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Selected Problems
1. Create a quantized Gaussian kernel with $\sigma=1.5$.

2. Show that the box filter

$$\frac{1}{9}\begin{bmatrix}1 & 1 & 1 \\1 & 1 & 1 \\1 & 1 & 1 \end{bmatrix}$$

is separable

3. What is the Fourier transform of $f(x)=\sin(k_0x)$ where $k_0$ is a constant?

4. What is the result of convolving a discrete signal $[1 \ 2 \ 0 \ 3 \ 3]$ with the kernel $\frac{1}{5}[1 \ 1 \ 1 \ 1] \ ?$

5. Demonstrate that the 2D Gaussian is a separable function.