

**Box Filtering:**

A box filter is a simple average of all the pixels inside a given region. For this assignment, you need to implement a  $7 \times 7$  box filter, which means you need to average 49 pixels.

Note that you can do this in a separable way (first averaging pixels in a  $7 \times 1$  region around the current pixel in the original image, then averaging a  $1 \times 7$  region around the current pixel in filtered image). This requires only 14 texture reads for the filter instead of 49 (a big savings, when you consider that each memory read takes 400-600 cycles).