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% Kuwahara filters are a family of filters in which the variance of several
regions in the neighborhood are computed, and the output is the mean of the
region with the lowest variance.
% The simplest version takes a 5 × 5 neighborhood of a given pixel p and
looks at the four overlapping 3 × 3 neighborhoods of which it is a corner.
%The Kuwahara filter is a non-linear, edge-preserving smoothing filter that
divides the region around a pixel into multiple overlapping subregions.
% The filter computes the local mean and variance for each subregion, and
then assigns the value of the pixel to the mean of the subregion that has
the smallest variance. This way,
% it preserves the edges by avoiding blurring across boundaries, while still
reducing noise in homogeneous regions.
%
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```
x=imread('tint1.jpg');
cd = double (x); % Convert image to double
cdm = imfilter(cd, ones(3) / 9, 'symmetric'); % Mean filter
cd2f = imfilter(cd.^2, ones(3) / 9, 'symmetric'); % Squared filter
cdv = cd2f - cdm.^2; % Variance
imshow(cdv)
```

