

# EECS498-003 - Lab 4

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# Administrivia

- ▶ Problem Set 1 is due September 19 (TONIGHT!)
- ▶ Problem Set 2 releases on September 20, due October 1
- ▶ Midterm set for October 23, 6-8pm, DOW1014
- ▶ Today: Crawler exercise, then last minute Office Hours for PS1

# Crawler Practice

Crawler robot has coordinates  $(x, y) \in \mathbb{Z}^2$ , and a facing direction North/East/South/West.

- ▶ Robot starts at  $(0, 4)$  facing north.
- ▶ Robot can only move 1 unit in facing direction.
- ▶ Robot can turn north when  $y \geq 0$ , south when  $y \leq 0$ , west when  $y \geq 4$ , east when  $y \leq -4$ .
- ▶ When robot  $|x| \geq 10$ , robot can warp to  $(-x, -y)$  and faces south when  $-y \leq 0$ , north when  $-y > 0$ .
- ▶ Prove: Robot never is inside or on the radius 3 dangerous circle at the origin.
- ▶ Starter code at `lab04.dfy` on the course GitHub