Date :
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Method #1 :

(1) 3 8

4 1 2

N log

(i) targ - arr1[i] present in arr2 N log

N log N

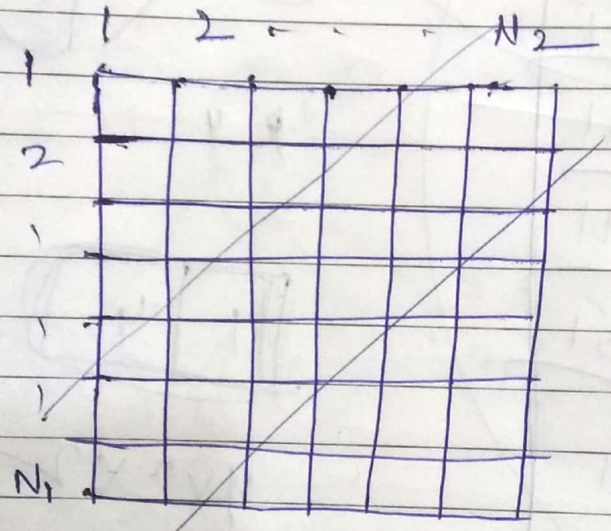
N log N

N log N

Method #2 :-

arr1[N_1] = {1, 8, 17, 25}

arr2[N_2] = {14, 27, 51, 144}



~~take any value from~~

this matrix will contain the ~~sorted~~ sum of each possible pair of these two ~~matrix~~ array.

take any random ~~element~~ element. if less than ~~equal to all~~ of this sum of this target the all element ~~whose~~ rows ≤ i and col ≤ j will be less than the target hence we need not to check them. In similar way

If any sum[i][j] is greater than the target then all sum [x] [y] : x >= i and y >= j will be greater than the target.

Hence in sum matrix there will be a certain region where we can find the target (many time, most likely somewhere near there to top-left bottom right region.

2	4	9	7
6	7	8	1

target = 10

	7	8	1
2	8	9	10	7
4				
3				
7				

row = 6, col = 7

	1	6	7	8
2	3	8	9	10
3	4	9	10	11
4	5	10	11	12
7	8	13	14	15

size

2 4

size

	2	4	7	9	15	17
-3	-1	1	4	6	12	14
8	7	9	12	14	20	22
8	10	12	15	17	23	25
10	12	14	17	19	25	27
14	16	18	21	25	29	32
21	23	25	28	30	36	38

target = 12

creating regions

	1	1	1	2
1	2	2	2	2
1	2	2	2	2
1	2	2	2	2
1	2	2	2	2
1	2	2	2	2

size

9 11

8

10

8 17 19

19

100 21