

Specification :

Input :  $N \in \mathbb{N}$

$M \in \mathbb{N}$

$\text{minPoints} : \text{Array}(1..M \in \mathbb{N})$

$\text{Points} : \text{Array}((1..M) \cdot (1..N) \in \mathbb{N})$

Output :  $\text{cnt} \in \mathbb{N}$

$\text{winners} : \text{Array}(1..\text{cnt} \in \mathbb{N})$

Precondition :  $1 \leq N \leq 100$

$1 \leq M \leq 100$

$\forall j (1 \leq j \leq M) : 1 \leq \text{minPoints}[j] \leq 100$

$\forall j (1 \leq j \leq M) \text{ and } \forall i (1 \leq i \leq N) : \text{Points}[j][i] \leq 100$

Post condition :

1)  $\text{cnt} = \sum_{j=1}^N 1$

$\forall j (1 \leq j \leq N) \text{ and } \forall i (1 \leq i \leq M) : \text{Points}[i][j] \geq \text{minPoints}[i]$   
and

$\forall k (1 \leq k \leq N) \text{ and } \forall i (1 \leq i \leq M) : \text{Points}[i][k] \geq \text{minPoints}[i] \rightarrow$

$\rightarrow \sum_{i=1}^M \text{Points}[i][k] \leq \sum_{i=1}^M \text{Points}[i][j]$

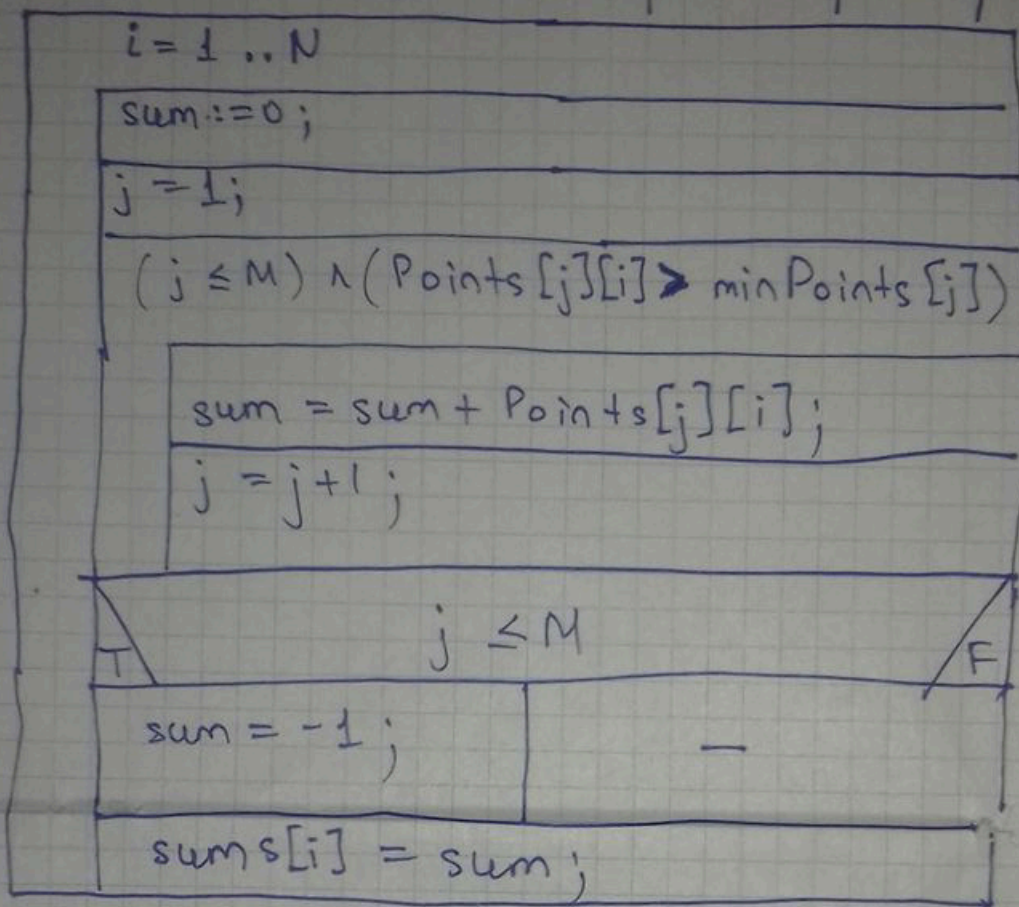
2)  $\forall i (1 \leq i \leq M) \text{ and } \forall j (1 \leq j \leq \text{cnt}) : \text{Points}[i][\text{winners}[j]] \geq \text{minPoints}[i]$   
and

$\forall i (1 \leq i \leq M) \text{ and } \forall k (1 \leq k \leq N) : \text{if } \text{Points}[i][k] \geq \text{minPoints}[i] \rightarrow$

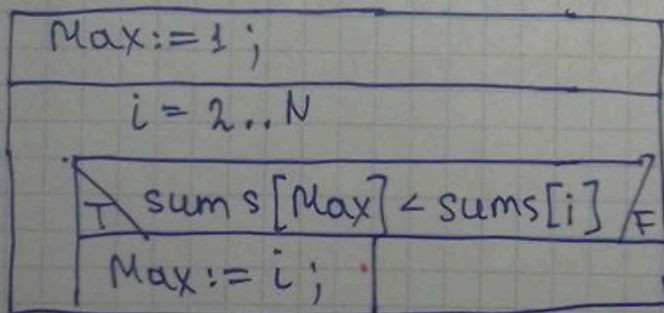
$\rightarrow \sum_{i=1}^M \text{Points}[i][k] \leq \sum_{i=1}^M \text{Points}[i][\text{winners}[j]]$

3) winners is a set.

1) If a participant  $i$  in combination rank list, we add all points participant  $i$ , if participant  $i$  is not in combination rank list sum of points participant  $i$  is  $-1$ .



2) We pick maximum sum from sums array. ~~And~~



3) We select index of participants, who have Maximum sum. And count them.

