Recall the empty table problem from HW 1 and HW 2. In HW 2 you examined the question of how large a value can be put into a cell \((i, j)\). Now we are concerned with the opposite question. How small a value can be put into a cell \((i, j)\), over all legal solutions to the table?

I claim that the answer is \(\max[0, R(i) + C(j) - T]\), where \(T = \sum_{i=1}^{n} R(i)\).

Prove or disprove this claim.