DRY RUN

arr = (9, 6, 4, 1, 8, 21) indices 0 1 2 3 4 5

arr[5] = 21

mx = arr[0] = 9 = 21

Logic

pseudo code

```
for(int i=1; i<n; i++) {
    if(arr[i] > mx) replace
        mx = arr[i]
}
return mx;
```

9 → 21

(min)

arr = | 2 | 8 | 9 | 6 | 1 | 7 |

1 2 3 4 5 6 → pos

0 1 2 3 4 5 → ind

elements (int) 4 bytes

[2000] 2004 2008 2020

XX

arr → 2000 [*arr] = 2

Array ≡ Array Pointer

[arr+0]

2×2 Matrix :→

	c0	c1
r0	2 (0,0)	3 (0,1)
r1	4 (1,0)	5 (1,1)

r c

0 1

arr[2][2] row col

* Sparse Matrix :

r × c = 3 × 3 = 9

r×c / 2 = 4

	0	1	2
0	0 (0,0)	0	2
1	0 (1,0)	0	9
2	0 (2,0)	0	1

[3×3]

NZ Nos = 4

Zeros = 5

More 0's than NZ

⇒ Sparse or not sparse

countZero = 5 5 0's

if countZero > (r×c / 2)

for j = 0, j<3, j++ Sparse

i = 0, i<3, i++ not Sparse.

cs = arr[i][j]