

# Lecture 31: A Couple of Problems

# Saddleback Search [Gries]

**Problem:** Given an  $M \times N$  array,  $A$ , of integers in which each row and each column is in non-descending order, find a value,  $x$ , in the array, given that  $x$  is known to appear in  $A$ .

1	3	3	7	11	15
5	10	11	15	15	20
9	12	16	19	24	28
14	14	20	23	28	33
14	18	25	26	29	34

I'd like a solution with this form:

```
def saddle_search(A, x):
    M, N = len(A), len(A[0])
    initialize variables
    while True:
        if _____: _____
        elif _____: _____
        ...
        else: break
    return ____, _____ # The row and column
```