Image pixels

y

x

Filter mask

w(1, 1)	w(1, 0)	w(1, −1)
w(0, 1)	w(0, 0)	w(0, −1)
w(−1, 1)	w(−1, 0)	w(−1, −1)

Filter rotated 180 degrees

f(x − 1, y − 1)	f(x − 1, y)	f(x − 1, y + 1)
f(x, y − 1)	f(x, y)	f(x, y + 1)
f(x + 1, y − 1)	f(x + 1, y)	f(x + 1, y + 1)

w(−1, −1)	w(−1, 0)	w(−1, 1)
w(0, −1)	w(0, 0)	w(0, 1)
w(1, −1)	w(1, 0)	w(1, 1)

Filter coefficients

Pixels of image under filter