

**University of Colorado**  
**Department of Mathematics**  
**Problem of the Month**  
**March 2011**

Soldiers are lined up along a line in the east-west direction, each of them facing north. When the officer commands “right turn” they should all turn towards the east. Since they are at the very beginning of their military career, some of them get the order wrong and turn towards the west. Each soldier who now faces his neighbor concludes that he has made a mistake (disregarding the possibility that his neighbor made the mistake), and he makes a 180-degree turn within 1 second. The process continues in the same way: every soldier who faces a neighbor makes a 180-degree turn within 1 second. Prove that the process will end in a finite number of steps.