Due Wednesday, 27 January:

In addition, do the following problem:

A. Suppose A and B are $n \times n$ matrices such that

$$\sum_{i=1}^{n} a_{ij} = 1 \text{ for each } j \quad \textit{and} \quad \sum_{i=1}^{n} b_{ij} = 1 \text{ for each } j$$

Show that, for $C = AB$, we also have

$$\sum_{i=1}^{n} c_{ij} = 1 \text{ for each } j$$