

74. Search a 2D Matrix

- Each row sorted in non-decreasing order
- First integer of each row > integer of previous row
- Search for a target number

0 1 2 3 row = [0..2]
 col = [0..3]
 0 1 3 5 7
 1 10 11 16 20
 2 23 30 34 60

(A) 7 20 60
 l m r m >= t 20 >= 10 r = m
 l m r m < t 7 < 10 l = m + 1

10 11 16 20
 l m r m > t r = m - 1

(B) 7 20 60
 l m r m < t 20 < 61 l = m + 1

l m r m < t 60 < 61 l = m + 1

r l l > r break

(C) Bisect(Rightmost col, target) = row of target if exists

m <= t r = m

m > t l = m + 1

l = r 

l > r ONE

(1) Binary Search the row for target m == t return m

t > m l = m + 1

t < m r = m - 1