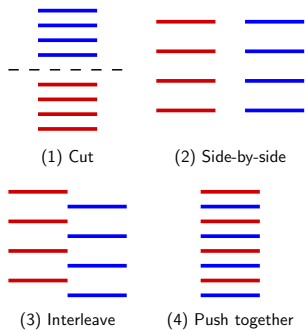
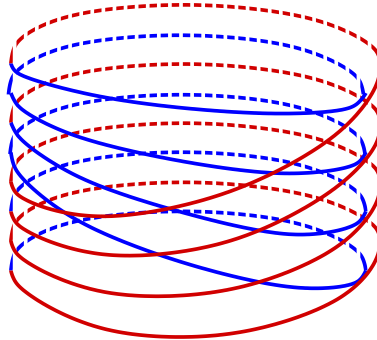


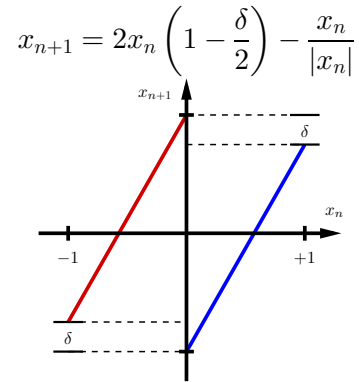
Shuffling Cards



Shuffling a deck of 8 cards.



Chaotic “attractor.”



Iterative map.

- Cannot be modeled in a 2D Euclidean phase space (Poincaré-Bendixson theorem).
- Chaotic iterative map for $0 < \delta < 1$.
- Limit cycles for $\delta > 1$.
- Each iteration “stretches” by $(2 - \delta)$.