

				2	
4	3	0	1	4	2
	5	6	3	2	1
	1	2	0	1	5
	4	1	0	1	7
3	1	0	3	0	5
					1

define $sum[i][j]$ as

total sum within $(0,0)$ to (i,j)

range sum =

$area1 - area2 - area3 + area4$.