

6)

For image of size $N \times N$, time complexity of this procedure = $O(N^2 \log(N))$.

Comparing it with pixel-wise comparison, where we would compare pixels in second image with intensities same as pixels in first image and then checking rectangles around match to predict translation, the time complexity would be $O(N^4)$ which is slower than the given procedure and hence not suggested.

In implementation of given procedure, we can see an impulse in the inverse Fourier transform “Inv” and “Inv1” (corresponding to without and with noise in the code) at a location which indicated the translation parameters.