

Original Image

1	2	3	4	5	6	7
8	9	10	11	12	13	14
15	16	17	18	19	20	21
22	23	24	25	26	27	28
29	30	31	32	33	34	35
36	37	38	39	40	41	42
43	44	45	46	47	48	49

Zero padded image

0	0	0	0	0	0	0	0	0
0	1	2	3	4	5	6	7	0
0	8	9	10	11	12	13	14	0
0	15	16	17	18	19	20	21	0
0	22	23	24	25	26	27	28	0
0	29	30	31	32	33	34	35	0
0	36	37	38	39	40	41	42	0
0	43	44	45	46	47	48	49	0
0	0	0	0	0	0	0	0	0

Filter/Kernel

-1	1	-1
-2	3	1
2	-4	0

Flipped Kernel

0	-4	2
1	3	-2
-1	1	-1

P=1

0	0	0	-4	0	2	0	0	0	0	0	0
0	1	1	3	2	-2	3	4	5	6	7	0
0	-1	8	1	9	-1	10	11	12	13	14	0
0	15	16	17	18	19	20	21	22	23	24	0
0	22	23	24	25	26	27	28	29	30	31	0
0	29	30	31	32	33	34	35	36	37	38	0
0	36	37	38	39	40	41	42	43	44	45	0
0	43	44	45	46	47	48	49	0	0	0	0

$$I[0,0] = 1 \times 3 + 2 \times (-2) + 8 \times 1 + 9 \times (-1) = 2$$

S=1

0	0	0	0	-4	0	2	0	0	0	0	0
0	1	1	2	3	3	-2	4	5	6	7	0
0	8	-1	9	1	10	-1	11	12	13	14	0
0	15	16	17	18	19	20	21	22	23	24	0
0	22	23	24	25	26	27	28	29	30	31	0
0	29	30	31	32	33	34	35	36	37	38	0
0	36	37	38	39	40	41	42	43	44	45	0
0	43	44	45	46	47	48	49	0	0	0	0

$$I[0,1] = 1 \times 1 + 2 \times 3 + 3 \times (-2) + 8 \times (-1) + 9 \times 1 + 10 \times (-1) = -8$$

0	0	0	0	0	0	0	0	0	-4	0	2
0	1	2	3	4	5	6	1	7	3	0	-2
0	8	9	10	11	12	13	-1	14	1	0	-1
0	15	16	17	18	19	20	21	22	23	24	0
0	22	23	24	25	26	27	28	29	30	31	0
0	29	30	31	32	33	34	35	36	37	38	0
0	36	37	38	39	40	41	42	43	44	45	0
0	43	44	45	46	47	48	49	0	0	0	0

$$I[0,6] = 6 \times 1 + 7 \times 3 + 13 \times (-1) + 14 \times 1 = 28$$