Problem Set 9

Math 20

Due April 12, 2006

Reading

Read Sections 6.6–6.8 of Kolman and Hill. There are lots of examples of vector spaces used in the text and examples. Here is the order in which we care about them:

1. R^n and its subspaces

2. The polynomial spaces P_n, P, and their subspaces

3. The matrix spaces M_{mn}

∞. Bit-vector spaces B^n.

Practice Problems

If you are looking for practice of the basic techniques of the sections, the following problems might find useful. Try as many as you want until you feel comfortable doing them.

- Section 6.6: 1–35 odd

- Section 6.7: 1–25 odd

- Section 6.8: 1–21 odd, T.3, T.5

Problems to Hand in

- Section 6.6: 4, 6, 14, 22, 24

- Section 6.7: 2, 4, 6, 14

- Section 6.8: 2, 6, 12, 14, 20, T.6

Division

- Part I: The first eight problems listed above

- Par II: The last seven problems listed above