

Activity 7 – Determine output pixel value for average smoothing, median filtering and mode filtering

Task: The figure below shows the pixel values at a particular location in an 8-bit image. Calculate the pixel value at location (i_1, j_1) in the output image for each of the filtering operations:

- (a) average smoothing using 1×3 window
- (b) average smoothing 3×3 window
- (c) median filtering using 3×3 window
- (d) mode filtering using 3×3 window
- (e) k -nearest neighbor filtering where $k = 5$
- (f) sigma filtering

	24	29	128
	20	15	32
	32	45	162