(2) GFG - Search in a Sorted Matrix

Eg:-

I/P:

10	20	30	40
15	25	35	45
27	29	37	48

$x = 29$

O/P: True

Eg:- I/P:

10	20
30	40
50	60

$x = 55$

O/P: false

Naive :- iterate through each element & compare it with x

TC => O(R×C)

My thought :- (Efficient)

→ Start from top right corner

→ if x is same than return true

→ if x is smaller then move left

→ if x is greater then move right

→ further => if top left is greater or bottom right is smaller than x => return false.

Pseudo code :->

```
int i=0, j=c-1
while (i<r && j>=0)
{
    if (mat[i][j] == x) Return True;
    else if (mat[i][j] > x)  j--;
    else  i++;
}
return false;
```