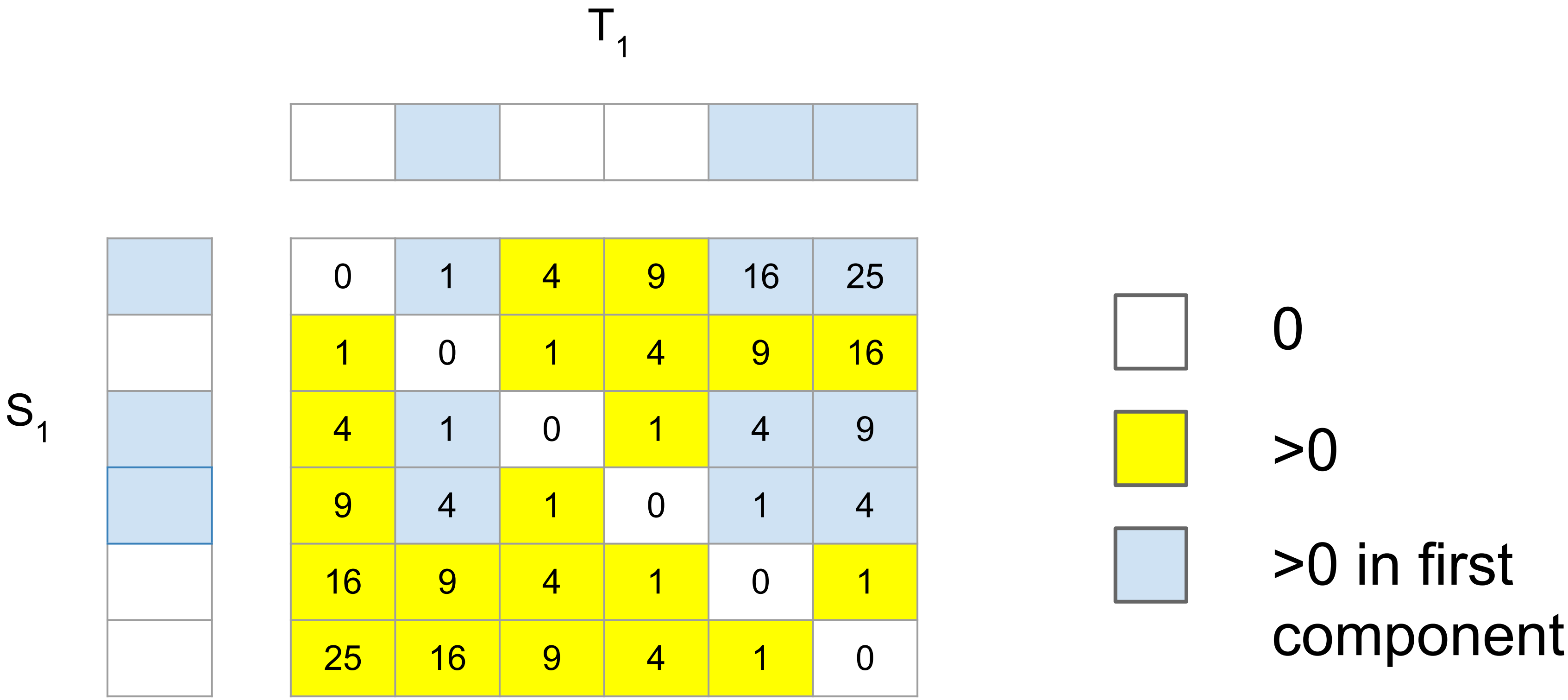
0	1	4	9	16	25
1	0	1	4	9	16
4	1	0	1	4	9
9	4	1	0	1	4
16	9	4	1	0	1
25	16	9	4	1	0

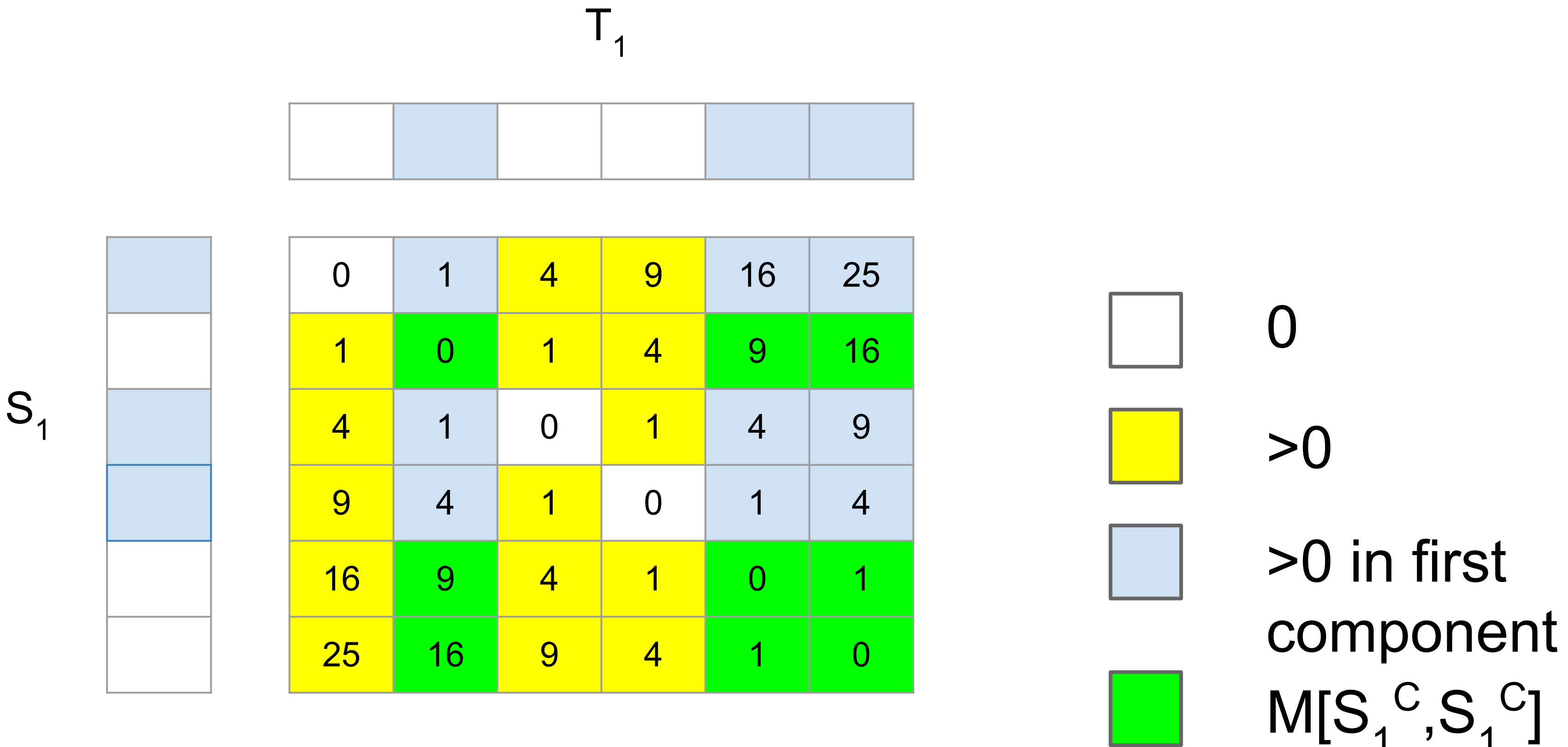
0

>0

$$M[i,j] = (i-j)^2$$



First component has nonzero patterns S_1, T_1



0	1	4	9	16	25
1	0	1	4	9	16
4	1	0	1	4	9
9	4	1	0	1	4
16	9	4	1	0	1
25	16	9	4	1	0

$S_1^C = \{2, 5, 6\}$ contains coordinates not in S_1

T_1

S_1

0	1	4	9	16	25
1	0	1	4	9	16
4	1	0	1	4	9
9	4	1	0	1	4
16	9	4	1	0	1
25	16	9	4	1	0

0	9	16
9	0	1
16	1	0

First component completely 0 in the green area. So $\text{Rank}^+(\text{Original Matrix}) \geq \text{Rank}^+(\text{Green Matrix}) + 1$

Apply this recursively and get $\text{Rank}^+(M) \geq \log_2 n$