

**Due Thursday, 27 January:**

Handout 2, page 7: 1, 2, 3, 4, 5

In addition, do the following problem:

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

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

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

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