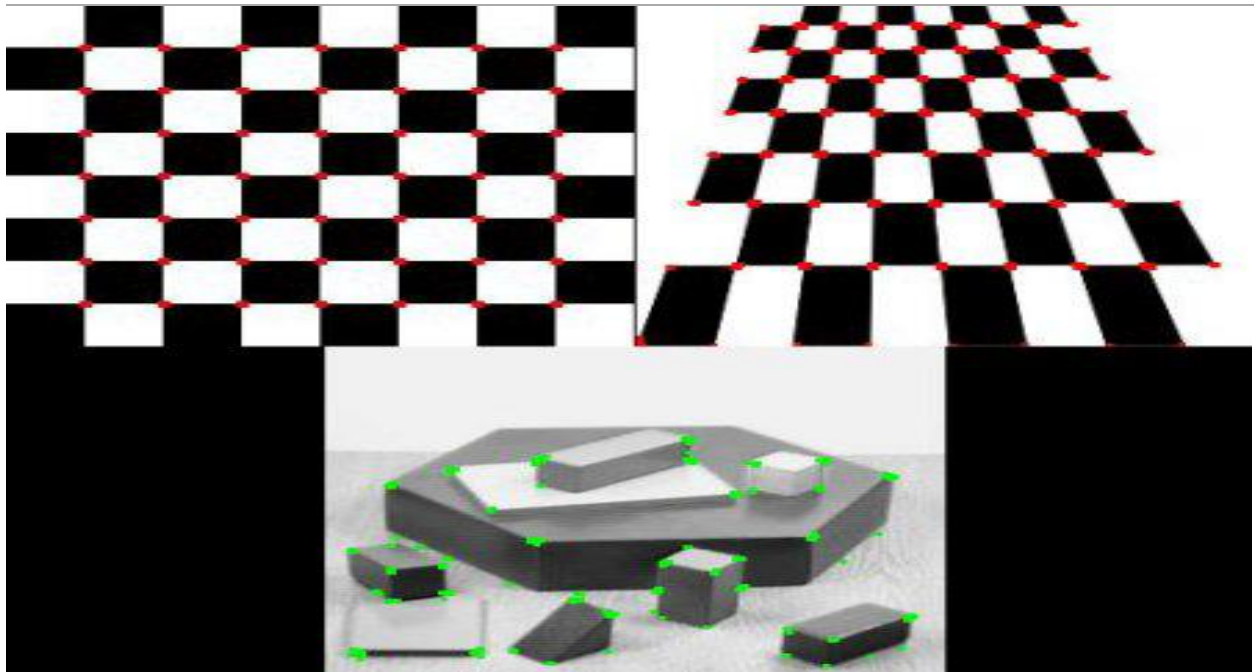# 2. Corner Detection (30 Point)

In this question, you will implement different versions of the corner detection algorithms for given three input images (Image1.jpg, Image2.jpg, and Image3.jpg).

- Implement Shi-Tomasi corner detection algorithm. Find out the max and min eigen-values (i.e. λ_{max} and λ_{min}) and use thresholding over min eigen-value (i.e. Consider cornerness measure (f) as the min eigen-value, λ_{min}) for corner detection.
- Implement Harris Corner Detection algorithm for the same input images you used in previous question. In this problem, consider the cornerness measure (f) as [Det(H) $-$ α.Tr(H)], where H is the hessian matrix, Det is the determinant of H, Tr is the trace of H, and α is a constant in between 0.02 and 0.04. Please use non-negative α $\approx$ 1/25 as a starting value and try to optimize it by trying different values and comment about it.
- In the previous question, replace cornerness measure with the following:[$\lambda_1\lambda_2$ - $\alpha(\lambda_1+\lambda_2)$] and and determine the efficiency of this system and the system in the previous question by measuring and reporting the time. You are supposed to get the same results in accuracy but different results in efficiency.
- In addition to the images provided, also run your code on at least three images of your own choosing.