

02_homework - Solution

Note: The convolution here uses symmetric/reflective padding.

$$\mathbf{Input} = \begin{bmatrix} 231 & 221 & 214 & 249 \\ 159 & 122 & 215 & 120 \\ 31 & 222 & 35 & 39 \\ 3 & 134 & 107 & 131 \end{bmatrix}, \quad \mathbf{Kernel} = \begin{bmatrix} 1/9 & 0 & 0 \\ 1/3 & 1/9 & 1/3 \\ 0 & 0 & 1/9 \end{bmatrix}$$

$$\begin{bmatrix} 231 & 221 & 214 & 249 \\ 159 & 122 & 215 & 120 \\ 31 & 222 & 35 & 39 \\ 3 & 134 & 107 & 131 \end{bmatrix} * \begin{bmatrix} 1/9 & 0 & 0 \\ 1/3 & 1/9 & 1/3 \\ 0 & 0 & 1/9 \end{bmatrix} = \begin{bmatrix} 216 & 222 & 218 & 219 \\ 139 & 168 & 132 & 153 \\ 54 & 54 & 52 & 67 \\ 64 & 67 & 117 & 112 \end{bmatrix}$$