

### **Attraction**

This problem asks you explore a deceptively simple dynamical system and discover some of its surprising properties. Consider the motion of four particles A, B, C, and D in the plane. The particles start at four random points in the plane. Each particle moves with unit speed. A moves towards B, B towards C, C towards D and D towards A. What happens (qualitatively), and how (quantitatively, in terms of, say, angles and log distances)?

The simplest case is when the starting positions form a square. Actually, the game with three particles, but with various starting positions, is already quite interesting. Other generalizations would be to play the game on a sphere or in higher-dimensional spaces.