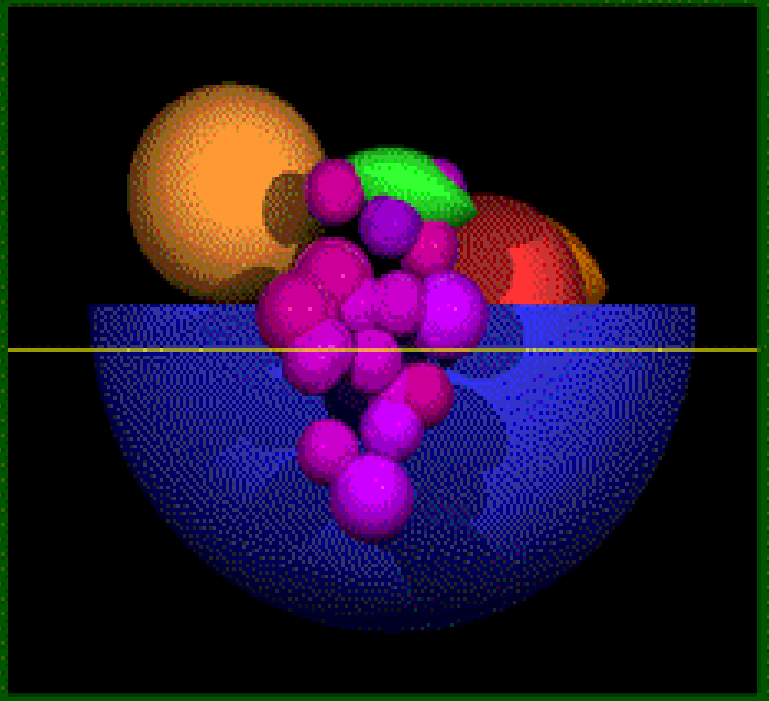
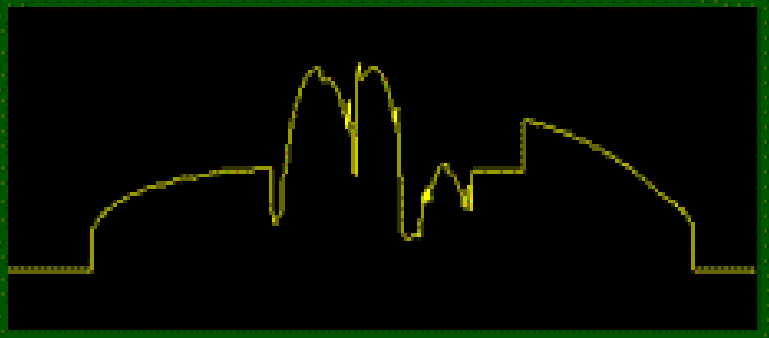
Sampling and Anti-aliasing

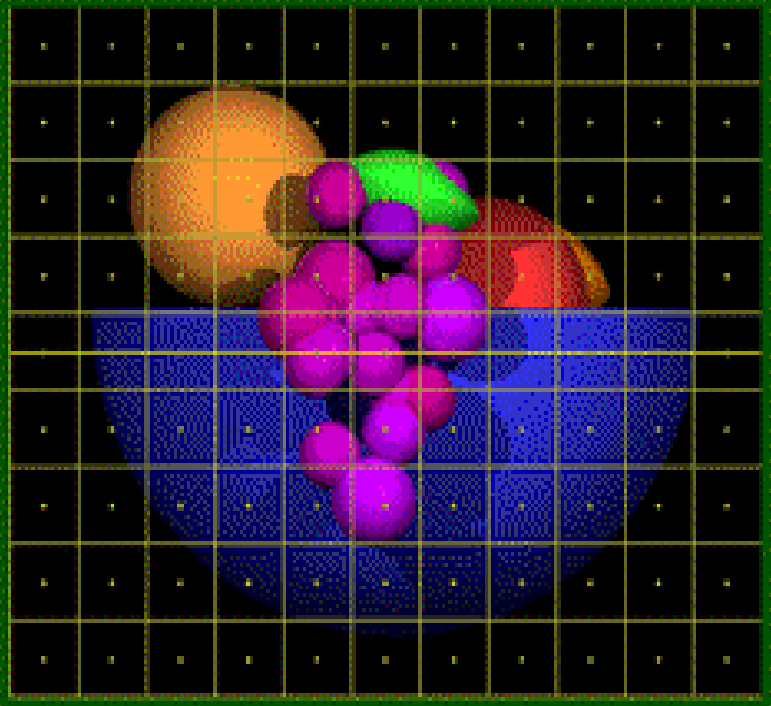
Joel Isaacson



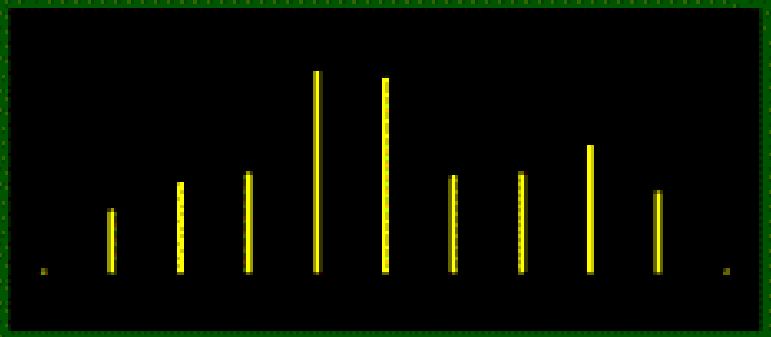
Original scene



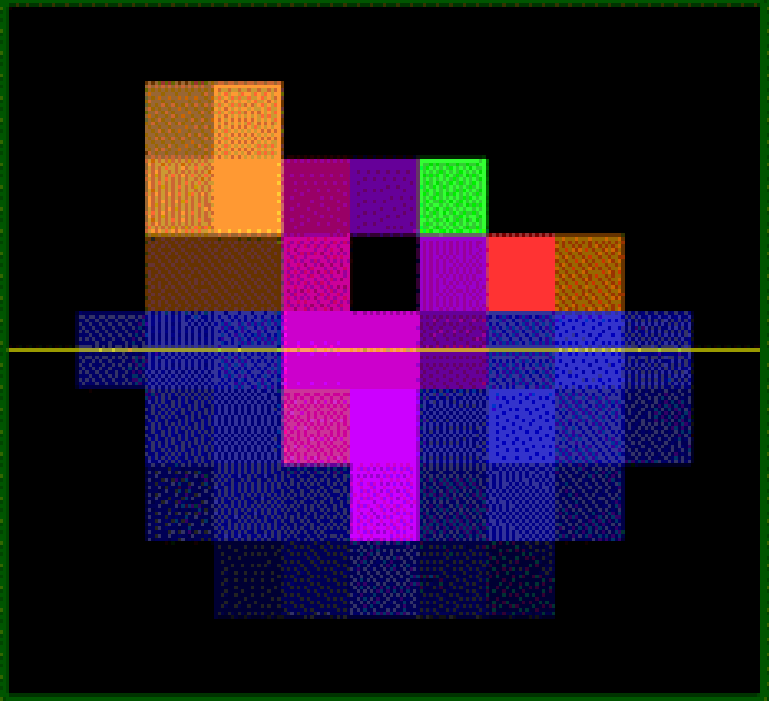
Luminosity signal



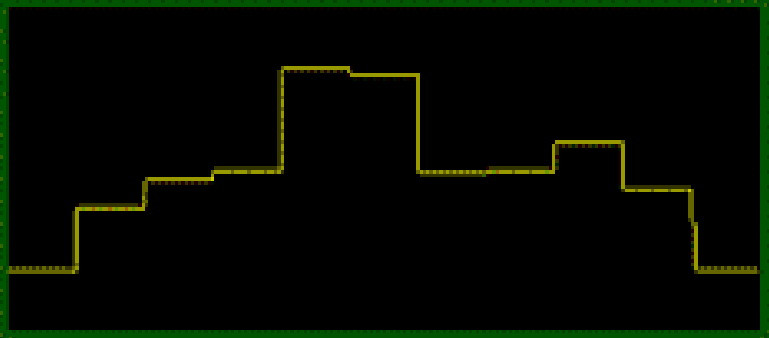
Sampling at pixel centers



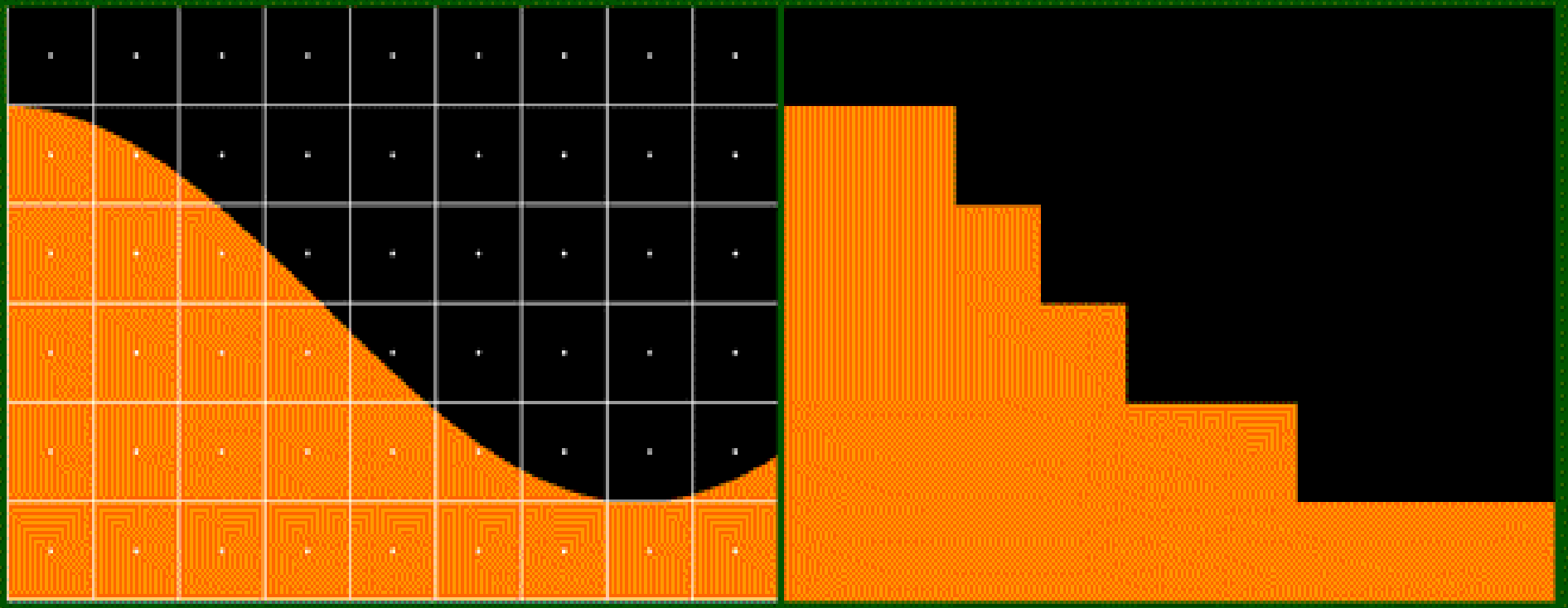
Sampled signal



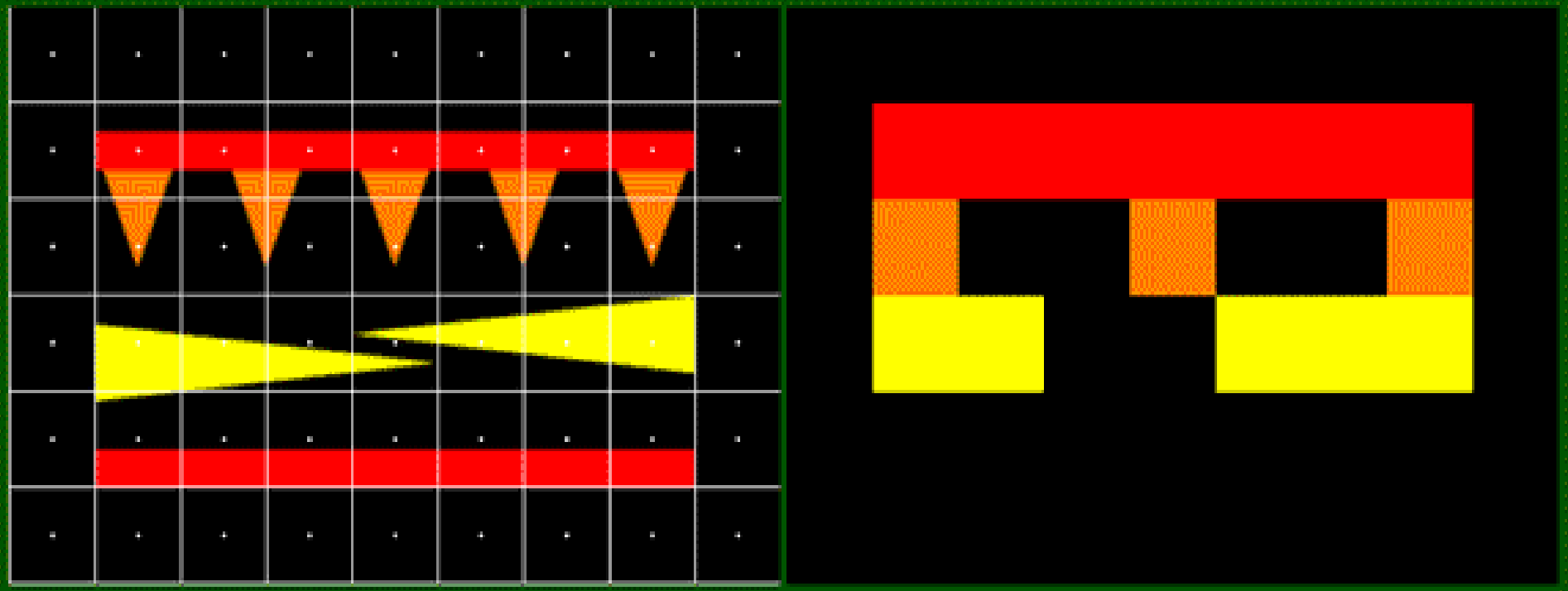
Rendered image



Luminosity signal

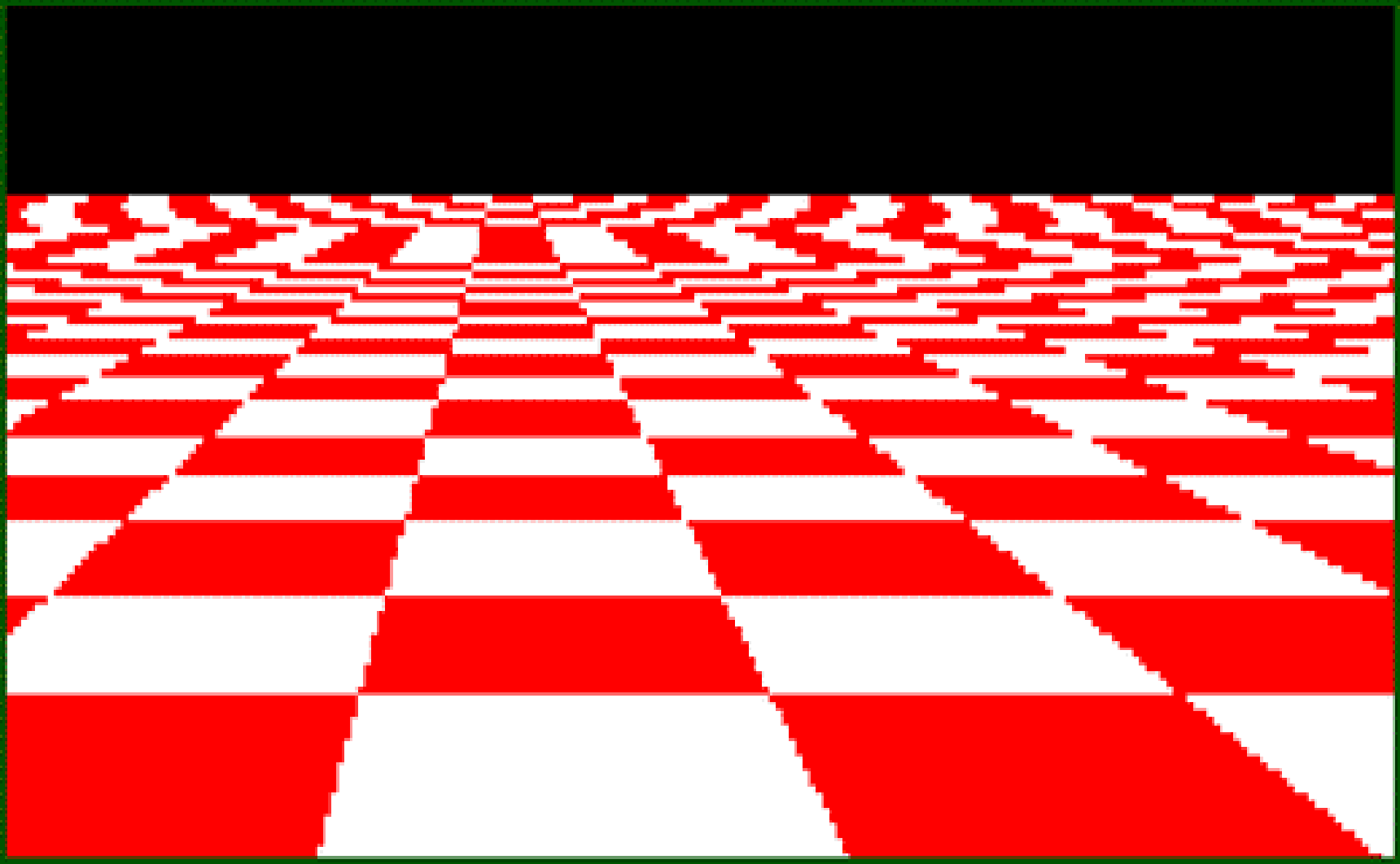


Jagged profiles



Original Rendered

Loss of detail

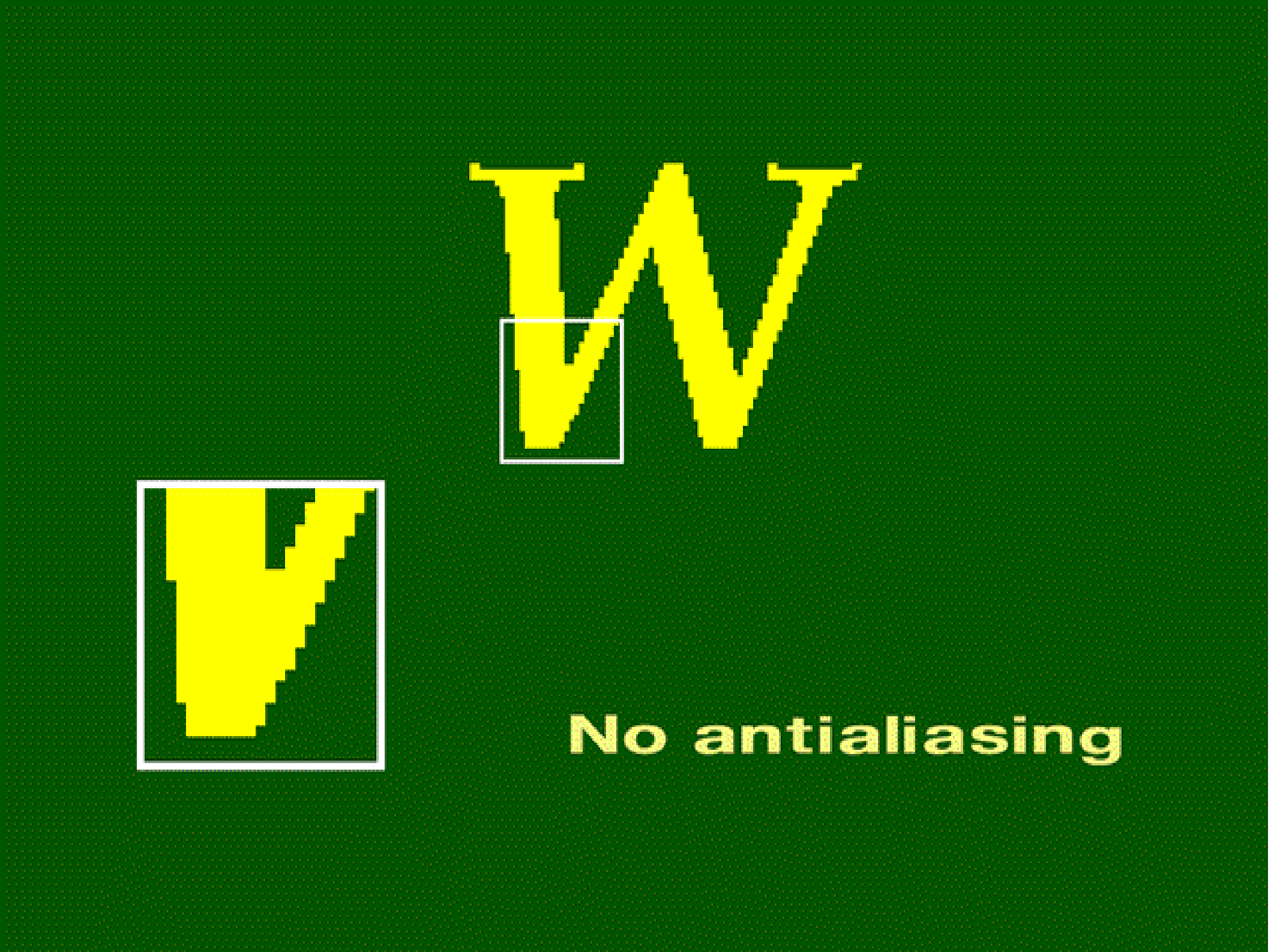


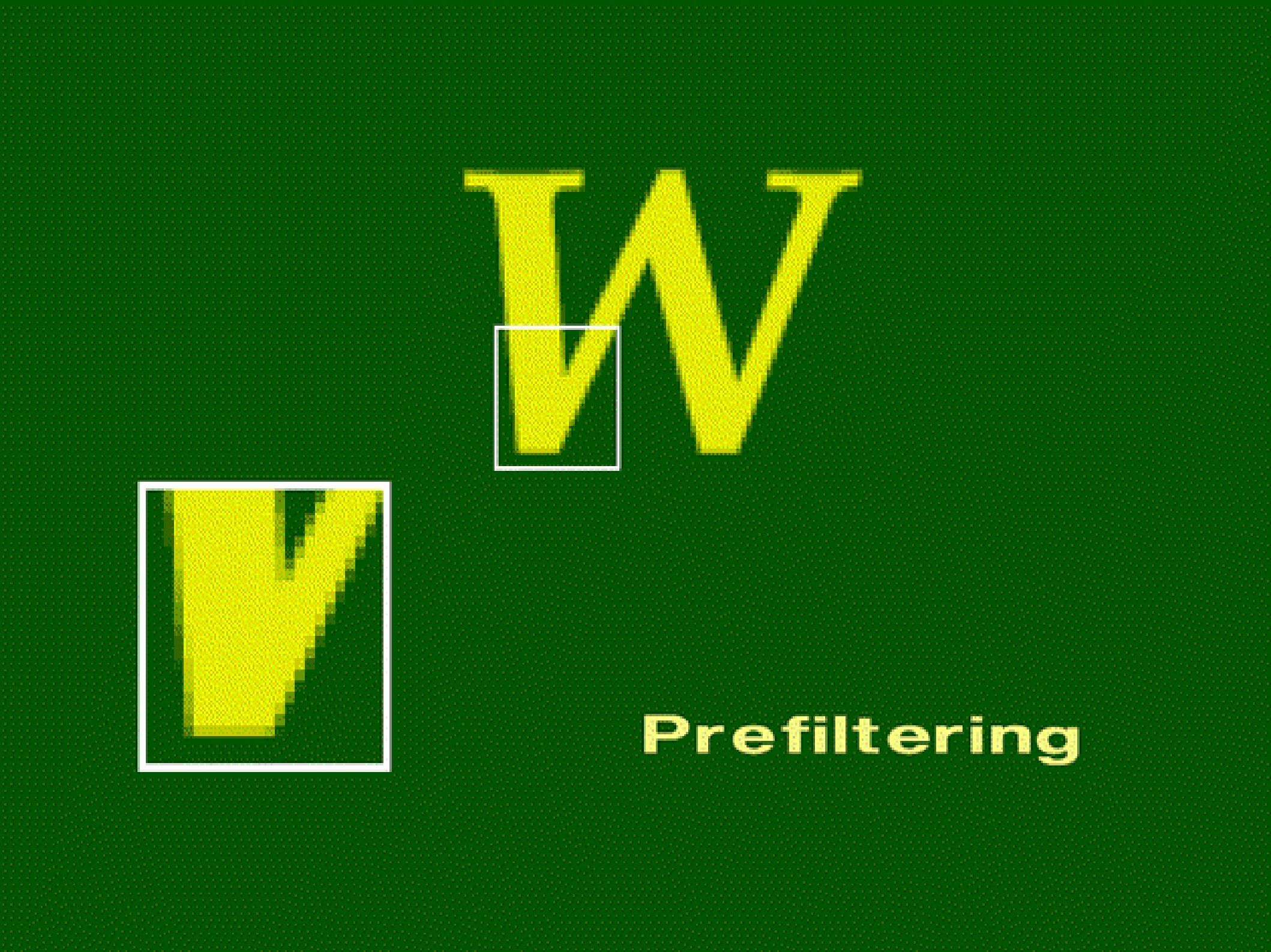
Disintegrating textures

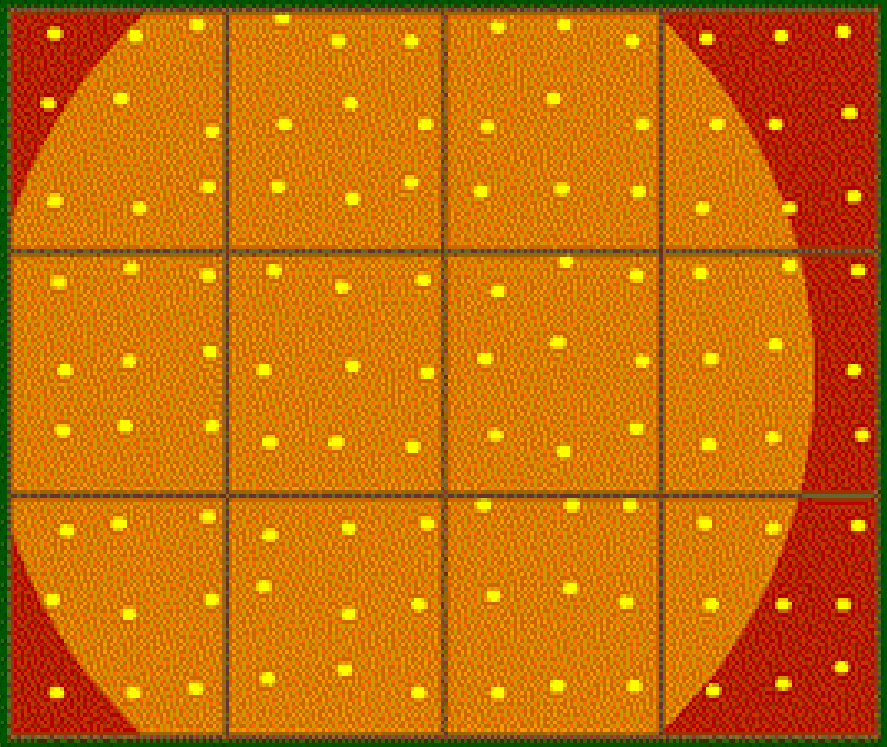
Hello World

Hello World

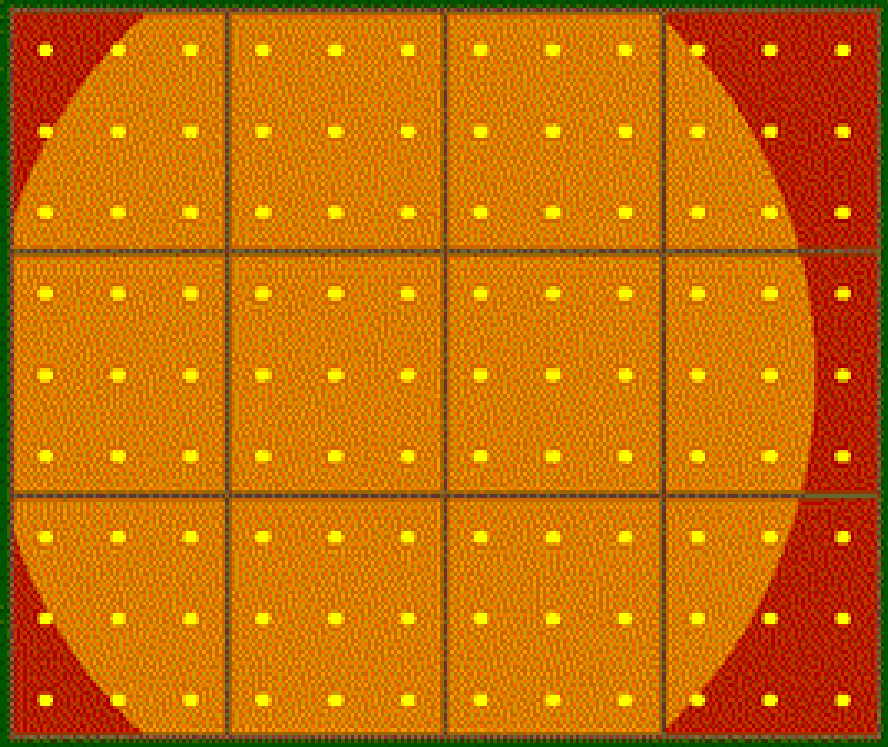
A demonstration


W
V
No antialiasing


Prefiltering

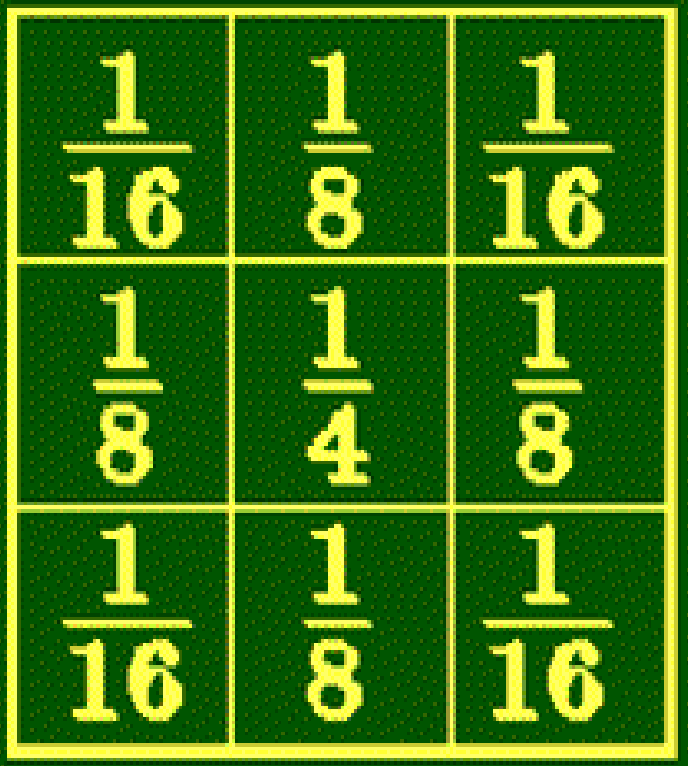


Jittered



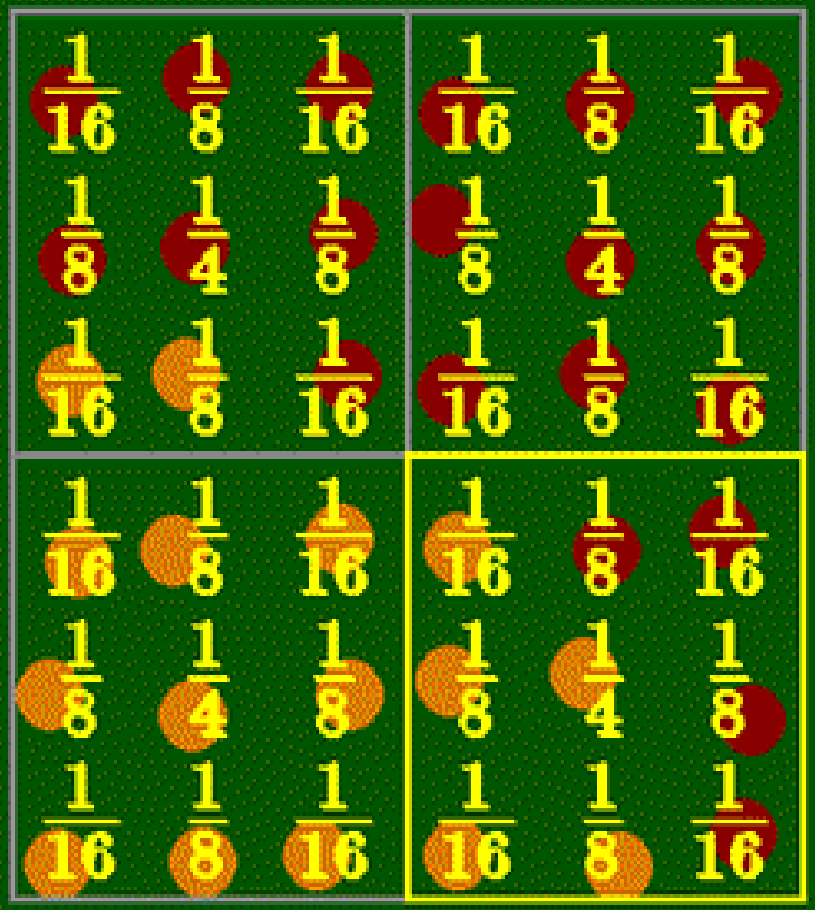
Regular

Taking 9 samples per pixel

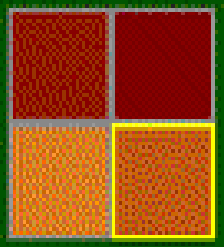


Combines nine samples

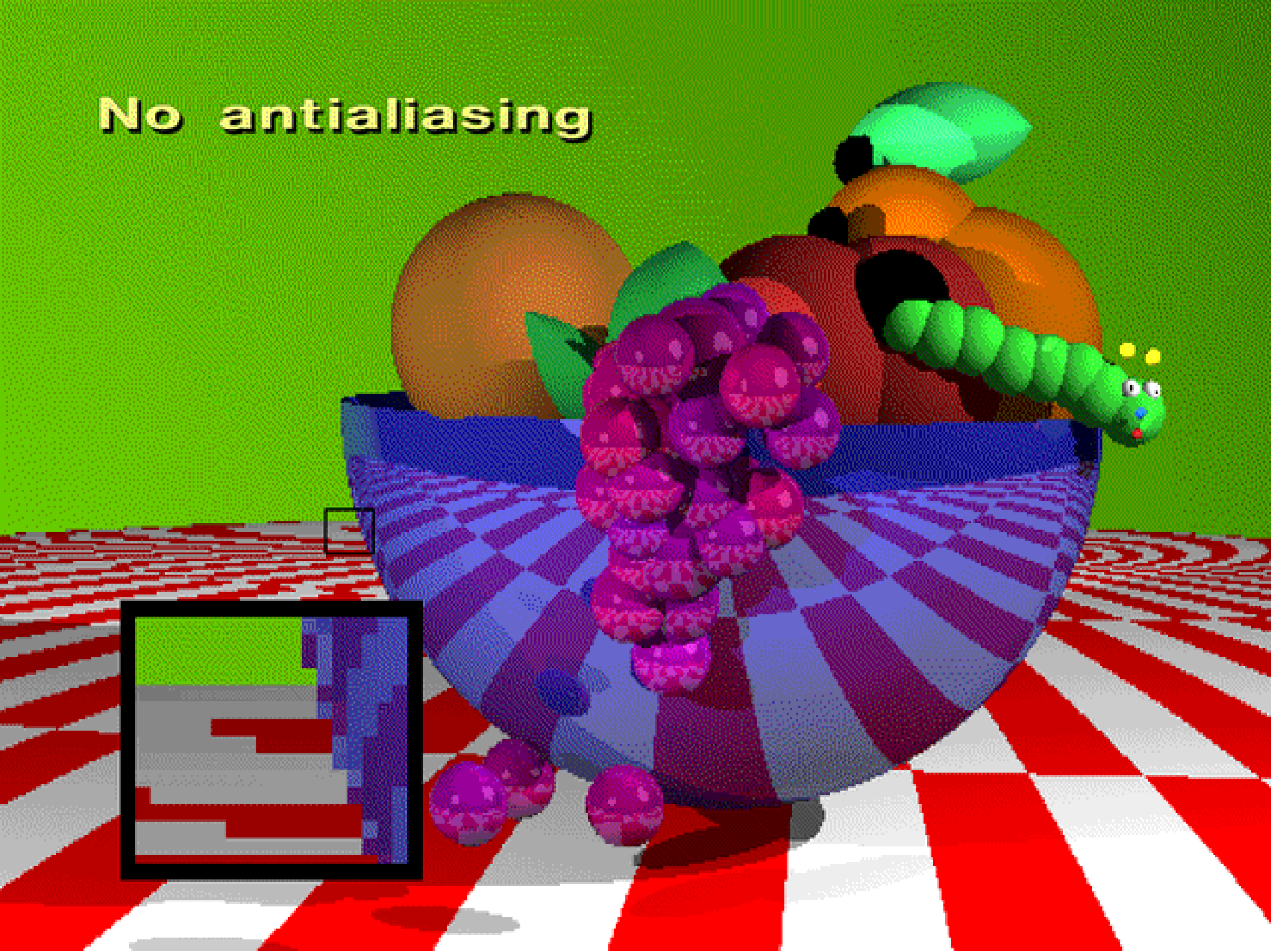
Filters combine samples to find a pixel's color.

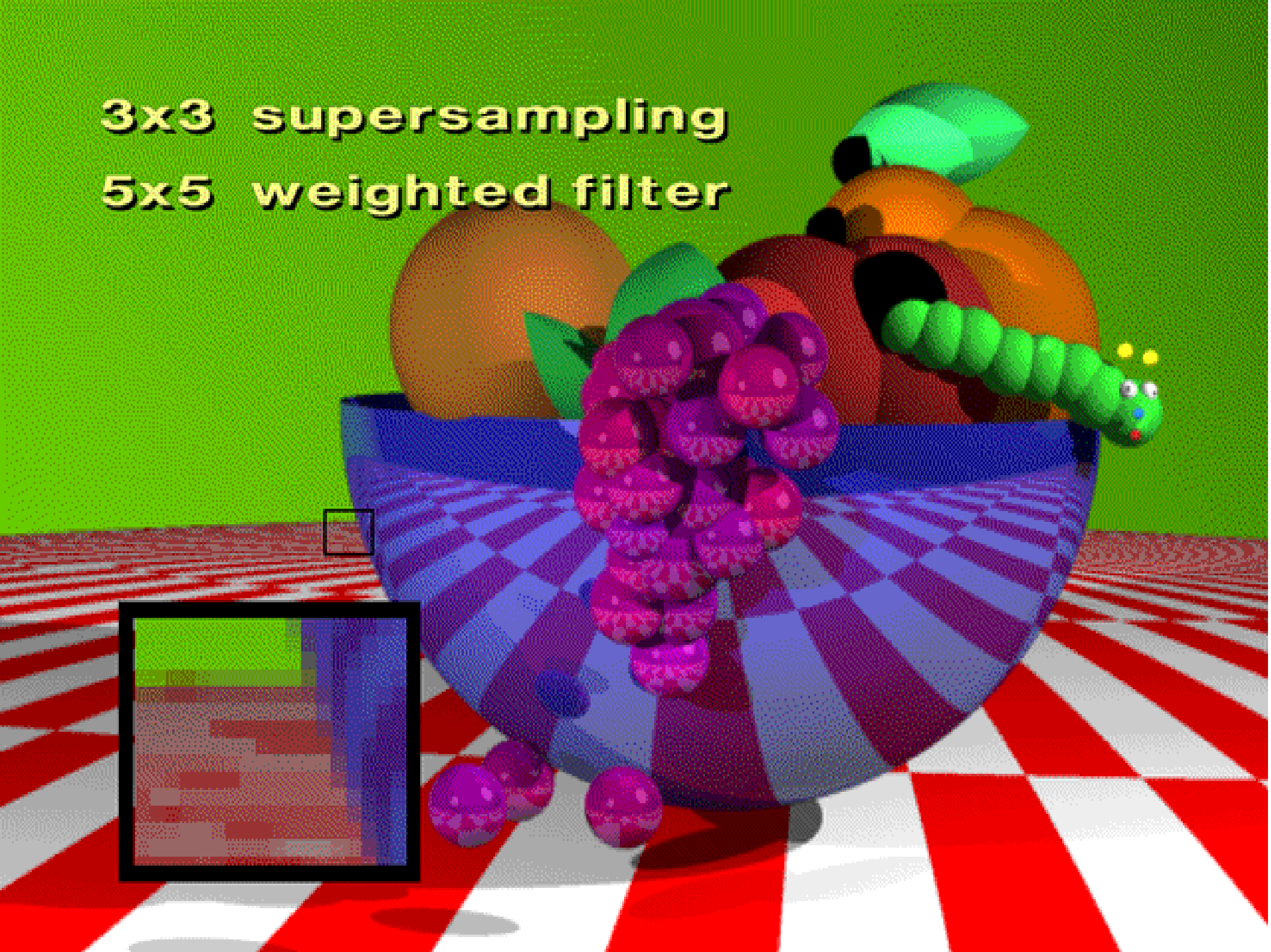


This filter computes a weighted average.



Samples *Pixels*


No antialiasing


3x3 supersampling
5x5 weighted filter