

MATH 4500 HOMEWORK ASSIGNMENT #3  
DUE WEEK OF FEBRUARY 15

A path from  $x \in \mathbb{R}^n$  to  $y \in \mathbb{R}^n$  is a continuous map  $\gamma : [0, 1] \longrightarrow \mathbb{R}^n$  such that  $\gamma(0) = x$  and  $\gamma(1) = y$ . In the case of a matrix group  $G \subset GL(n, \mathbb{R})$  a path is such a map satisfying  $\gamma(t) \in G$  for all  $0 \leq t \leq 1$ .

**Exercise.** Do problems 3.2.1 to 3.2.3 in Stillwell page 54.