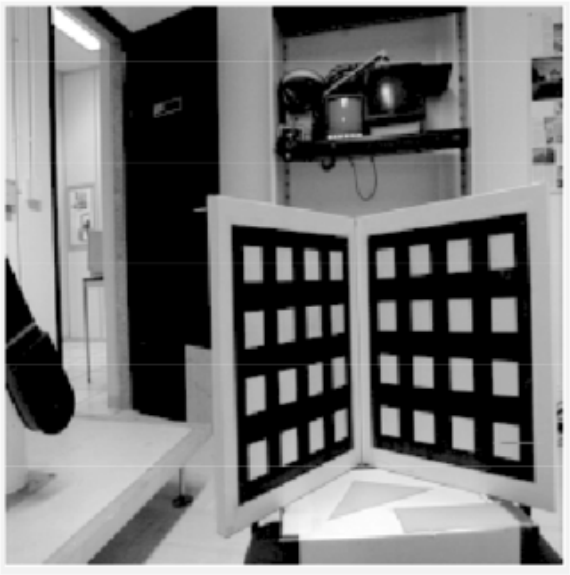
PROBLEM

Calibrate the camera (Find the intrinsic matrix K),

For this question, you are **NOT** allowed to use any in-built function that solves the question for you.



1. What is the minimum number matching points to solve this mathematically?
2. What is the pipeline or the block diagram that needs to be done in order to calibrate this camera given the image above.
3. First write down the mathematical formation for your answer including steps that need to be done to find the intrinsic matrix K.
4. Find the P matrix.
5. Decompose the P matrix into the Translation, Rotation and Intrinsic matrices using the Gram–Schmidt process and compute the reprojection error for each point.

Note: You are only allowed to use numpy for this question. No marks will be given if you use any other library/tool.

Image points		World Points		
x	y	X	Y	Z
757	213	0	0	0
758	415	0	3	0
758	686	0	7	0
759	966	0	11	0
1190	172	7	1	0
329	1041	0	11	7
1204	850	7	9	0
340	159	0	1	7