

# ROW WITH MAXIMUM NUMBER OF ONES

★ In this problem, we are given a 2D array of only 0's and 1's where each row is sorted. Our job is to find and return the row which contains the most number of ones.

Brute force solution is to just count the number of ones in each row.

Optimal solution is to find the lower bound of one in each row as in an array containing only 0's and 1's,  $N - K$  is basically the number of ones in that row.

Pseudocode :

```
mostNumberOfOnes(arr, M, N) {  
    maxOnes = 0  
    for (i = 0 → M-1) {  
        low = 0  
        high = N  
        ans = -1  
        while (low ≤ high) {  
            mid = (low + high) / 2  
            if (arr[i][mid] == 1) {  
                ans = mid  
            }  
        }  
    }  
}
```

```
        high = mid - 1  
    } else {  
        low = mid + 1  
    }
```

```
    }  
    if (ans == -1) {
```

```
        ans = 0  
    } else {
```

```
        ans = N - ans  
    }
```

```
    maxOnes = max(maxOnes, ans)  
}
```

```
return maxOnes  
}
```