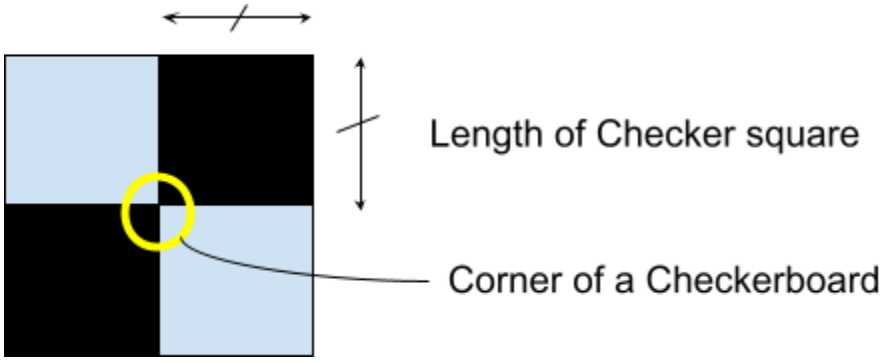
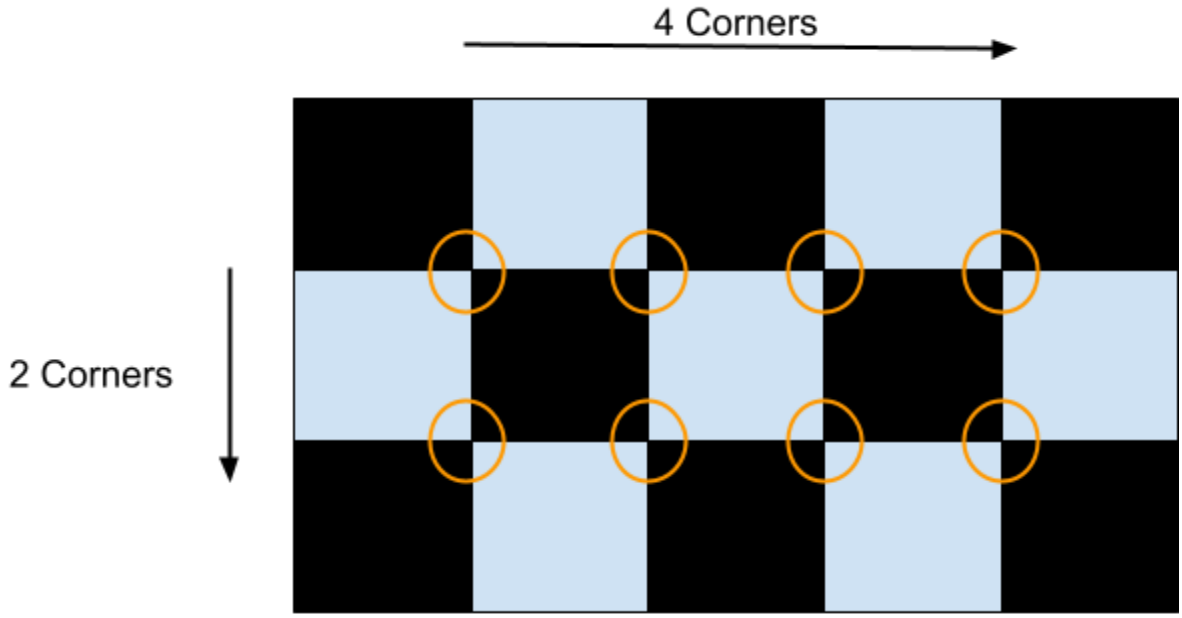
Distortion Correction Requirements

Checkerboard Information:

- The length of a side of a checker square:



- A picture of the checkerboard to determine the number of corners and shape.



Thus, the shape is 4 x 2

Notes:

- The checkerboard should be as flat as possible, however we can work with an imperfect version for now and once things are working use a better checkerboard to improve the distortion correction.

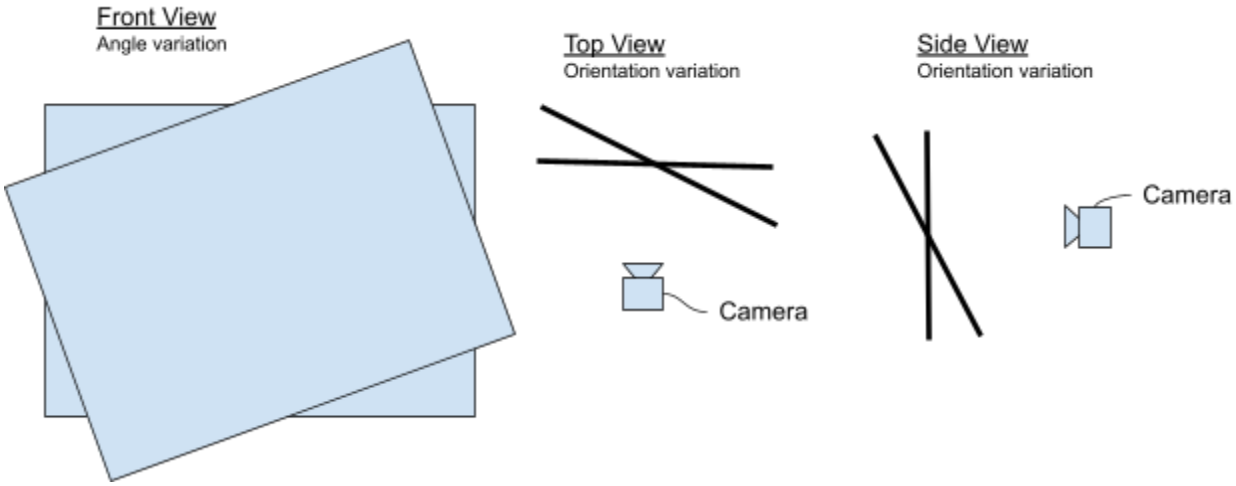
Camera Information:

- Resolution
- FPS of videos
- The model of the camera just in case I need it. (Not essential, just incase I need to lookup stuff)
- One video of the checkerboard moving around in camera Field of View (FOV)

Procedure for the video:

- Firstly, this doesn't have to be perfect - I just need something to work with and thereafter it can be improved if necessary.

    a. The checkerboard needs to be moved around the FOV and cover as much of the 'view' as possible.
    b. Avoid going out of the FOV, the entire checkerboard needs to be visible the entire time. *If there's a small time where its view is slightly blocked or cutoff, I can remove those frames.*
    c. When moving the checkerboard around the FOV, try and vary the angle and orientation of the checkerboard. Try and keep the angles acute - too much tilting and we might lose information.



    d. I would recommend choosing a starting point in the FOV and working across the entire FOV to an end point, no need to cover an 'area' more than once i.e starting in top left and finishing in the bottom right.
    e. How far to stand from the camera: This is a tricky one and I need to do more research but we encountered some issues if you're too close to the camera. So for now keep between **1m - 1.5m** away from the camera

Notes:

- The speed you move the board doesn't really matter, I'll just adjust how often I extract frames from the video depending on the FPS and how fast you move.

Questions and Notes (Not urgent)

1. When they try to determine the fruit size, do they analyze the entire video or is it on an individual frame basis?
   ANS: There's a whole pipeline which analyses the full video and extracts 2 frames to use to size the fruit.
2. After the distortion correction the image will most likely be cropped to a smaller size, I need to further investigate this. Is there a minimum resolution that your team is expecting?
   ANS: If the video is cropped, that is not a problem. A problem would be if the resolution was changed. I can't remember the minimum resolution unfortunately.