A town recently added a new high speed internet service provider so that it now has three ISPs: A, C, and V Each ISP runs promotions to entice customers to switch to their service, and the effects over the last year has been:

15% of the A customers switch to C and 10% switch to V
15% of the C customers switch to A and 5% switch to V
5% of the V customers switch to A and 10% switch to C

Assume that these trends continue.

1. If A currently has 50% of the customers, C has 30% and V has 20%, what will the distribution of customers be after 1 year? 3 years? 10 years? 20 years?

2. How does the answer change if currently A has 10%, C has 20% and V has 70%?

3. What if V currently has *all* the customers?

4. What will the impact be to the scenario in #1 if A improves its retention so that 10% of its customers switch to C and 5% switch to V?

- Trees in a forest can be classified into four age categories:
    Saplings, Young, Mid, Mature
    - If you can determine the probability of each group living or dying over 5 year period by observation, can predict long term distribution
    - If plant new forest, $x_0 = (1, 0, 0, 0)$ what is distribution of trees in 30 years?
    - Useful for planning renewable lumber harvesting

- Historically, parents' income is good predictor of child's income as an adult, with some upward or downward movement.
    If trends continue, can predict distribution of incomes
    Can also predict impact of policy change impacts trends

- Google's page rank algorithm is essentially a Markov Chain model based on the graph that represents links on the web

- What are the best properties to own in Monopoly?
  cf. Abbott & Richey, `https://doi.org/10.2307/2687519`