

Part 1:

- Record a video of your robot playing back the waypoints in part 1.2
 - <https://drive.google.com/file/d/1pHw4mqLWsyWeWu1zZbtjCbDmdUgiqNGd/view?usp=sharing>

PART 2:

- Demonstrate the teach-and-repeat in a video by recording the process of teaching the robot and repeating at least once the cycle task in section 1.3
 - <https://drive.google.com/file/d/11XEmz8h0ihwzd9r2qOpddf2U-JtotodH/view?usp=sharing>
 - <https://drive.google.com/file/d/1ZZD5GVJCTk4ly9EqEBnJHI02JOO3IkEeE/view?usp=sharing>

Part 3:

- Please write down your factory and final calibrated camera intrinsic matrices (checkerboard)!

- **Factory calibrated matrix**

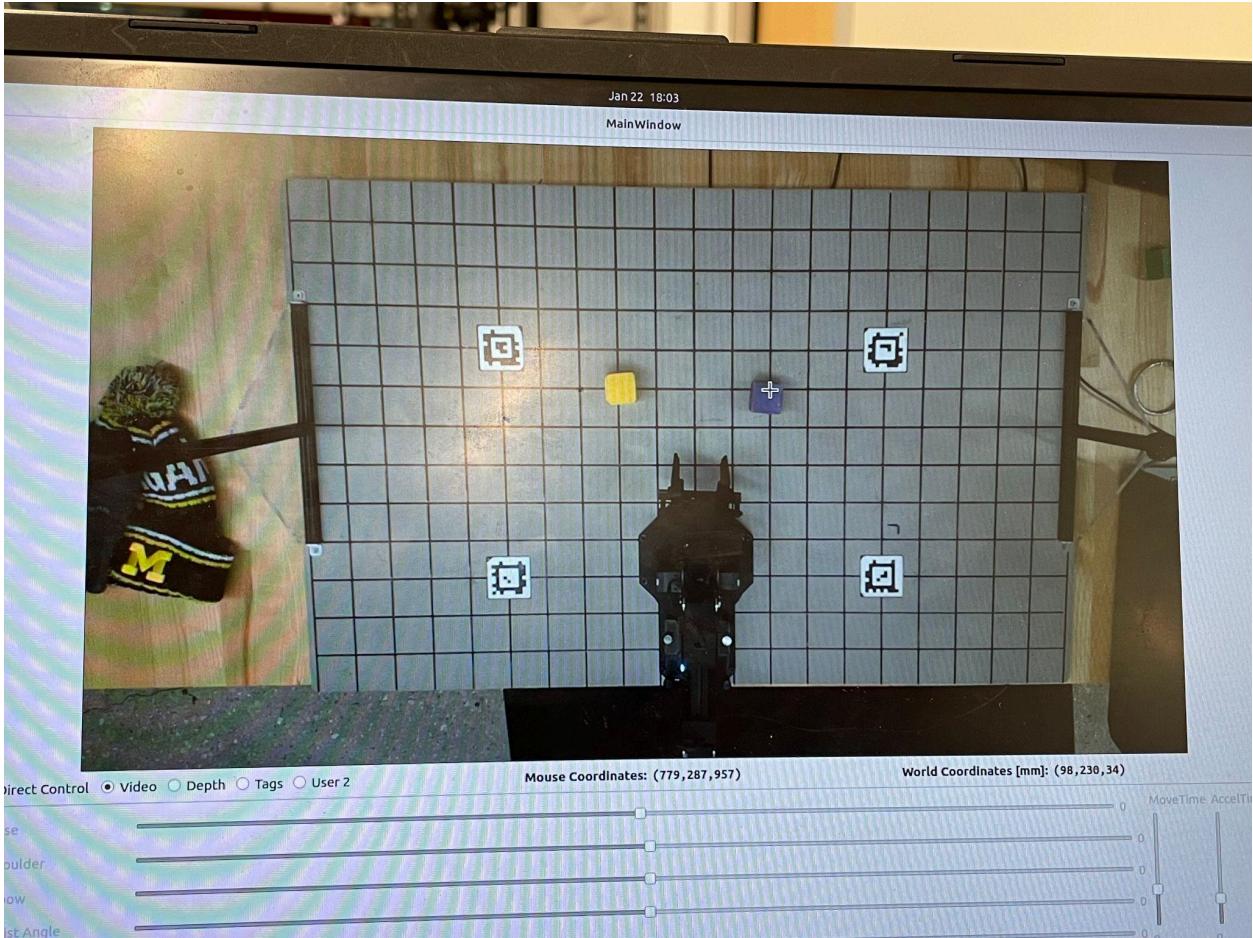
| | | |
|--------|---------|---------|
| 896.86 | 0 | 660.52 |
| 0 | 897.203 | 381.419 |
| 0 | 0 | 1 |

- **Checkerboard calibration matrix**

| | | |
|-------------|-------------|------------|
| 982.1515798 | 0 | 655.976274 |
| 0 | 990.1094038 | 383.828218 |
| 0 | 0 | 1 |

- Record a screenshot or video of the GUI reporting world coordinates of the mouse cursor when hovering over the image using the intrinsic and extrinsic calibrations.

group_9_AM_checkpoint_1



- Record the reported position (x,y,z) of the center of the top of a stack of large blocks placed at the following locations for a stack size of [0,1,2,4,6] blocks (total of 20 measurements):
 - (0,175), (-300, -75), (300, -75), (300, 325)

| World Coordinates (actual) | World Coordinates (Reported) | Stack Size |
|----------------------------|------------------------------|------------|
| (0,175) | (1,177,0) | 0 |
| (0,175) | (2,182,36) | 1 |
| (0,175) | (0,186,74) | 2 |
| (0,175) | (-2,190,149) | 4 |
| (0,175) | (-2,190,225) | 6 |
| (-300,-75) | (-300,-80,-1) | 0 |
| (-300,-75) | (-301,-80,34) | 1 |

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| | | |
|------------|----------------|---|
| (-300,-75) | (-303,-79,73) | 2 |
| (-300,-75) | (-302,-79,149) | 4 |
| (-300,-75) | (-303,-76,225) | 6 |
| (300,-75) | (313,-77,4) | 0 |
| (300,-75) | (312,-82,38) | 1 |
| (300,-75) | (314,-80,76) | 2 |
| (300,-75) | (316,-76,153) | 4 |
| (300,-75) | (314,-76,229) | 6 |
| (300,325) | (308,334,0) | 0 |
| (300,325) | (308,339,36) | 1 |
| (300,325) | (312,339,72) | 2 |
| (300,325) | (311,341,150) | 4 |
| (300,325) | (314,339,227) | 6 |