**Problems:**

1. **Averaging:**

* Averaging is used to removing one or two sized pixel granular noise. In bright background, dark noise, or in dark background, bright noise.
* The images used for averaging have granular noise in them.
* Images which have no noise have no use of averaging.
* Averaging is very efficient for removing noise but in turn leaves blurred edges.

1. **Median Filtering:**

* The median filter overcomes the disadvantage of averaging, i.e. it removes the noise by preserving the edges.
* In the images used for median filtering, it is necessary to preserve the edges.
* For example: In images with text, it is better to use median filtering than averaging as it is important to preserve the edges as the content needs to be readable.

1. **Linear Grey-level Transform:**

* It is used in images which have a narrow grey level or a very low contrast.
* It broadens the input images narrow grey level range to improve the contrast.
* Thus, images used for grey level transform have very narrow grey level.

1. **Histogram Equalization (using cumulative histograms):**

* It is used for images whose grey level is not narrow, yet the contrast is bad.
* It enhances the contrast of images whose contrast is not improved by linear grey level.
* Images selected for histogram equalization are low contrast images with broad grey level.

1. **Sharpening:**

* This method is used to sharpen blurred images.
* This method can sharpen the images blurred by averaging.
* The images selected have blurred edges.

1. **Thresholding:**

* It is difficult to obtain good binarization results, which can be improved by using a optimal threashold value.
* Images selected for thresholding almost have no gray-tone.