Input: an array B[1, n] of n bits
Output: B[1] or B[2] or ... or B[n]
Model: ERCW, W-PRAM

PEs: O(n) Time: O(1)

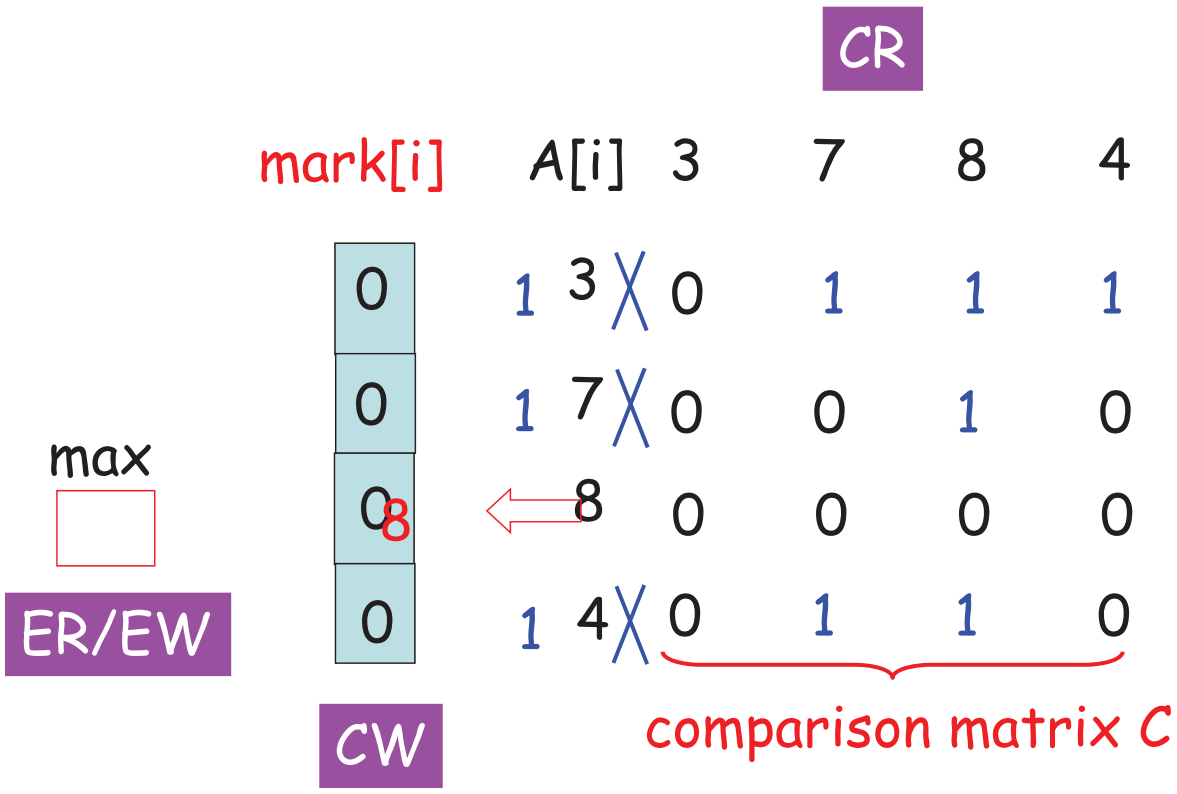
mark = 0 (a variable in W-PRAM) (P_1 performs)

EW

for $1 \le i \le n$ **parado**
  if B[i] = 1 **then** mark = 1 (P_i performs)

ER CW

return mark



Input: an array A[1, n] of n numbers
Output: maximum of A
Model: CRCW, W-PRAM

PEs: $O(n^2)$ Time: $O(1)$

```
for 1 ≤ i ≤ n parado
begin
  mark[i] = 0                                   (P_{i,1} performs)
  for 1 ≤ j ≤ n parado
    if A[j] > A[i] then mark[i] = 1             (P_{i,j} performs)
  if mark[i] = 0 then max = A[i]                (P_{i,1} performs)
end
```


Input: an array A[1, n] of n numbers
Output: maximum of A
Model: CRCW PRAM (dynamic priority)

PEs: $O(n)$ Time: $O(1)$

```
for 1 ≤ i ≤ n parado
begin
   pri[i] = A[i]
   max = A[i]
end
```

P_i performs

CW

sequential

goal: $O(n^k)$ polynomial

perfect: $O(n)$ (linear)

parallel

goal: $O(\lg^k n)$ poly-logrithmic

perfect: $O(\lg n)$

better than $O(\lg n)$???!!!