2025 *FIRST*® Robotics Competition

AprilTag Images and User Guide

INTRODUCTION

Overview

This document contains printable images for the 22 AprilTag markers included on the 2025 Playing Field as well as some instructions on how to print these tags, verify that they have printed correctly, and apply them to team-version field elements.

The included tag images should print with appropriate minimum white margins for AprilTag detection on either Letter or A4 paper. Note that the targets on the official field have additional white space, see FE-00083 in the Evergreen Drawings section of the Official Drawing package for more details.

Printing tags

To print the tags, it is recommended, though not necessarily required, to download the document and print using a standalone PDF reader as browsers often re-scale the document and add URLs or other information to the printout. Make sure you set the settings to print at "Actual size", "Scale: 100%" or similar option in your application. You can verify that the tag has printed at the correct size by measuring the black box on the printed tag to ensure it is a 6.5 in. x 6.5 in. square (~16.5cm x 16.5cm)

Applying tags to team field elements

You can apply the printed paper tags directly to the team versions of the field elements. Make sure that the tags remain flat when applied.

If you wish to be able to swap tags on field elements, apply all tags to a cardboard, hardboard, or similar plate which can attach to the field element using hook and loop, screws, or other fasteners. This will result in significantly less reflections than using a sheet protector or similar plastic sleeve for the paper and will ensure the target stays flat.
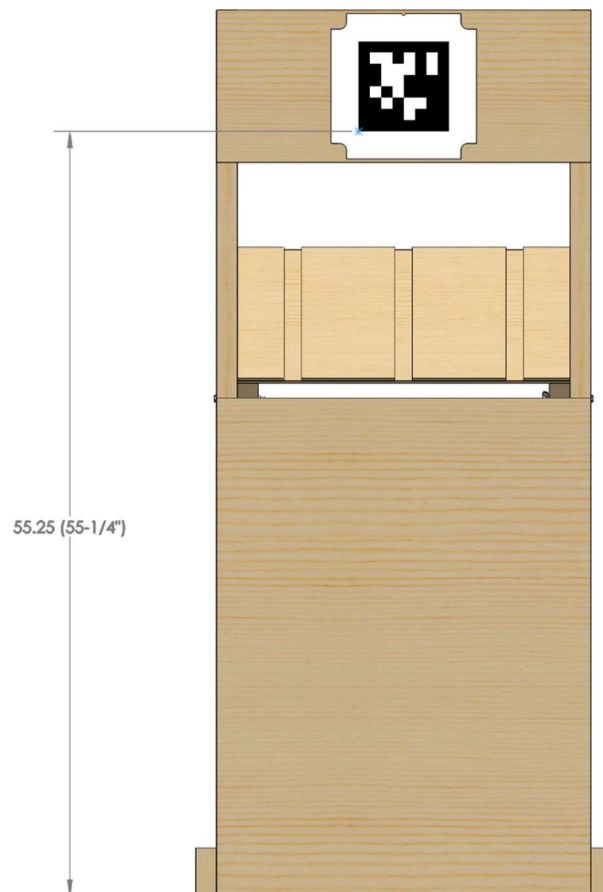
A reminder on the location of the various IDs on the field:
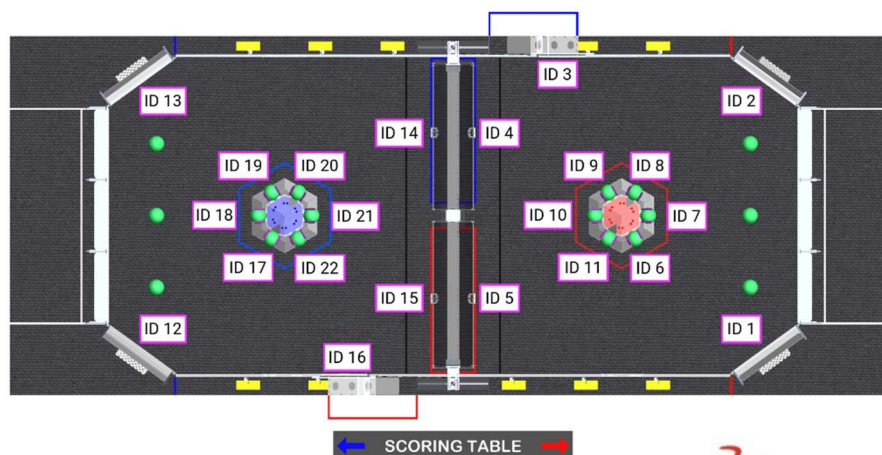
Coral Station

The image below illustrates where the tag should be located on the team version of the Coral Station. The dimension provided is the height from the carpet to the bottom edge of the black square on the tag. The tag should be centered left to right on the assembly.
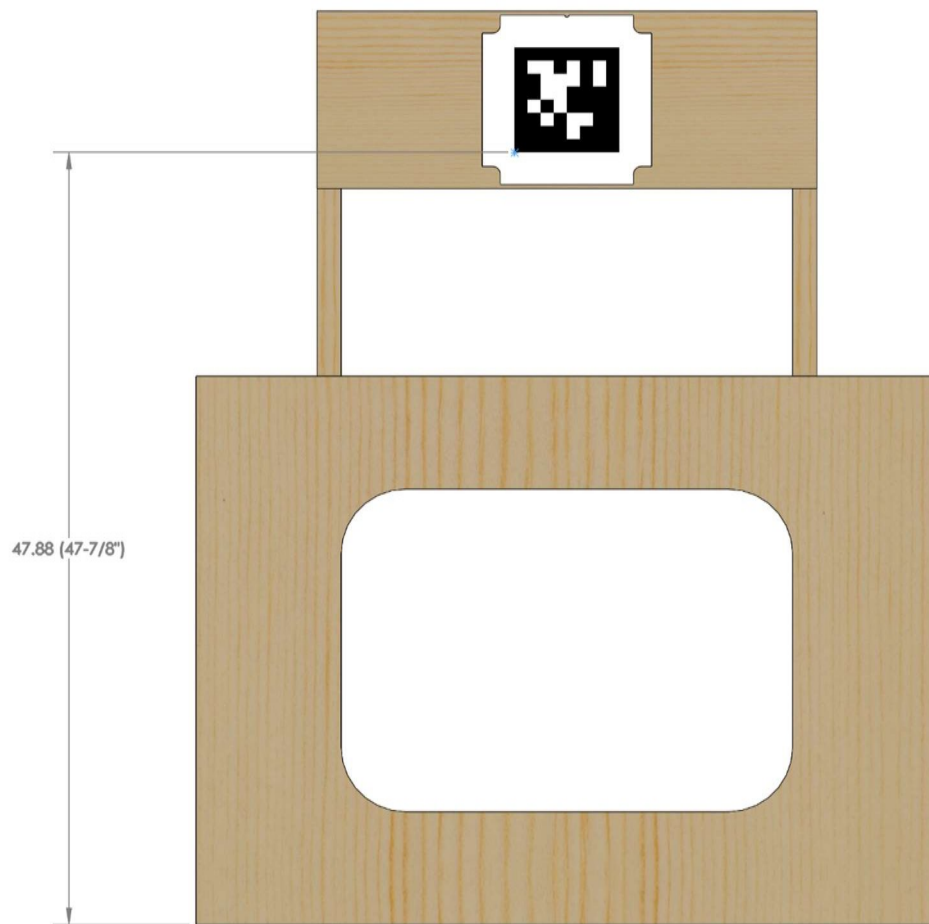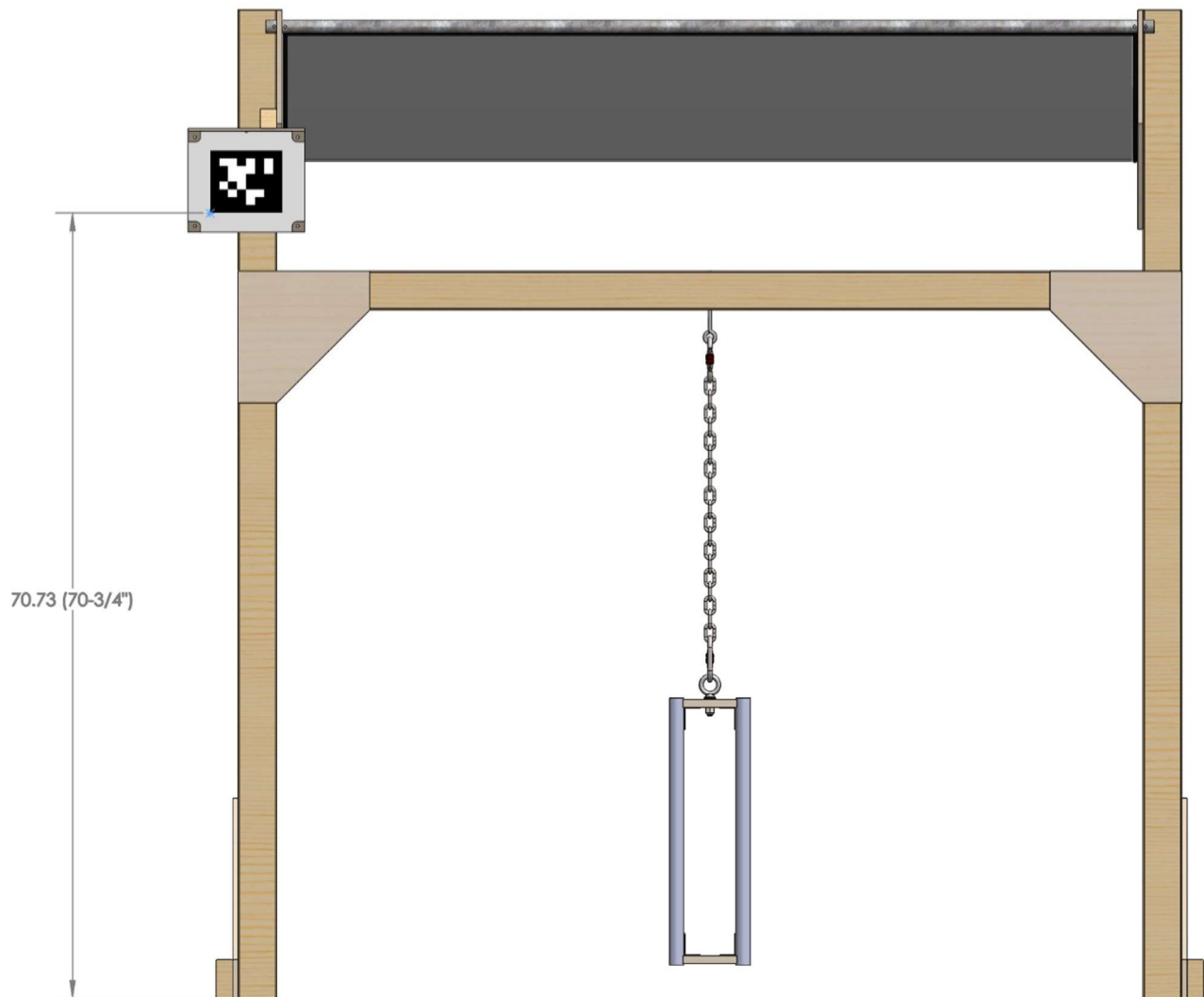
The tag shown may not match the tag required for this field element. This tag may be IDs 1, 2, 12, or 13 depending on the desired position on the field.

55.25 (55-1/4")

Processor

The image below illustrates where the tag should be located on the team version of the Processor. The dimension provided is the height from the carpet to the bottom edge of the black square on the tag. The tag should be centered left to right relative to the opening in the Processor.

The tag shown may not match the tag required for this field element. This tag may be IDs 3 or 16 depending on the desired position on the field.


47.88 (47-7/8")

Barge

The image below illustrates where the tag should be located on the team version of the Barge. The dimension provided is the height from the carpet to the bottom edge of the black square on the tag. This dimension is measured perpendicular to the floor. The tag should be centered left to right on the angled AprilTag plate.

The tag shown may not match the tag required for this field element. This tag may be IDs 4, 5, 14, or 15 depending on the desired position on the field.

70.73 (70-3/4")

Reef

The image below illustrates where the tag should be located on the team version of the Reef. The dimension provided is the height from the carpet to the bottom edge of the black square on the tag. The tag should be centered left to right relative to the pipes.

The tag shown may not match the tag required for this field element. This tag may be IDs 6-11 or 17-22 depending on the desired position on the field.


8.75 (8-3/4")

Pipe Base

The image below illustrates where the tag should be located on the "Pipe Base" variation of the team version of the Reef. The dimension provided is the height from the carpet to the bottom edge of the black square on the tag. The tag should be centered left to right relative to the pipe (or the holes for the pipes).

The tag shown may not match the tag required for this field element. This tag may be IDs 6-11 or 17-22 depending on the desired position on the field.

8.75 (8-3/4")

ID 1

ID 2

ID 3

ID 4
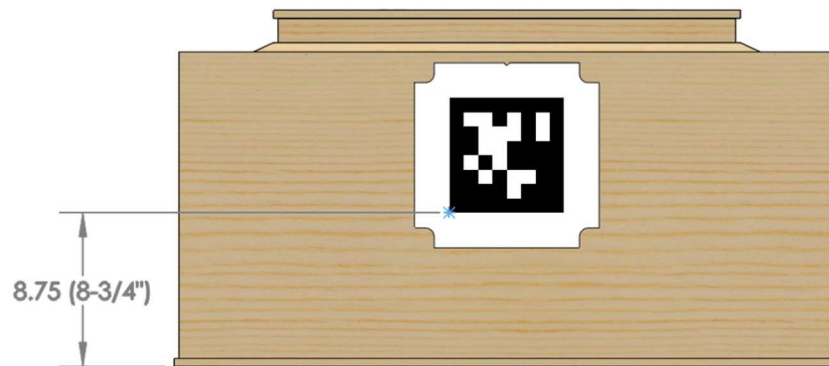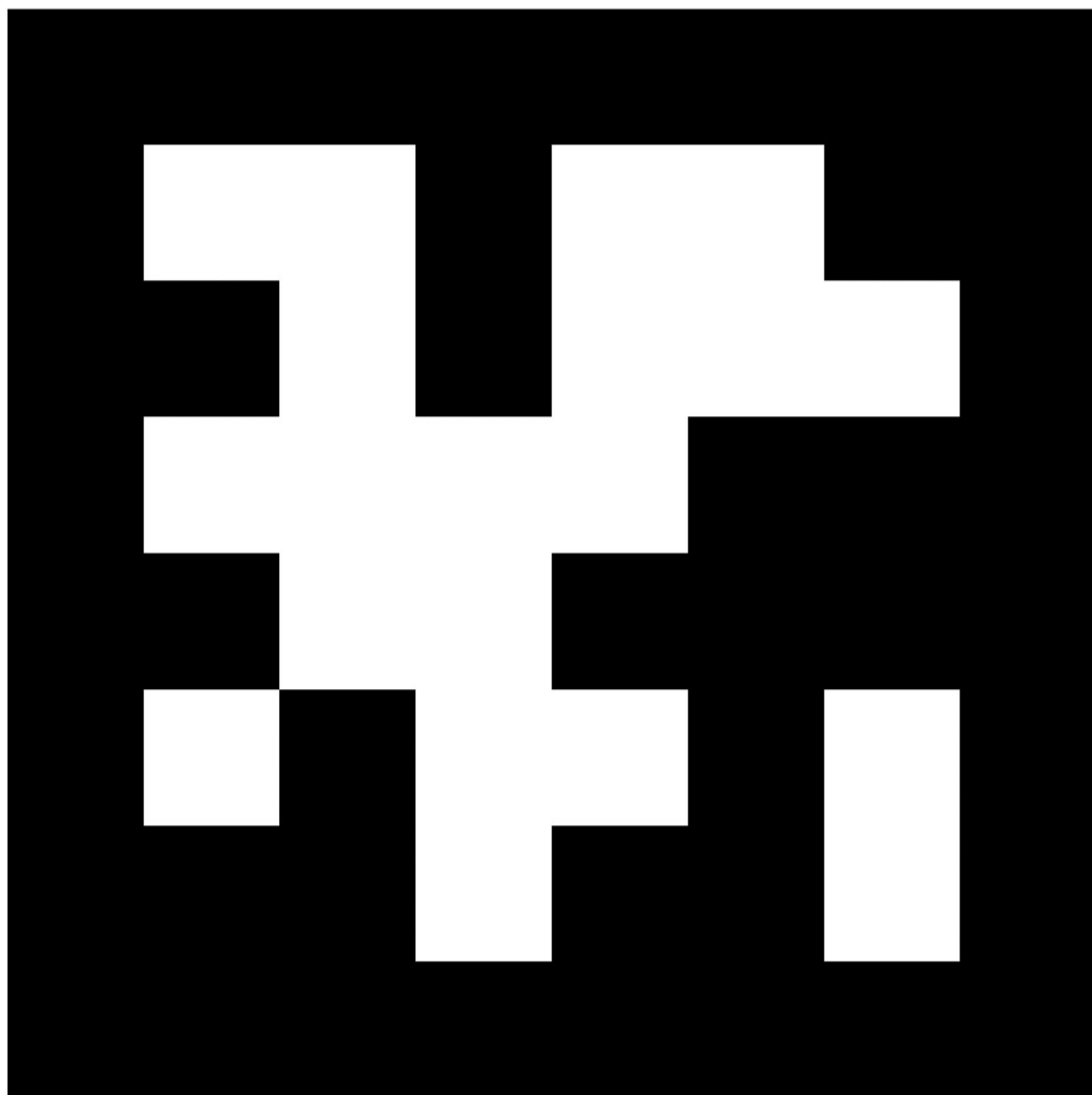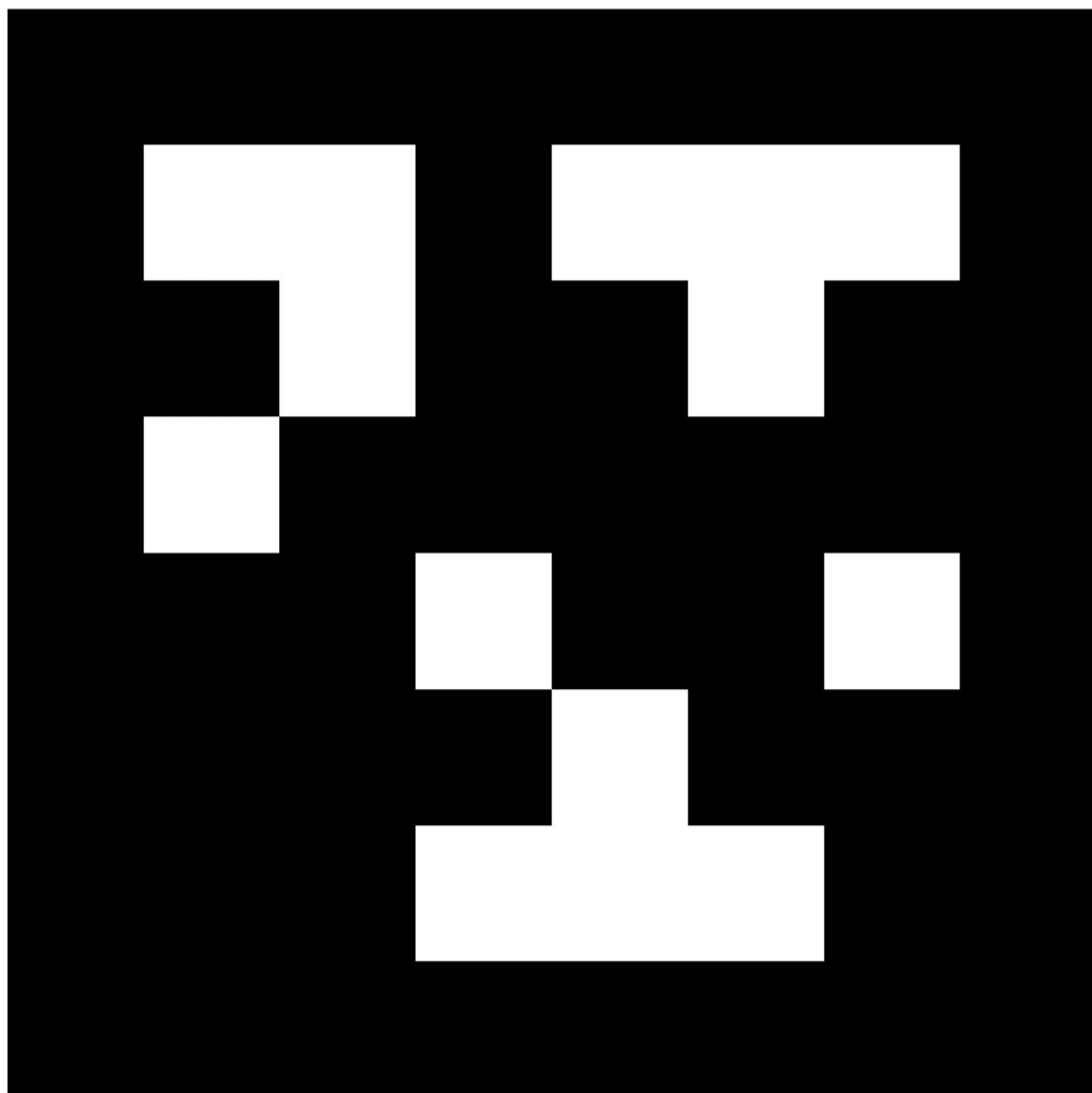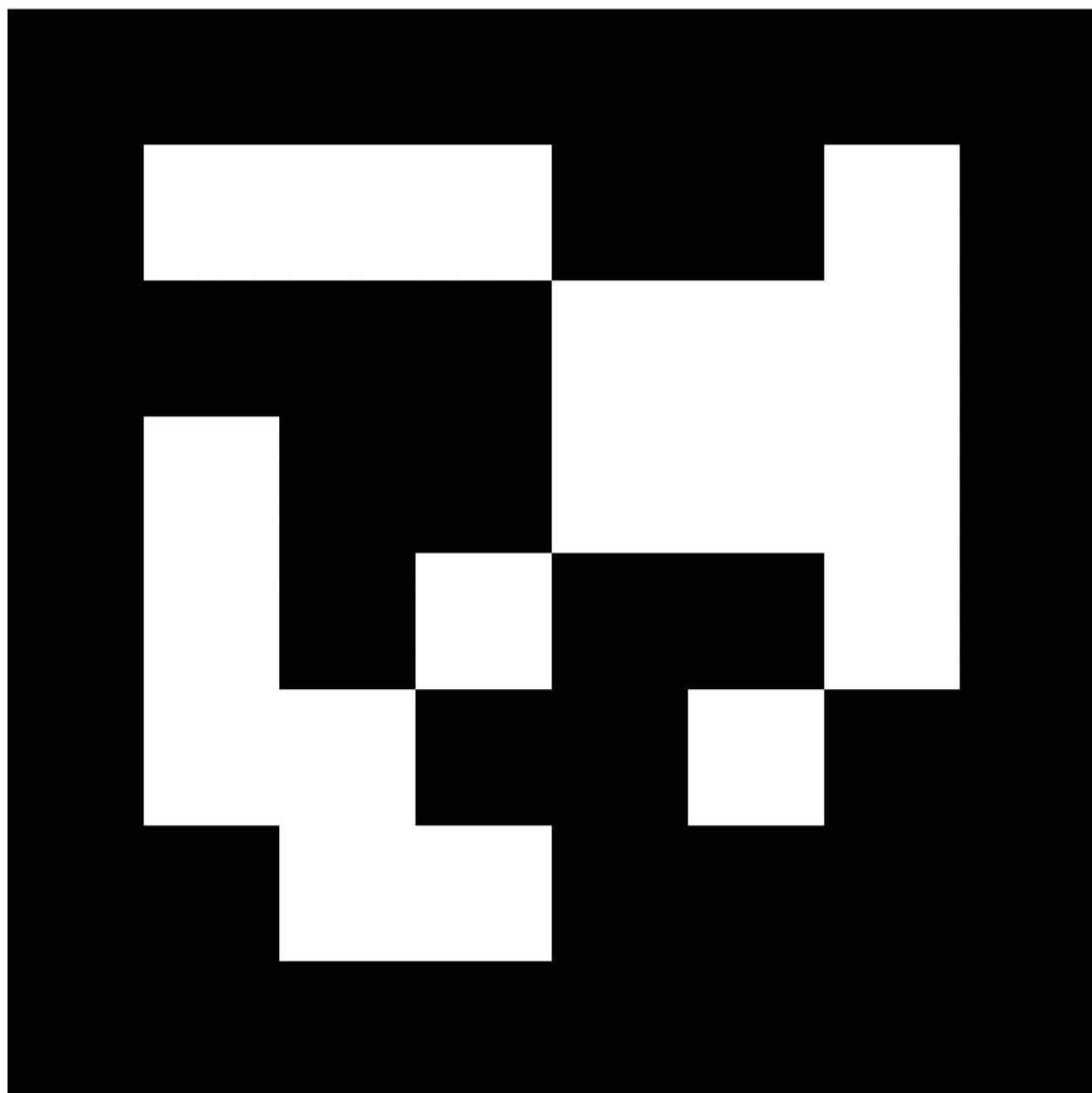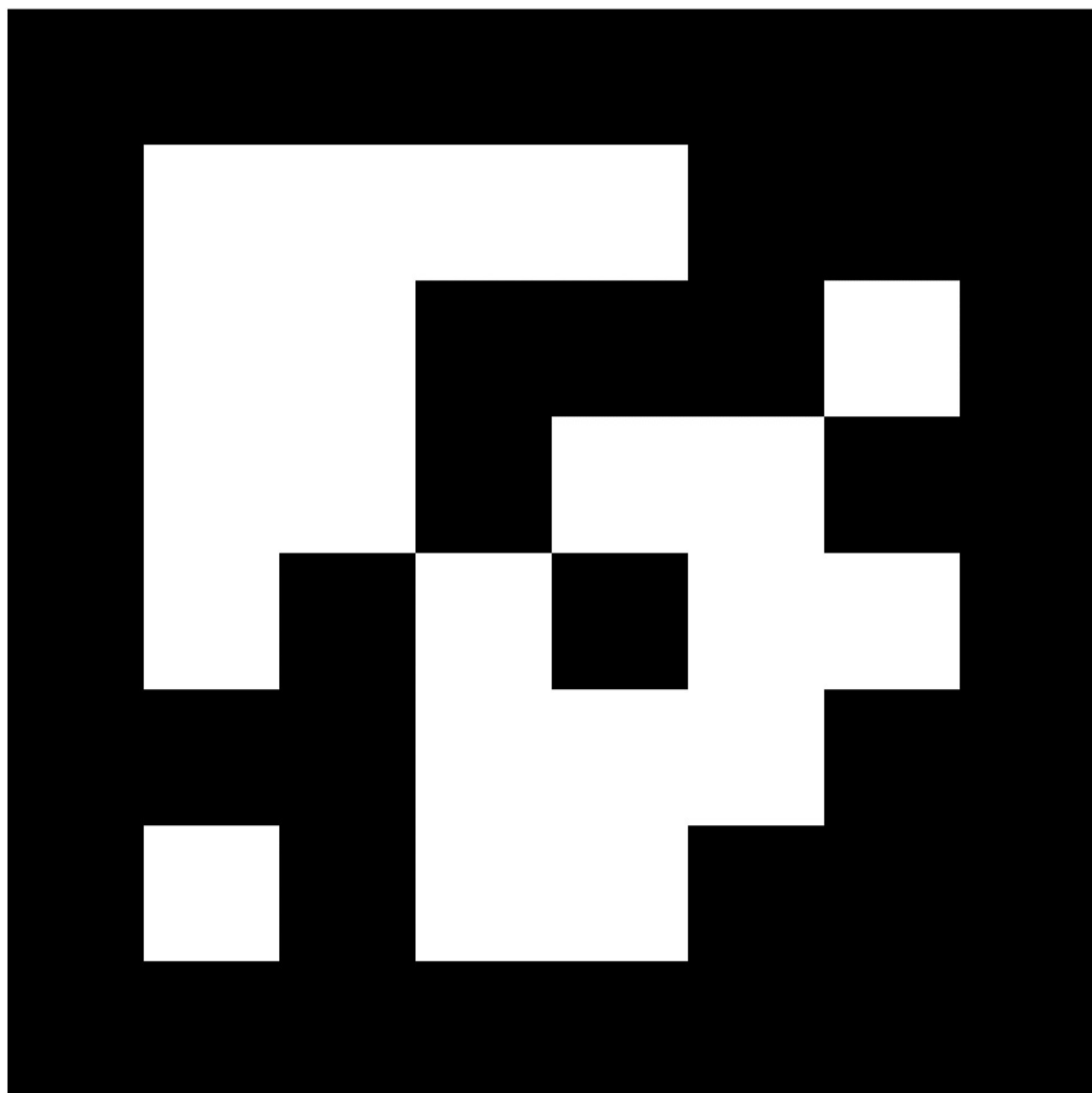
ID 5
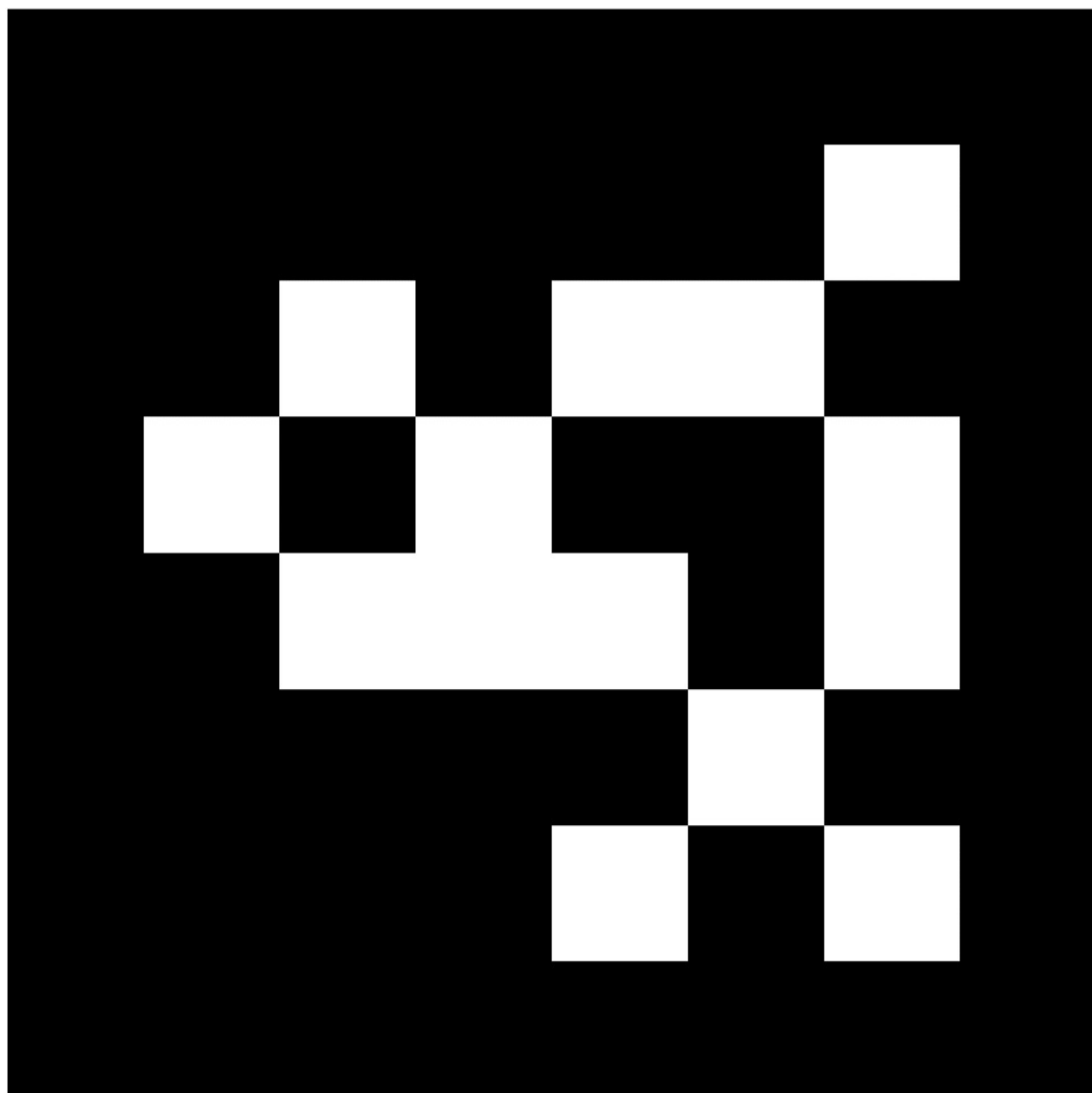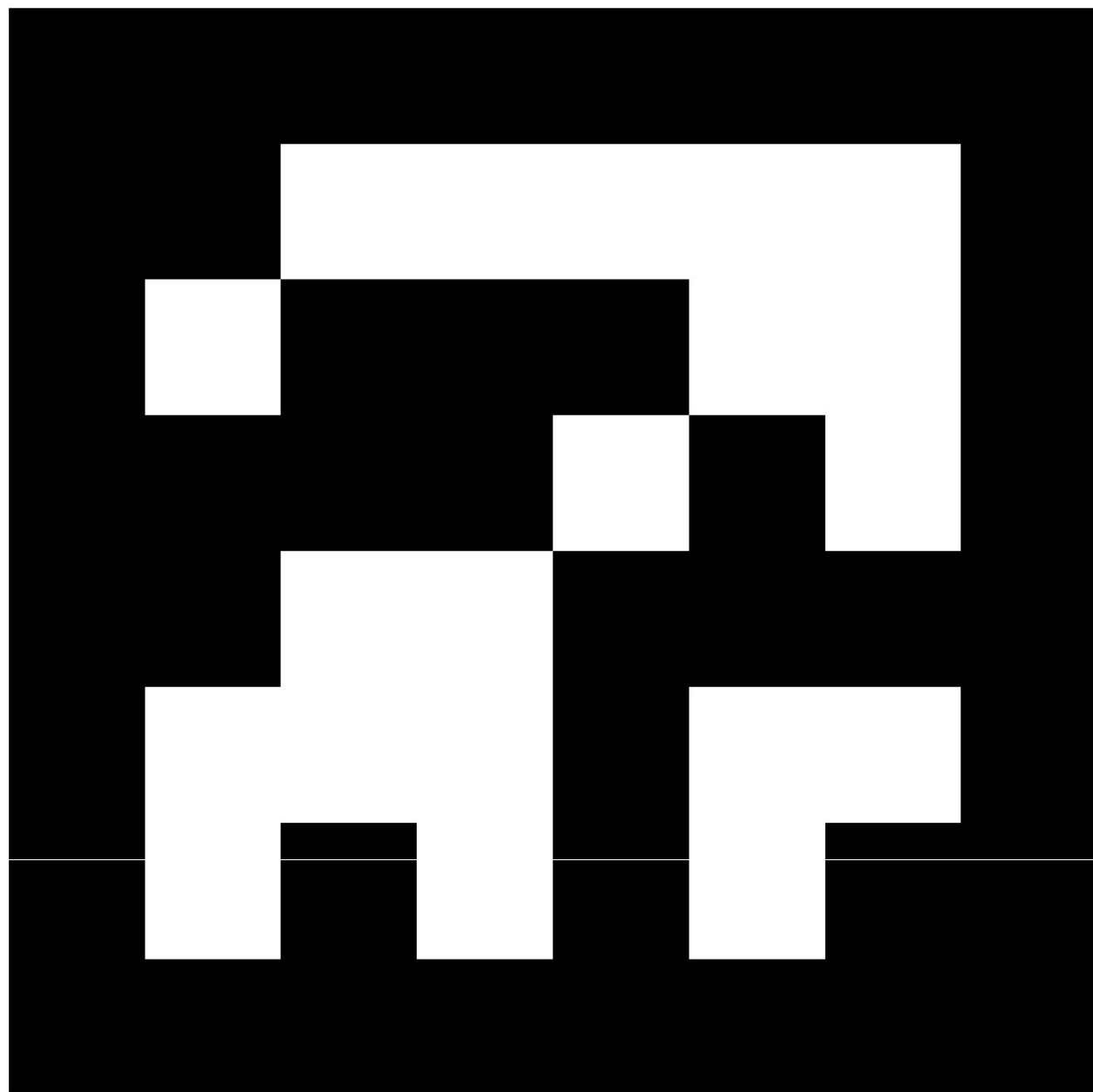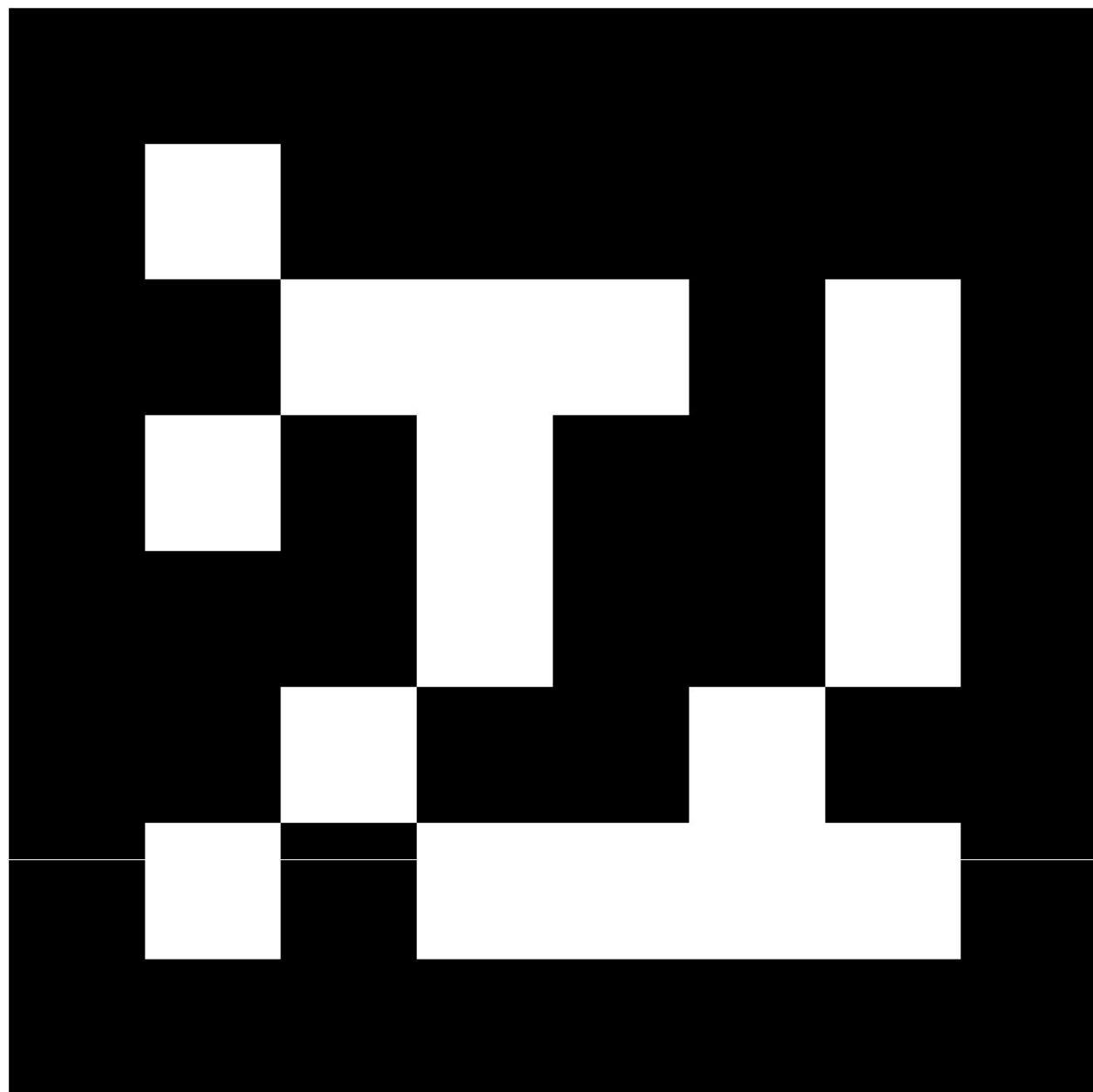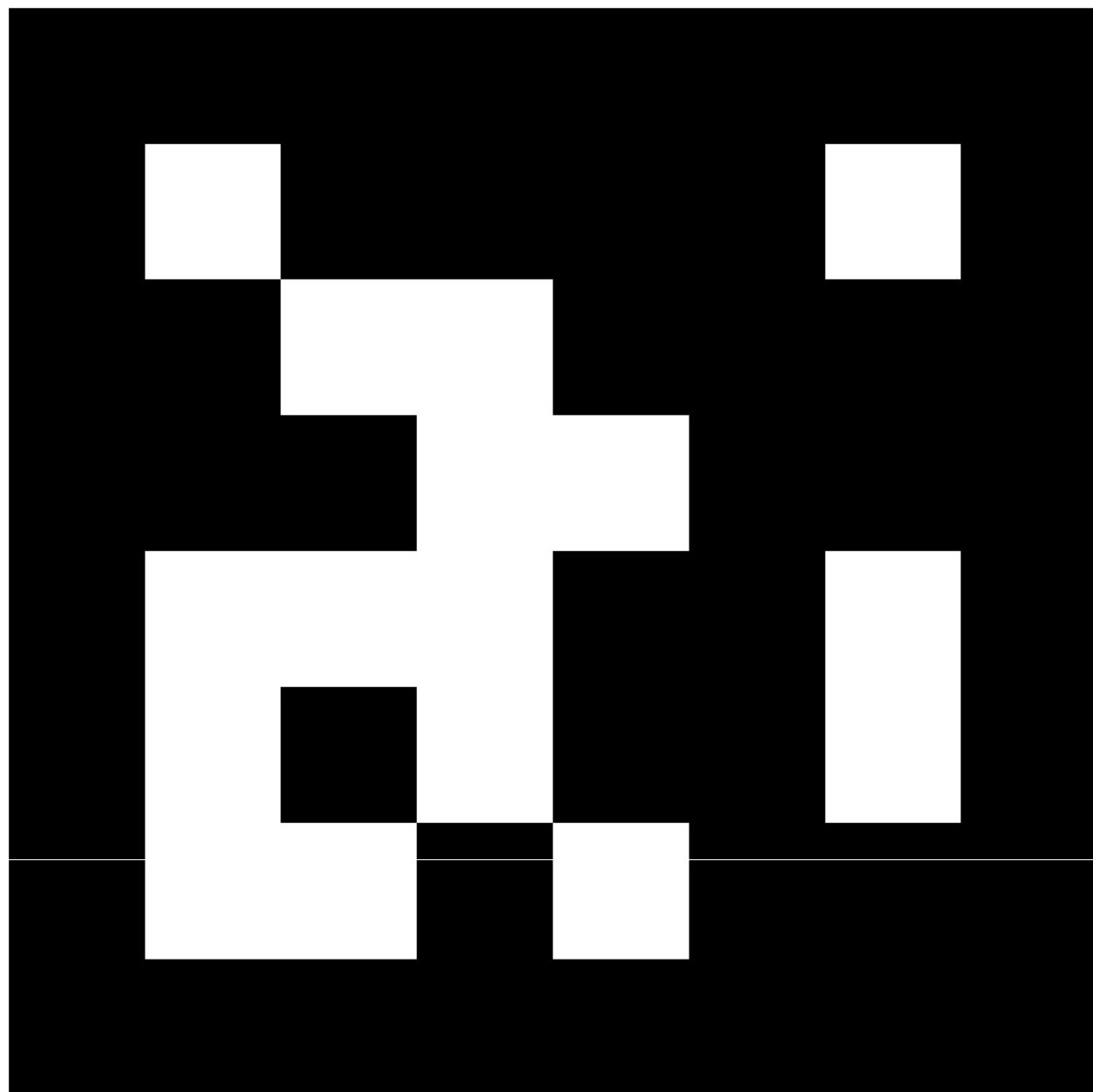
ID 6
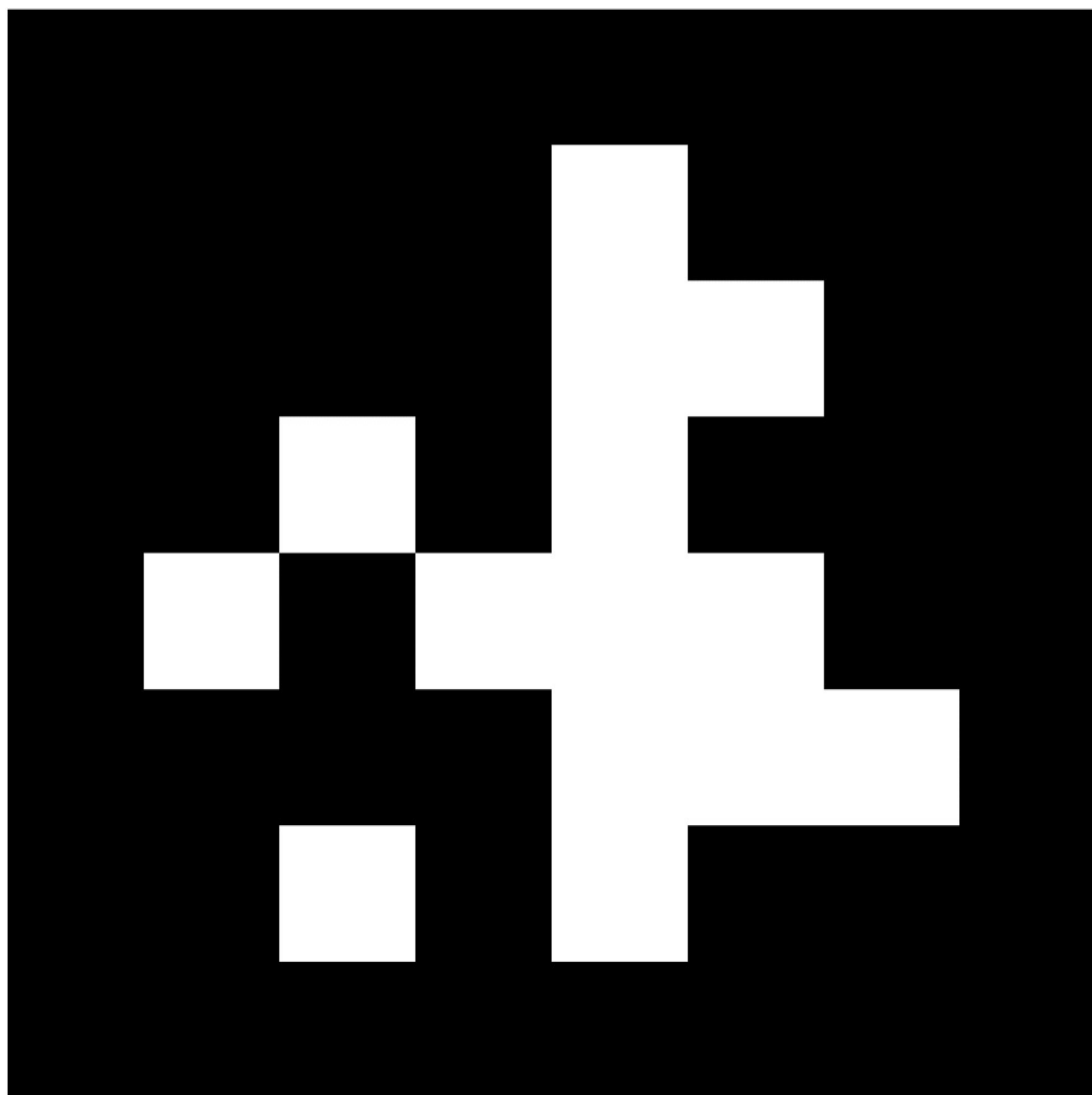
ID 7
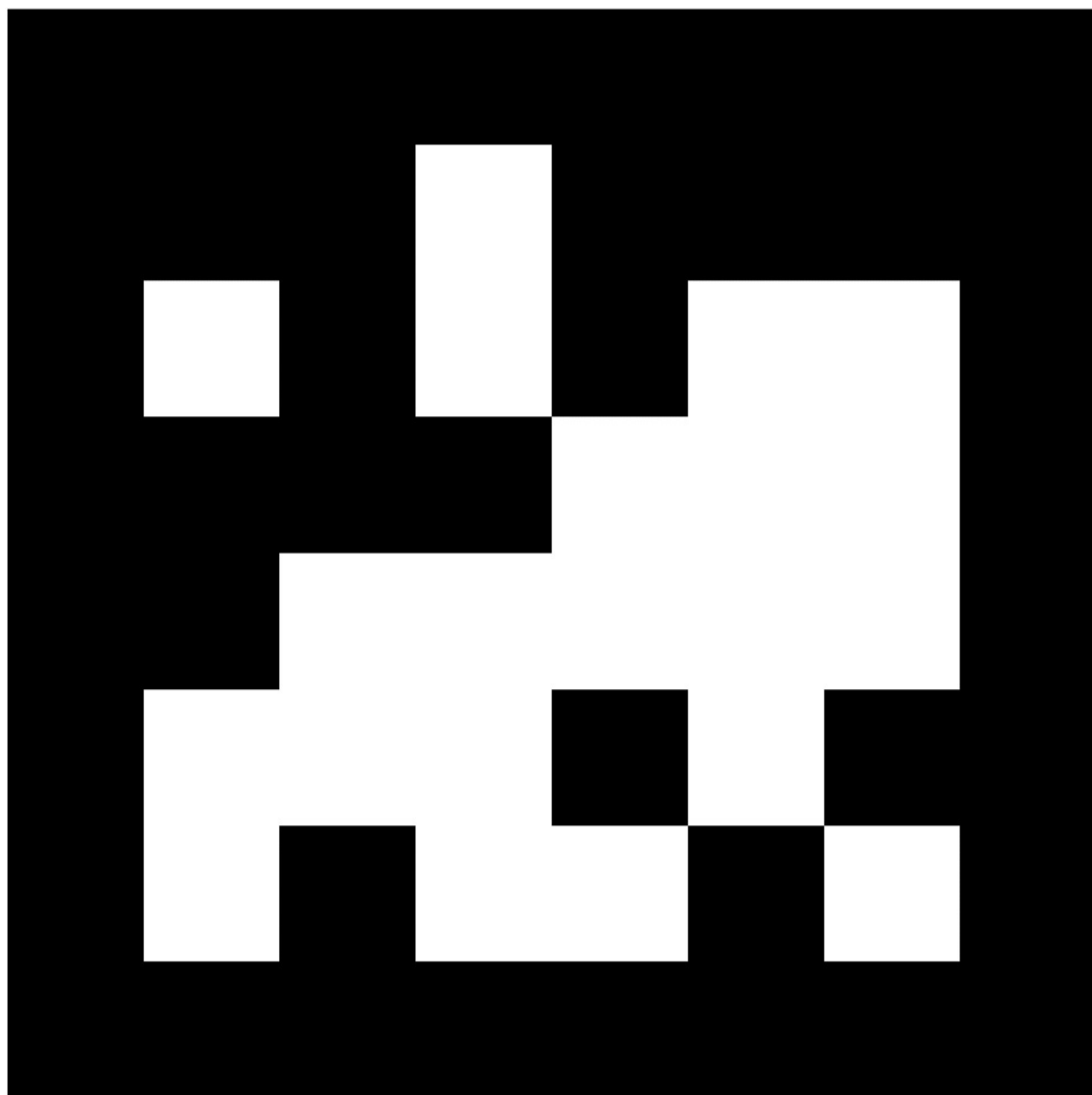
ID 8
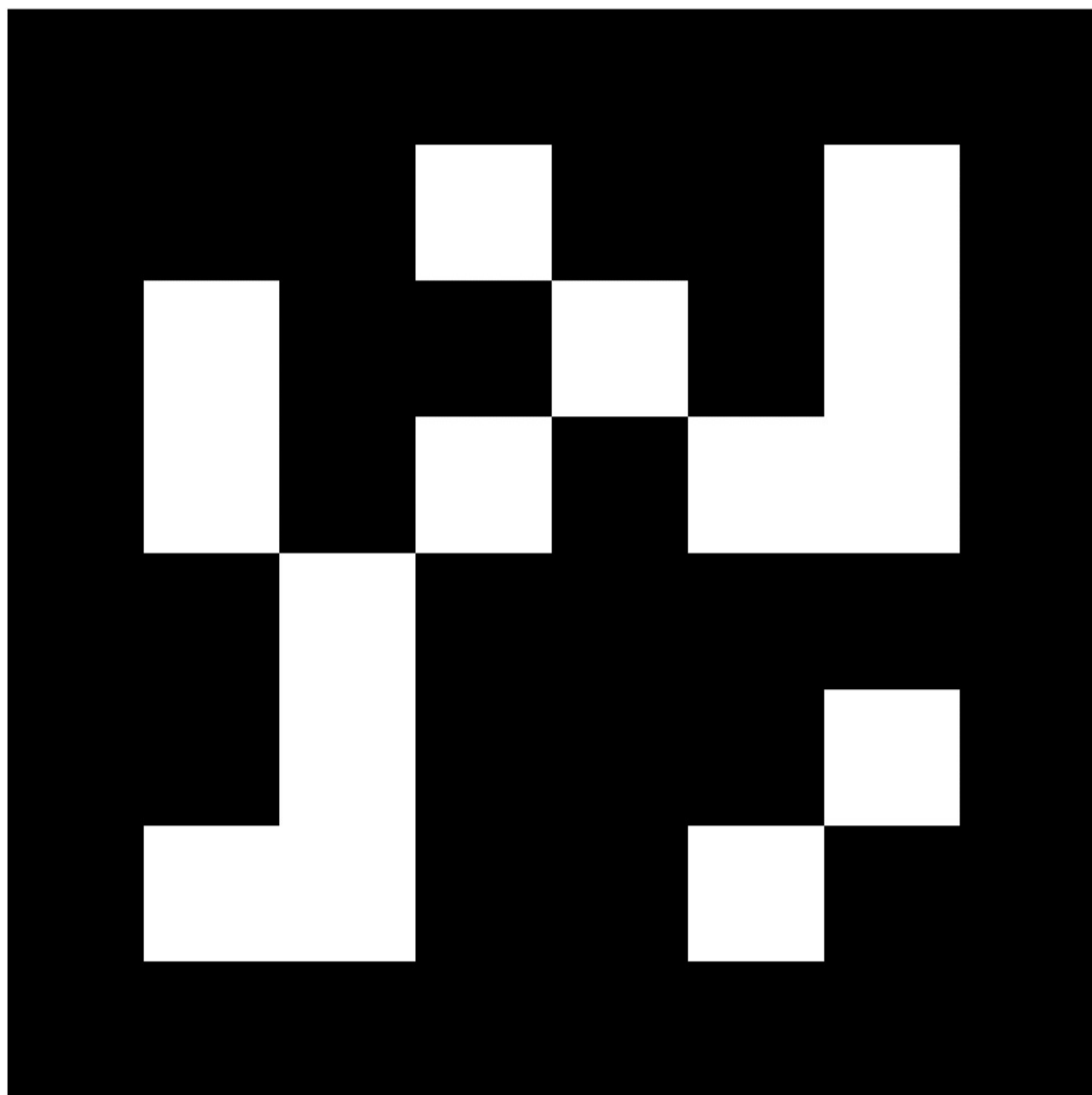
ID 9
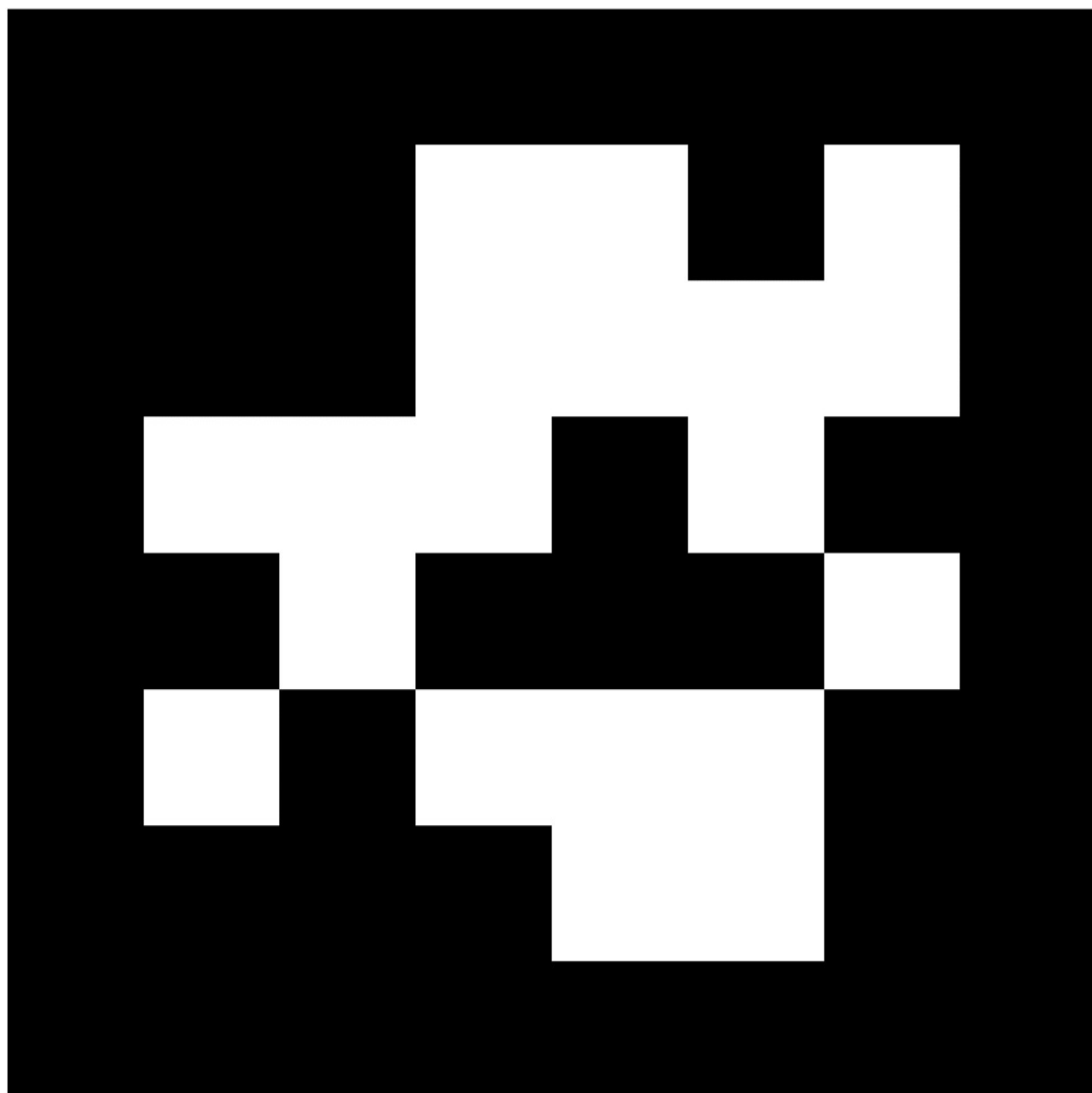
ID 10
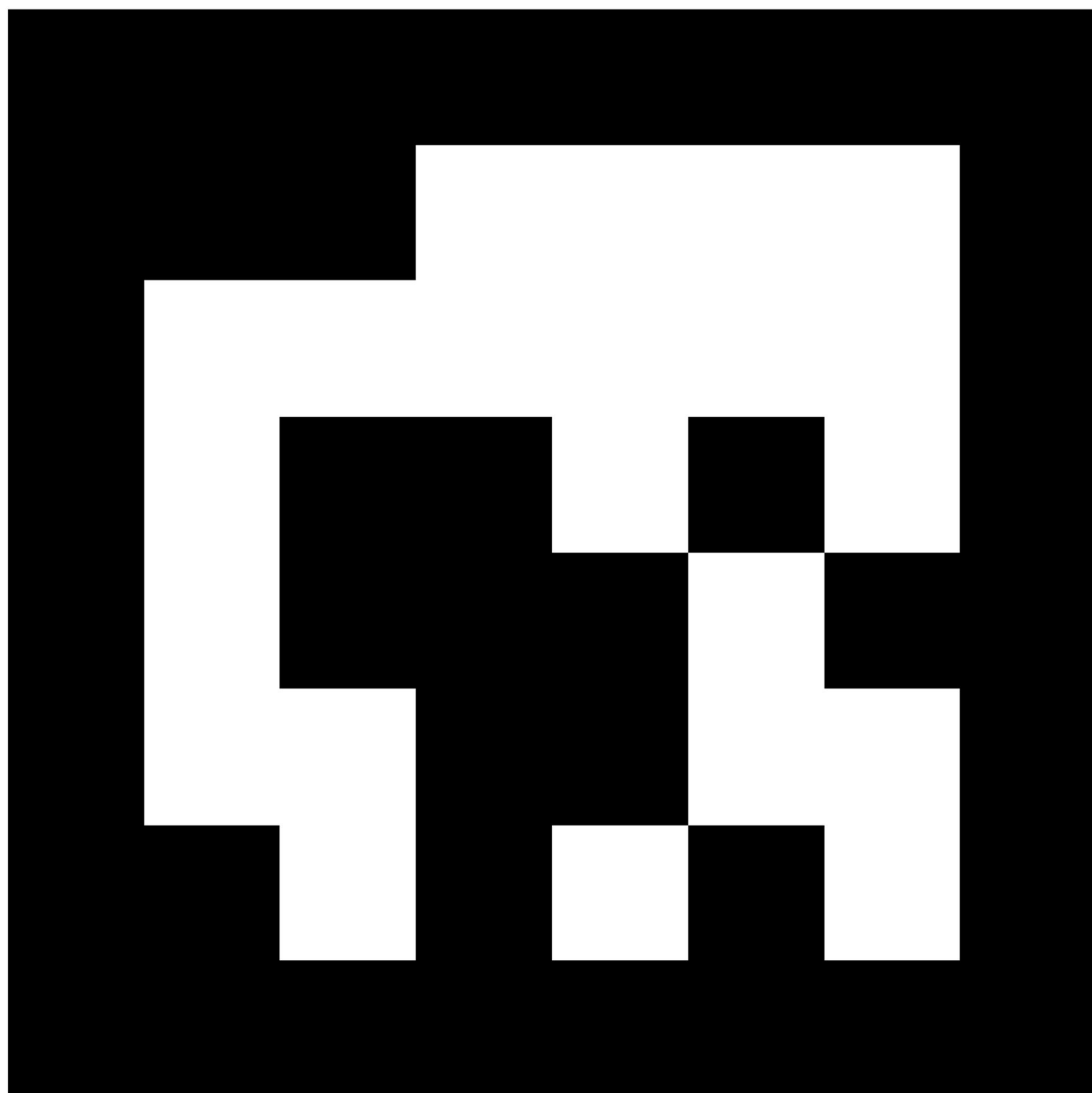
ID 11
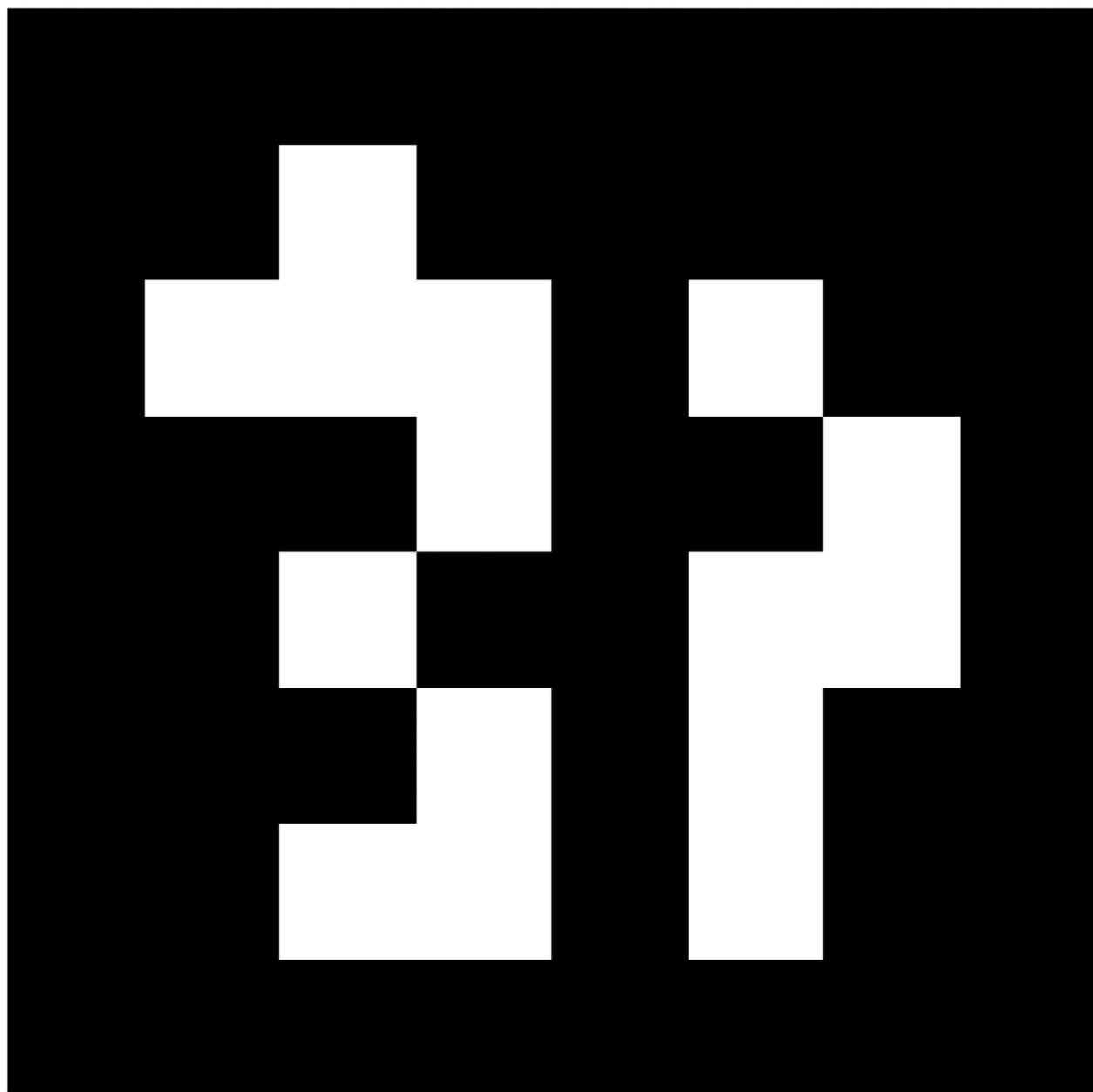
ID 12
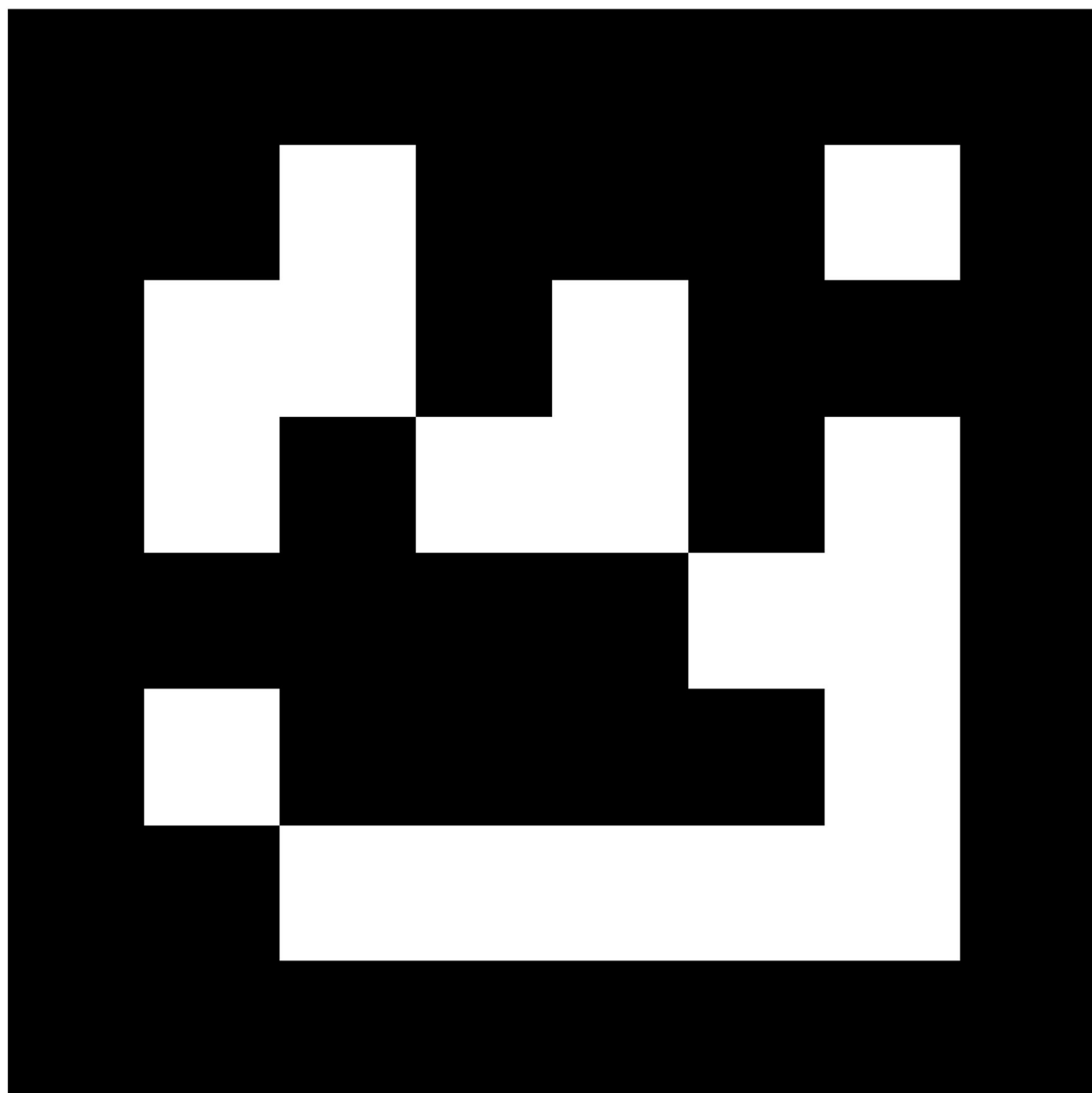
ID 13
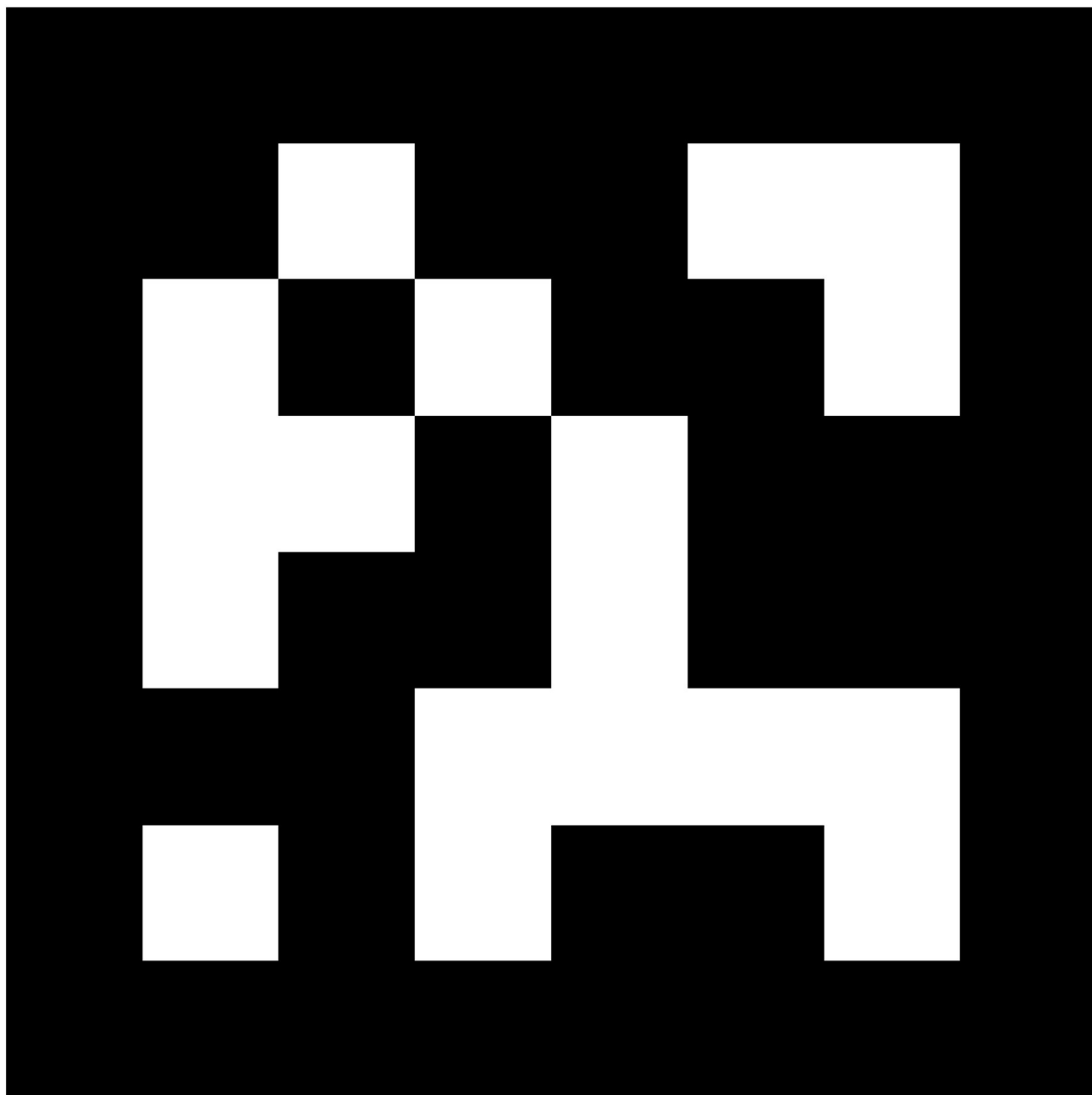
ID 14
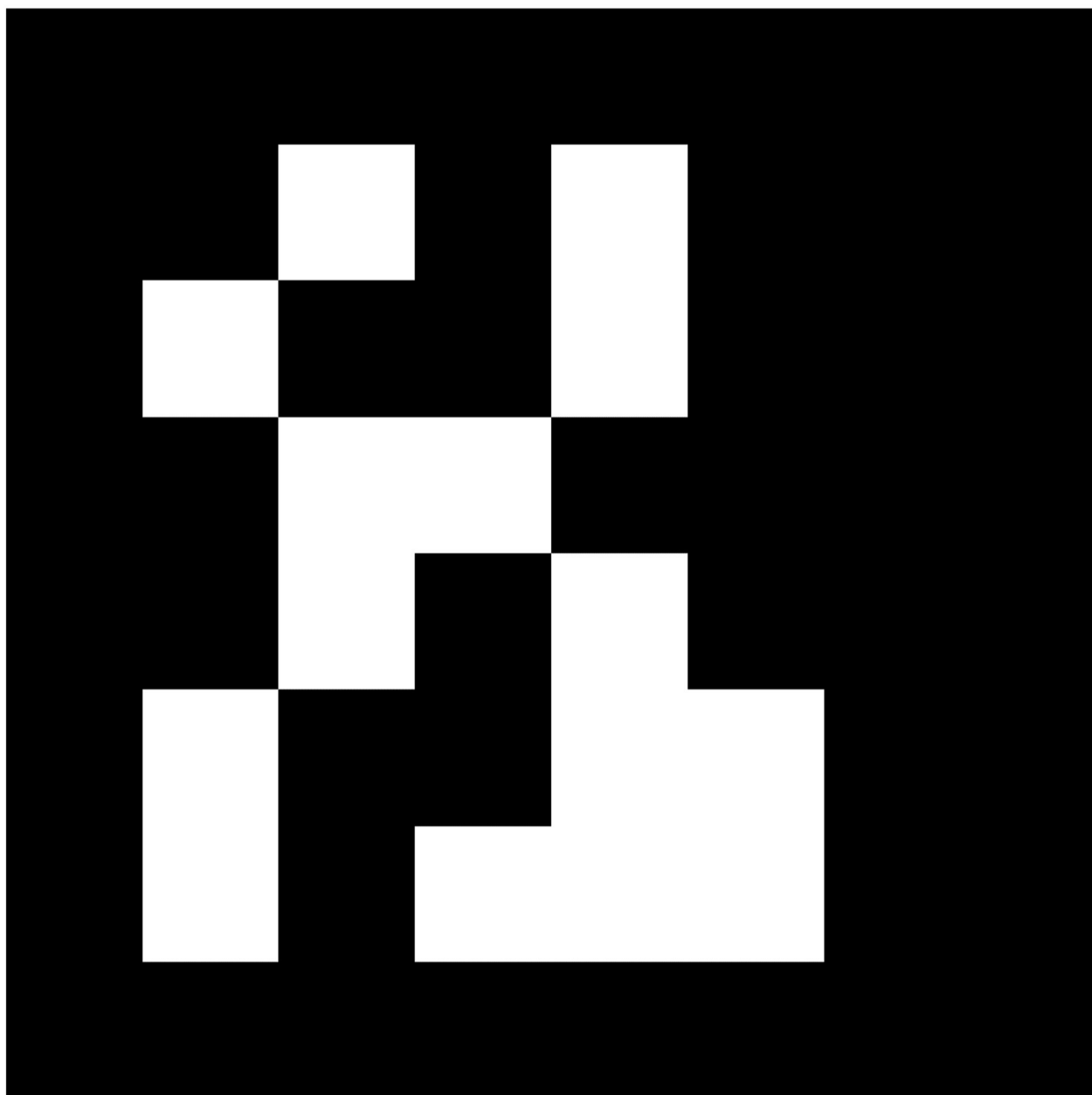
ID 15
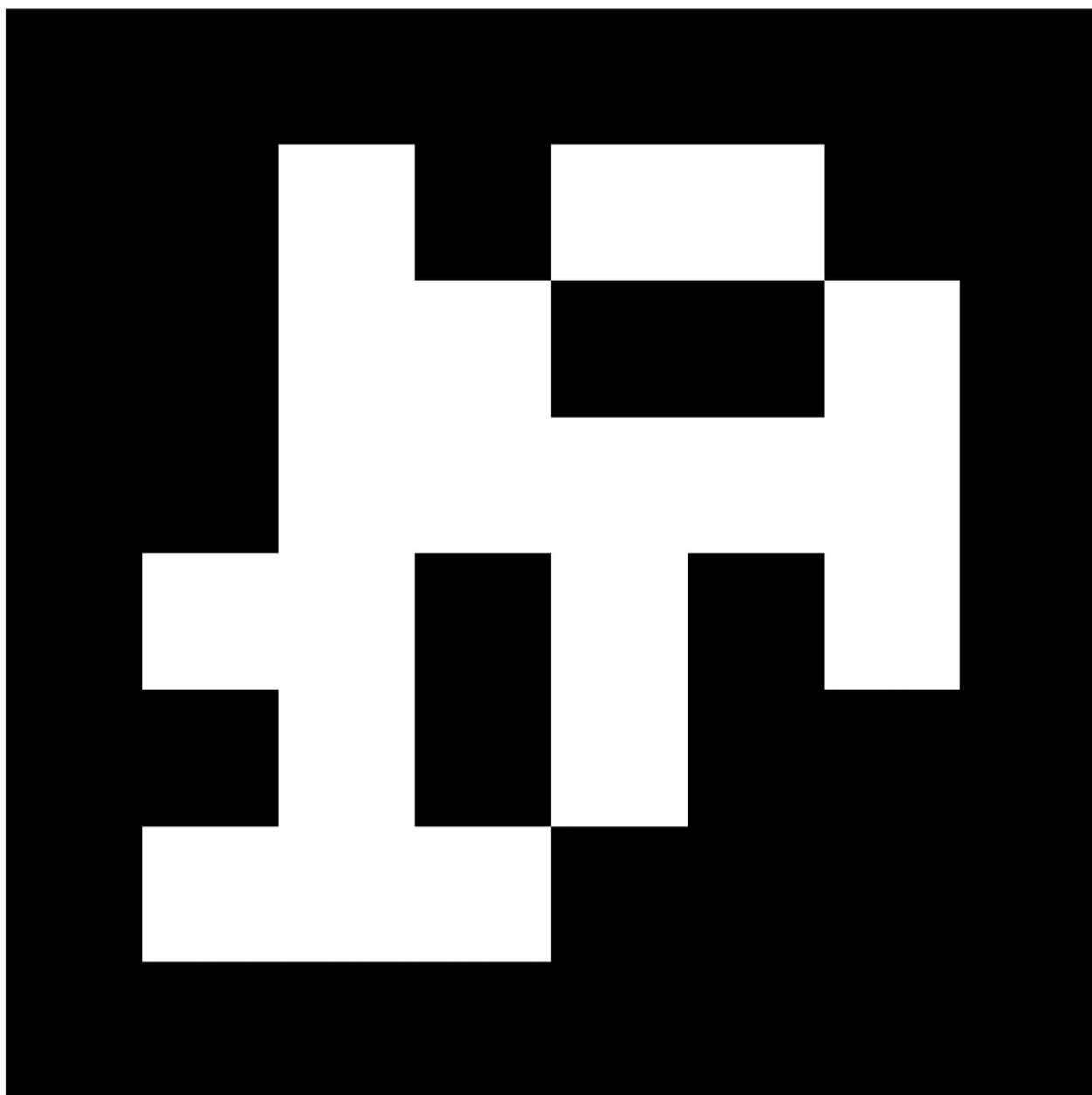
ID 16
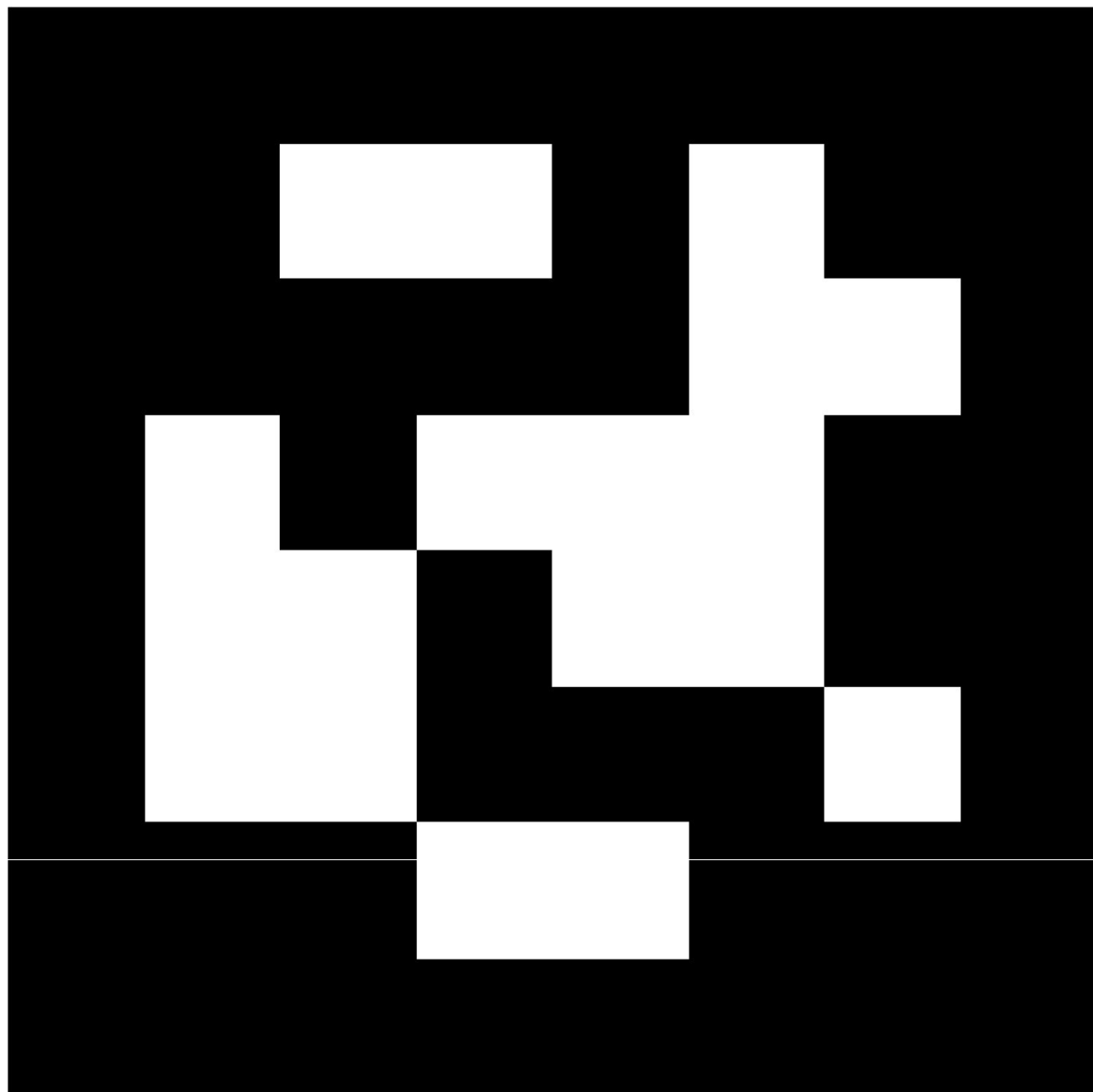
ID 17

ID 18

ID 19

ID 20

ID 21

ID 22