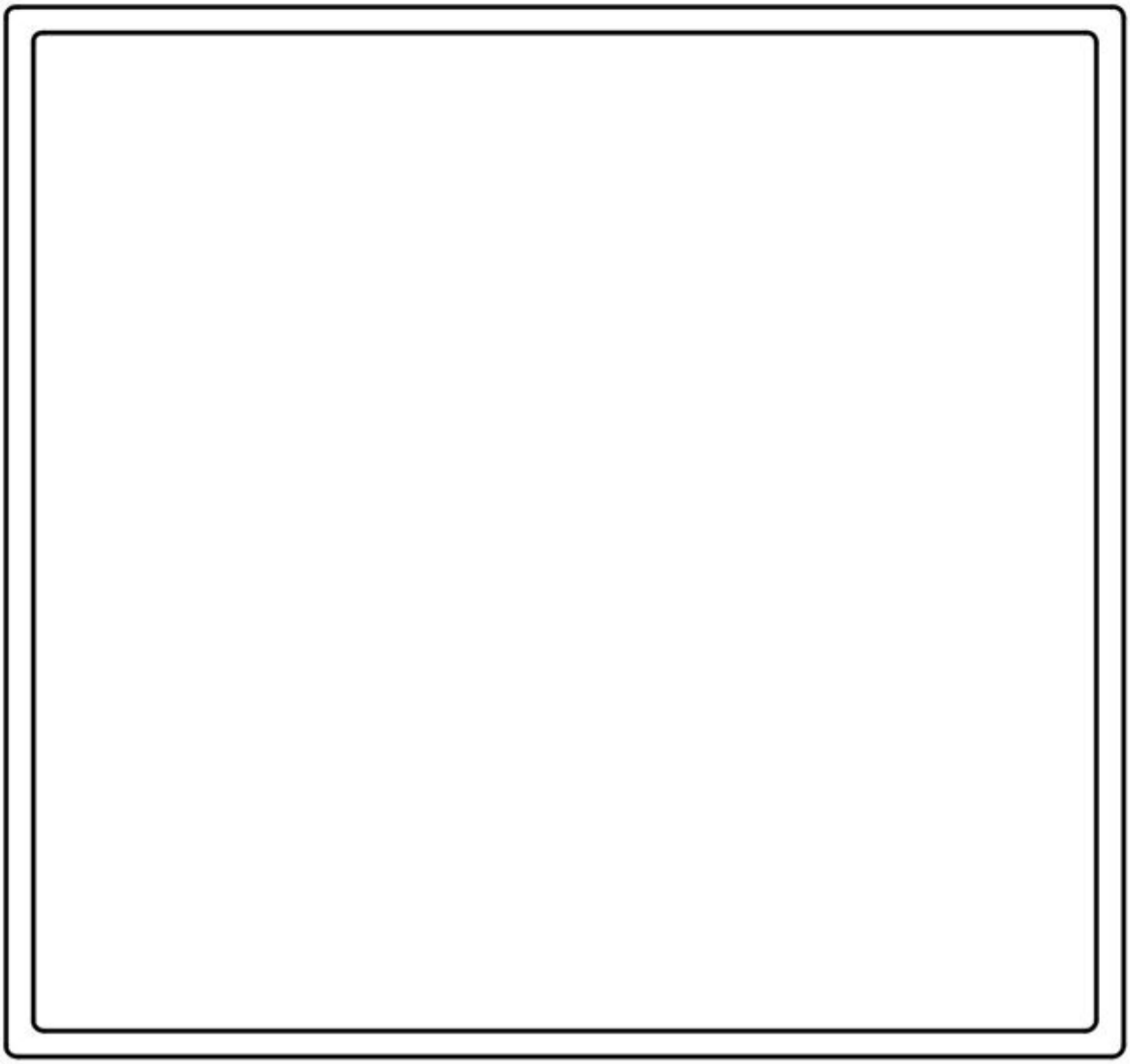

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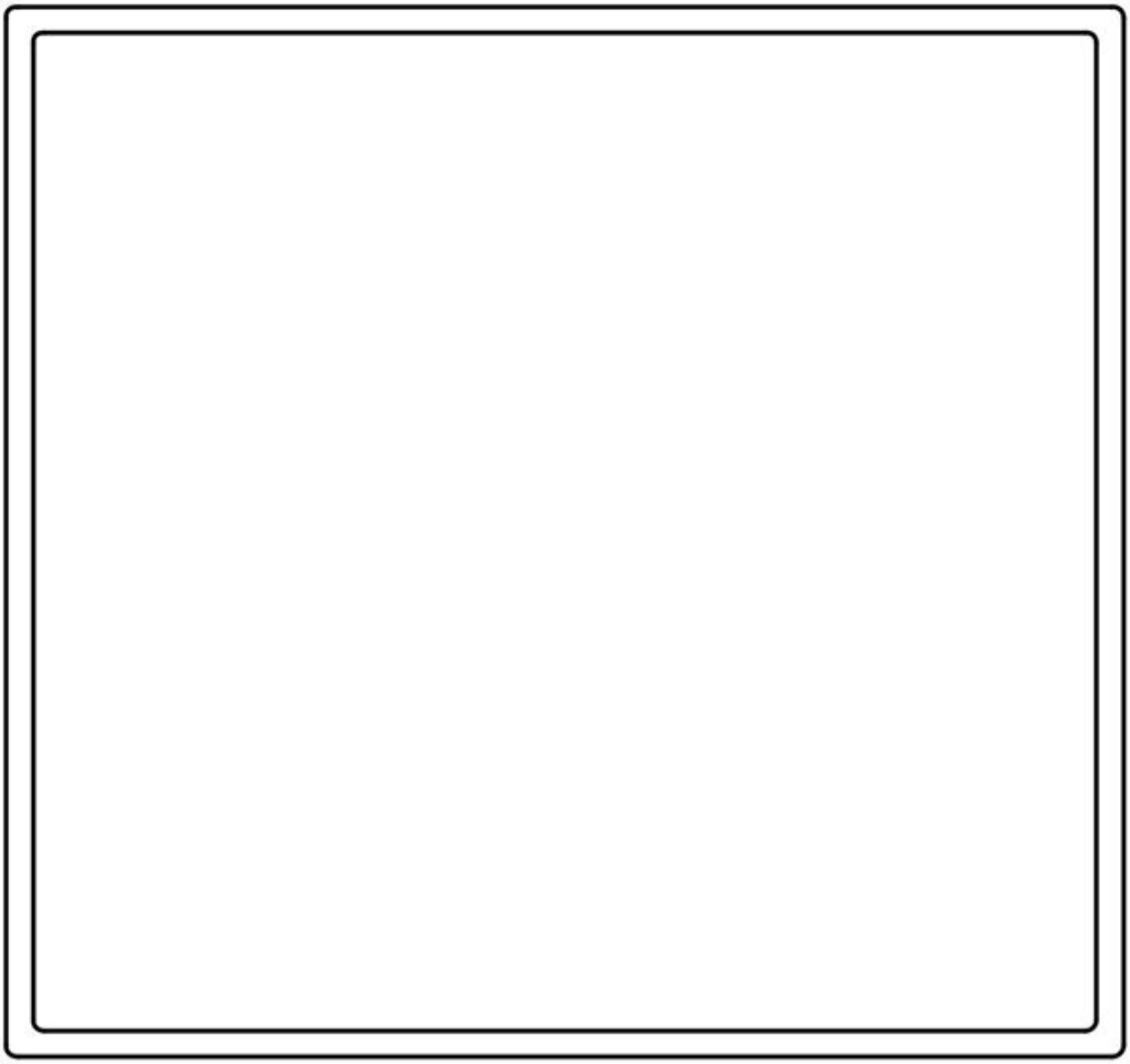

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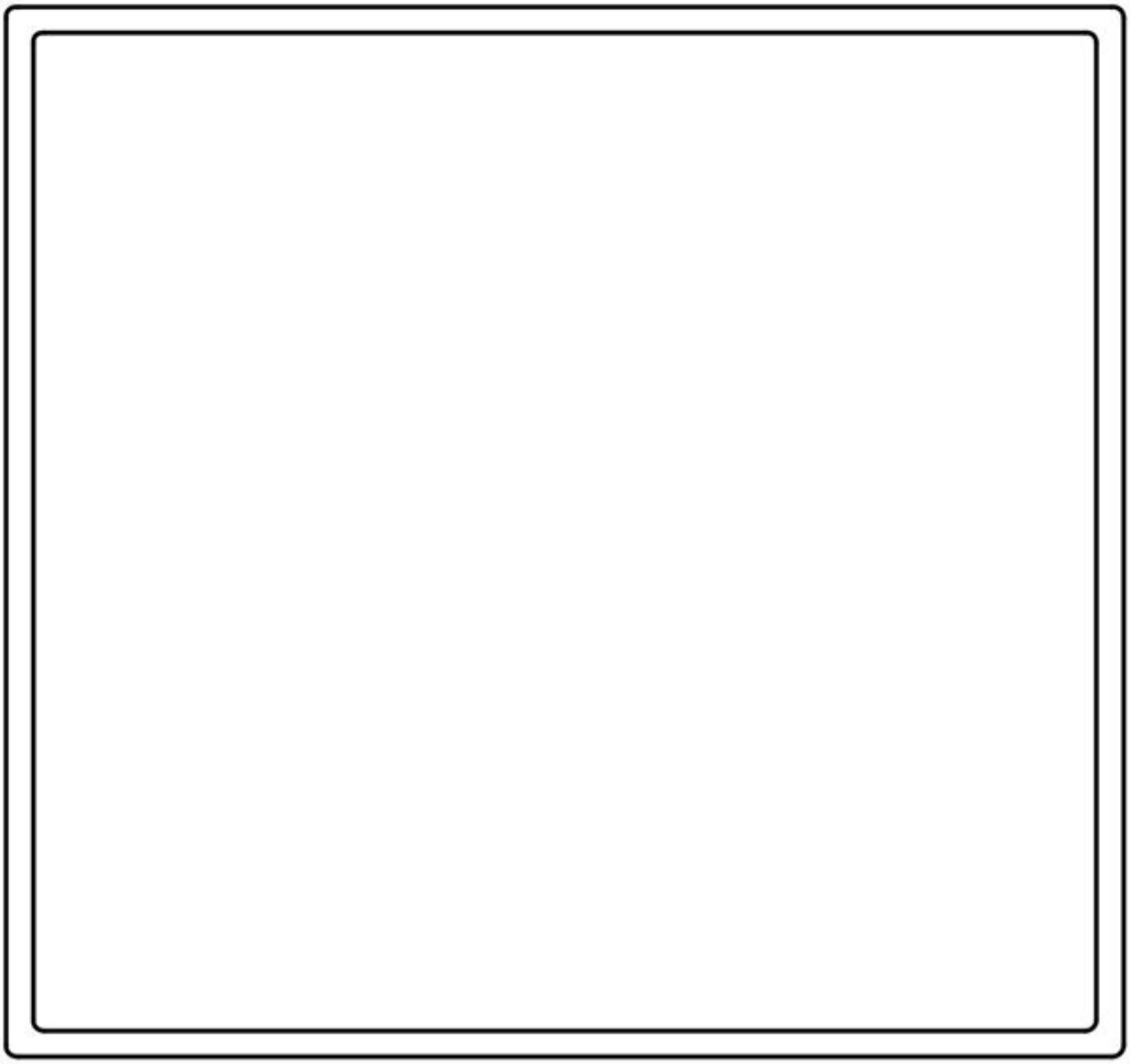

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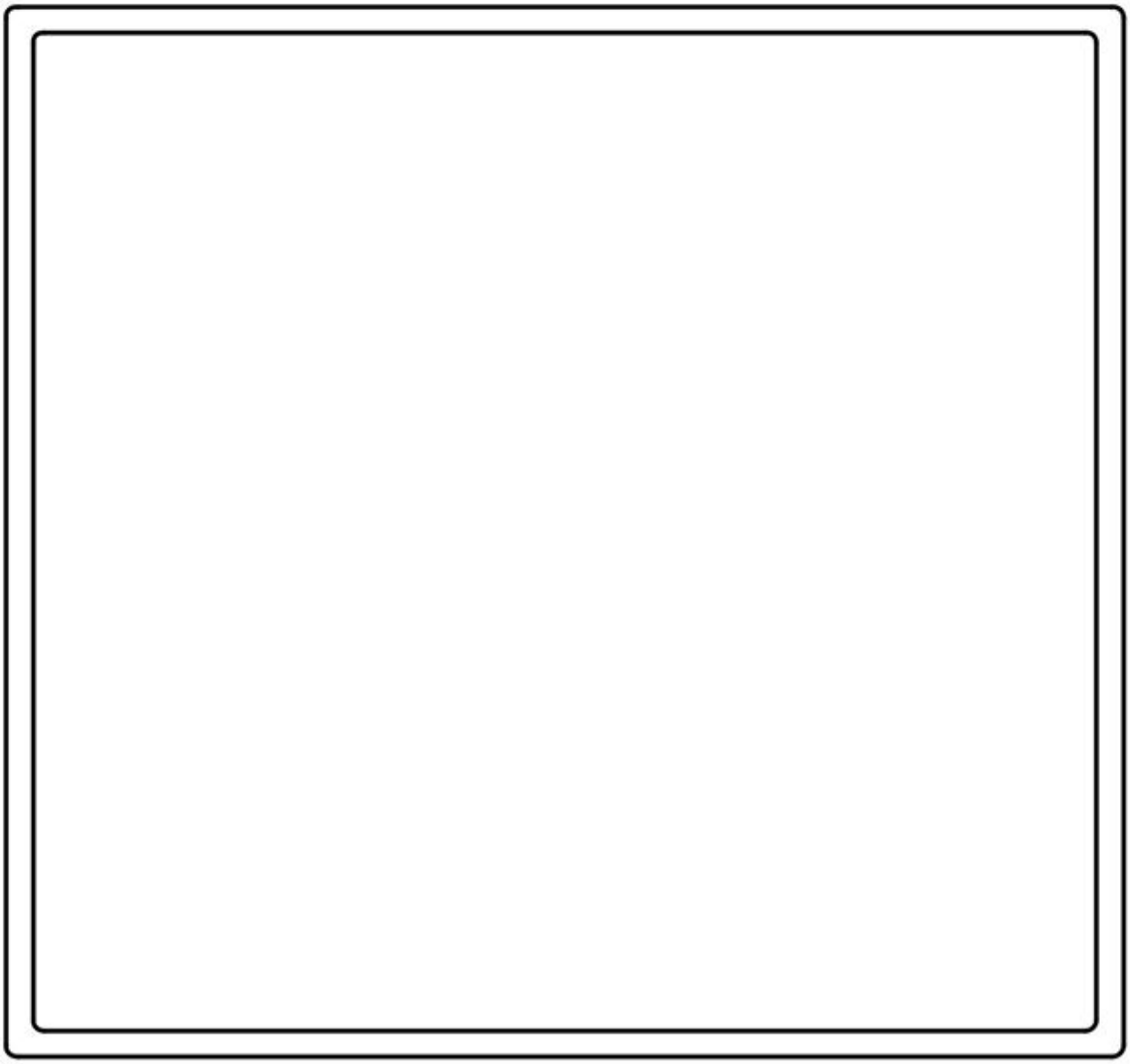

Unit 6 Lesson 25

Explore Project Ideas

Resources

The Design Process

Designing software means solving lots of little problems, all the time. The main problem in software design is what to create in the first place.

This process is useful for all kinds of things, but we are going to focus on using it for app design.

- **Define**
  - What kind of app would you like to create?
  - What are your constraints?
  - What does success look like?
- **Prepare**
  - Brainstorm / research possible elements
  - Compare pros and cons
  - Make a plan
- **Try**
  - Put your plan into action
- **Reflect**
  - How do your results compare to the goals you set while defining the app?
  - What can you learn from this or do better next time?
  - What new problems have you discovered?

What it Looks Like

Over the course of the next several weeks, you will have the opportunity to experiment with some existing games and design your own game based off of what you have learned. After creating your game, you will get the chance to present it to others and receive feedback. These steps are all critically important in the software industry, and getting practice with the elements of the design process will help you create better products more efficiently. Here is what the coming weeks will hold as we learn more about the design process.

1. **Define & Prepare**
   - Play existing games to get ideas and understand limitations
   - Brainstorm and plan your new or modified app
2. **Try**
   - Follow your plan to build an app
3. **Reflect & Edit**
   - Swap apps with another group to help make your projects better
4. **Present**
   - Show off your final product!

Handout

Final Project Design Worksheet

Use this worksheet to make sure you are following the right steps to get your final project completed correctly and on time. If more space is needed for answers, you can use the back of the paper.

Day 1: Define & Prepare

Time to plan the details of your final project!

Section A: Determine your project style

1) What type of project will you be creating?	**Sprite Lab** *(skip section B)* or **Artist** *(skip section C)*
2) Do you want this to be a showcase piece or an interactive game?	**Showcase Piece** *(skip section D)* or **Interactive App** *(skip section E)*
3) Is your project a remix or brand new? (If remix, add URL of original)	
4) Describe in three to five sentences what your project will be.	

Section B: Artist Project

1) Will your drawing be a planned, detailed image which is the same each time, or change each time it's run?	
2) If your drawing stays the same each time it's run, what is the design you are trying to build, and why does it make an interesting project? (More room on back of sheet.)	

Final Project Design Worksheet

3) If your drawing changes each time it is run, describe why it changes and how the program will make that happen.	

Section C: Sprite Lab Project / Other

1) How many characters will your game have?	
2) Will your app be a story that plays the same way each time it is run, or is it meant to change each time?	
3) If your app is a story that runs the same way each time, describe the story it will be telling and the scene where it will take place.	
4) If your app is meant to change each time it is run, describe why it changes and how the program will make that happen.	

Handout

Final Project Design Worksheet

Section D: Interactive App

1) In what way does your app require audience interaction?	
2) For this type of app, you must use at least two of these suggested items. Circle the items you think you will use and describe what you might do with them. (5th grade concepts in red)	• Random • Conditionals with both `if` and `else` • Nested Loops • Functions • Variables • For Loops

Section E: Showcase Piece

1) For this type of app, you must use at least two of these suggested items. Circle the items you think you will use and describe what you might do with them.	• Random • Functions • Nested Loops • Variables • For Loops

Handout

Final Project Design Worksheet

Day 2: Try

Coding day! Be sure to refer back to your table from day 1 to make sure your finished product represents the project that you said you were going to make.

Section F: What is going well?

1) What parts of your project are turning out just the way you thought they would?	
2) What are you learning about the concepts or blocks that you're using?	

Section G: What is not going well?

1) Is there anything that you planned to do that you needed to change? Why did you need to change it?	
2) Are there any blocks or concepts that you don't understand how to use? Which ones?	

Handout

Final Project Design Worksheet

Day 3: Reflect and Edit

Time to make your project the best it can be. Pass this sheet to a classmate, then have them try your app and fill out the boxes below. Your classmates will have 20 minutes to review your app, then you will have the rest of the class period to fix any issues that they found.

Share your project URL:

Section H: The app in general

1) What do you like about this app?	
2) Is there anything about this app you don't understand?	
3) Name two things you might change about this app if you were the one creating it.	

Handout

Final Project Design Worksheet

Section I: Assessing the app

1) Does the app match the description from day 1?	
2) Does the app use at least 2 of the concepts from the required category?	
3) Does the app feel like it was well-planned?	

Handout

Final Project Design Worksheet

Day 4: Present

Great computer scientists need to be able to show off their accomplishments. It's time to present your work.

Share your project URL:

Section J: Describe your work

1) Why did you decide to create this specific project?	
2) What does your project do?	
3) Which of the required ideas did you use, and how did you use them?	

Handout

Final Project Design Worksheet

Section K: Reflect on the process

1) What did you learn in creating this project?	
2) What was the most challenging part about this experience? How did you overcome that challenge?	
3) What part of this experience was the most fun?	
4) Describe a time that something did not go as planned and you had to be persistent to get everything to work out in the end.	

Handout

Final Project Design Worksheet

5) Is there anything that you would try to change if you had extra time?	
6) How well did you and your partner/team work together? Were you able to make compromises in order to end up with a project that you were both happy with?	
7) What else do you want people to know about your project?	

Unit 6 Lesson 26

The Design Process

Resources

Unit 6 Lesson 27

Build Your Project

Resources

Unit 6 Lesson 28

Revise Your Project

Resources

Unit 6 Lesson 29

Present Your Project

Resources