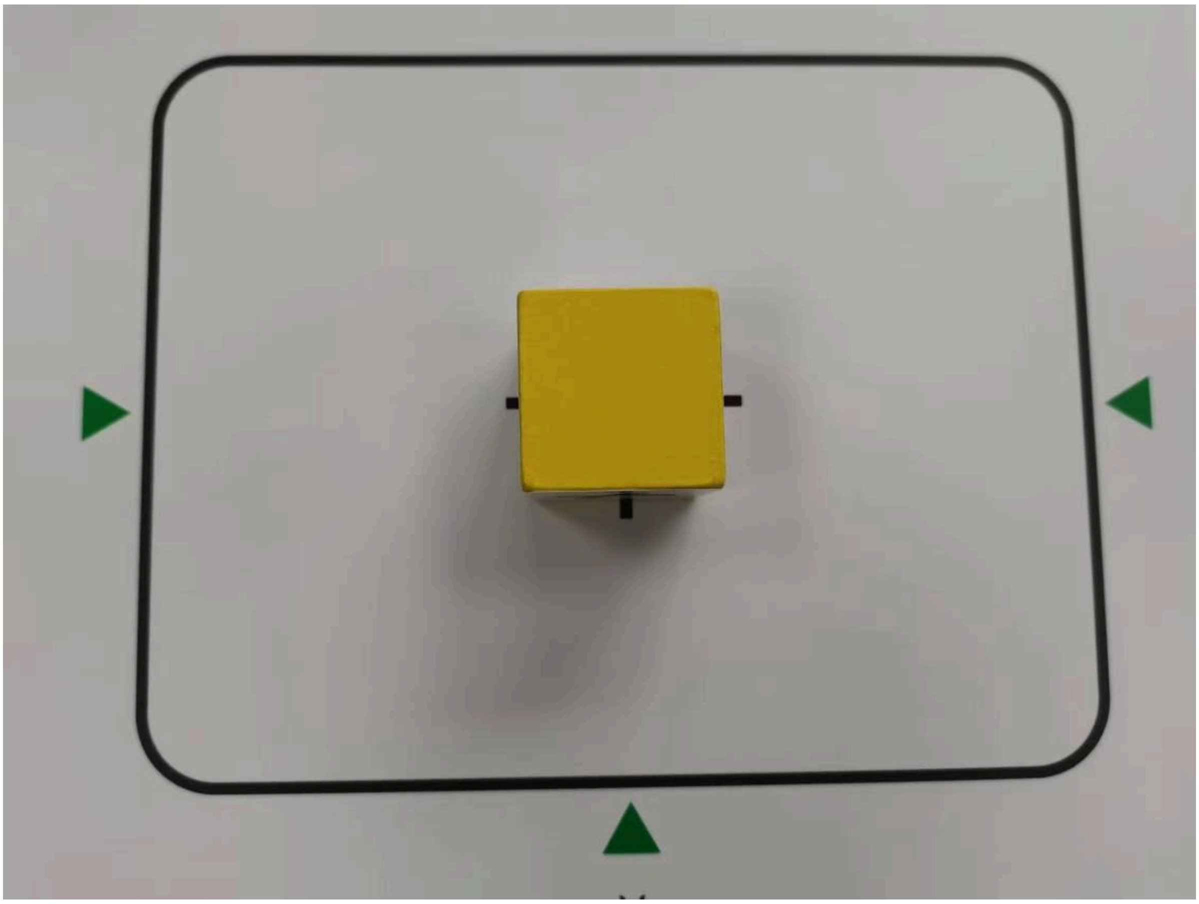
You let me catch

1. Color recognition instructions

Color recognition grab blocks use HSV color recognition function. The path to save the HSV color calibration file is ~/jetcobot_ws/src/jetcobot_color_identify/scripts/HSV_config.txt. If the color recognition is not accurate enough, please recalibrate the HSV value of the block color according to the [Color Threshold Adjustment Color Block Calibration] course. After the calibration operation is completed, it will be automatically saved to the HSV_config file. Rerun the program without additional code modification.

2. Experimental placement

Place the block to be grabbed on the cross in the recognition area, with the colored side facing up.



3. Important code explanation

Code path: ~/jetcobot_ws/src/jetcobot_grasp/jetcobot_grasp/4_put_and_grasp.py

~/jetcobot_ws/src/jetcobot_grasp/jetcobot_grasp/grasp_controller.py

Controls the movement and grasping functions of the robot arm.

```
def grasp_run(self, color_name):
        self.graspController.goBoxCenterlayer1Pose()
        self.graspController.close_gripper(1.5)
        self.graspController.goColorOverPose()
        if color_name == 'yellow':
            self.graspController.goYellowPose()
        elif color_name == 'red':
            self.graspController.goRedPose()
        elif color_name == 'green':
            self.graspController.goGreenPose()
        elif color_name == 'blue':
            self.graspController.goBluePose()
        else:
            self.graspController.init_watch_pose()
            self.status = 'waiting'
            return
        self.graspController.open_gripper(1)
        self.graspController.rise_gripper(1)
        self.graspController.init_watch_pose()
        self.status = 'waiting'
```

The position coordinates corresponding to the color area. If the clamping position coordinates are inaccurate, you can modify this coordinate value appropriately.

```
# The first layer of the box center
    def goBoxCenterlayer1Pose(self):
        coords = [220, 0, 120, -175, 0, -45]
        self.go_coords(coords, 3)
```

The coordinate value of the placement position. If the placement position coordinate is inaccurate, you can modify this coordinate value appropriately.

```
# color
    def goBluePose(self):
        coords = [-60, 230, 110, -175, 0, -45]
        self.go_coords(coords, 3)

    def goGreenPose(self):
        coords = [10, 230, 110, -175, 0, -45]
        self.go_coords(coords, 3)

    def goRedPose(self):
        coords = [75, 230, 110, -175, 0, -45]
        self.go_coords(coords, 3)

    def goYellowPose(self):
        coords = [140, 230, 110, -175, 0, -45]
        self.go_coords(coords, 3)
```

4. Start the program

Start the program

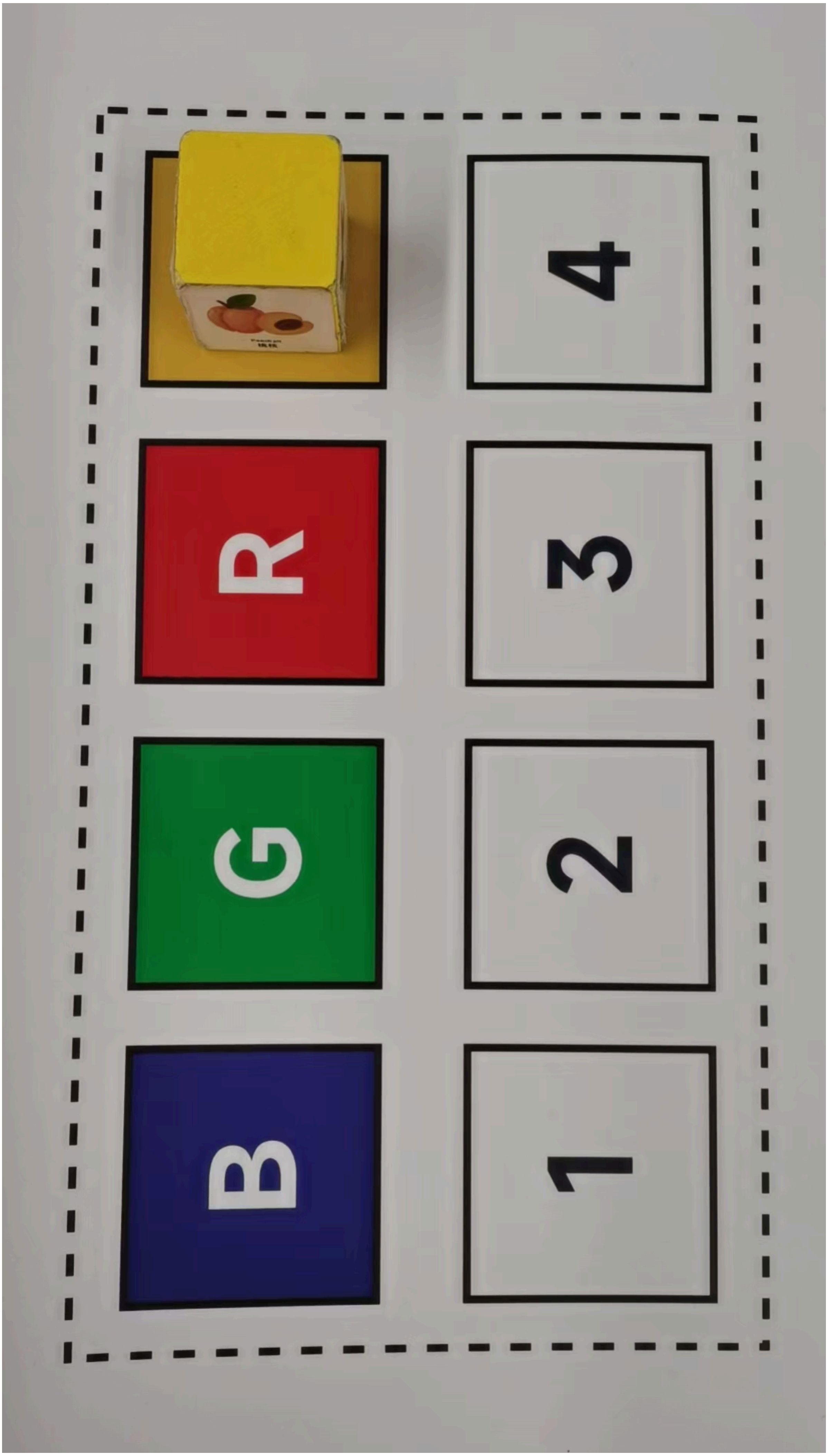
Reopen a terminal and enter the following command.

```
ros2 run jetcobot_grasp 4_put_and_grasp
```

5. Experimental results

After the program runs, the robot arm will grab the building blocks on the cross in the middle of the recognition area according to the recognized color, and then place them in the position of the corresponding color.

For example, if yellow is recognized, it will grab the building blocks on the cross in the middle, place them in the yellow area, and then restore the initial posture.


Peach pit
R
G
B
4
3
2
1

Before the next color recognition, you need to remove the building blocks in the color area to avoid conflicts when placing.