---median and avg filter  
Both are used to remove the noises within the image, and to image enhansment

---How it works:  
**avg** : a mask is entered and its size is odd size (such as 3\* 3 or 5\* 5) on the matrix  
and then will find the average of the pixel in the area that covered by the mask and then  
Change value of the center pixel to this value.  
-do this operation on all pixel in the image

* The value of the center pixel becomes close to the value of neighbors pixel ,then this leads to more smoothing and more blurring.  
  -it is linear filter : that means The operations performed within the array are linear ,So we can return to the original image before inserting the filter into the image

*median*: a mask is entered and its size is odd size (such as 3\* 3 or 5\* 5) on the matrix  
and then will find the median of the pixel in the area that covered by the mask and then  
Change value of the center pixel to this value.

* it is non linear filter : we can not return to the original image .

out put :  
avg: it is remove the noises from the picture through working of blurring but may lead to hide edges are required within the image where they affect the shape of the image as a whole.  
median:it is remove the noise from the image by making a blurring without affecting on the edges or clarity of the image as a whole

references: introduction to image processing (Rafael Gonzales) (book)