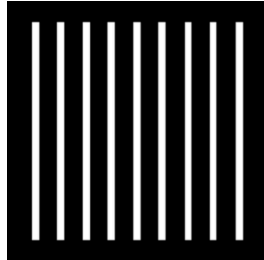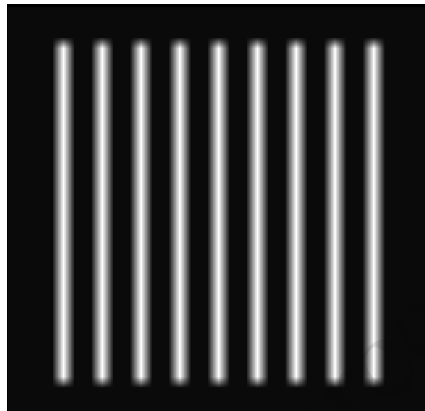Original image:
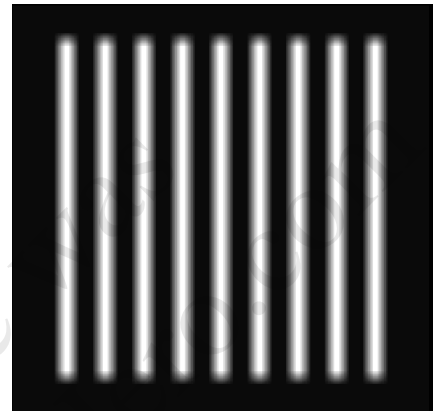

5.1: Arithmetic mean filter

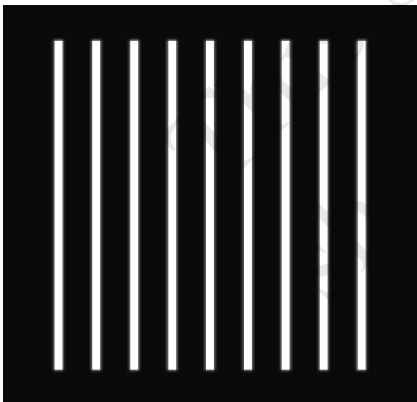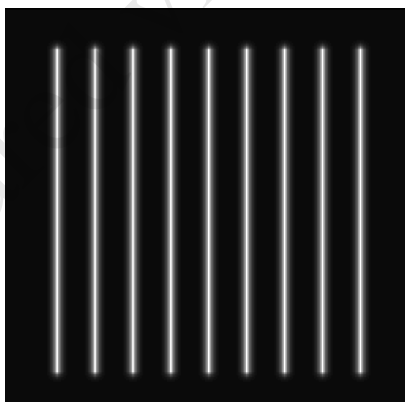   (a).3*3 AMF   (b). 7*7 AMF   (c). 9*9 AMF

After using arithmetic mean filter, the center 5 columns of 3*3 filter and the center 1 column of 7*7 filter will still remain the same color, which has value 240. And pixels outside the bar by (r-1)/2 columns will still have the same color, which has values 10. The rest of the image pixels will have some intermediate values and show as grey. For 9*9 filer, the bar will be blur because in the original image the bar is 7 pixels wide, and here all pixels in the bar will be changed to other values, therefore blur will be obvious.
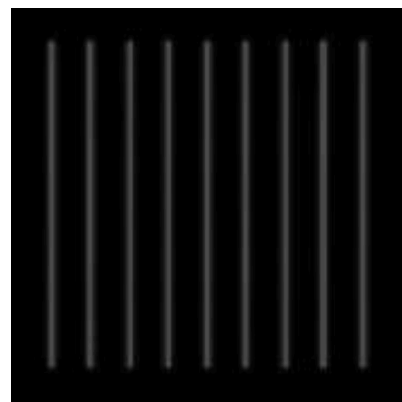
5.2: Geometric mean filter

     (a).3*3 GMF   (b). 7*7 GMF   (c). 9*9 GMF