

Linear Algebra

Systems of Equations

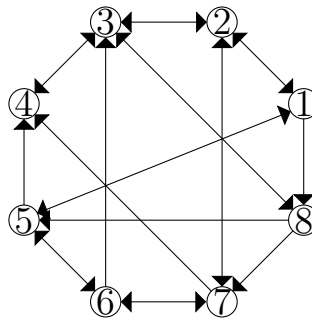
1. Today:

- (a) Driving problems for the semester. Why study linear algebra?
- (b) Warm-up problem.
- (c) Systems of equations (1.1, 1.2)
- (d) Syllabus

2. Where is today's material used?

- (a) Electric circuits (see book)
- (b) Physics
- (c) Economics
- (d) Routing planes or phone calls
- (e) Fitting curves to data
- (f) Pretty much everywhere.

How do we rank websites?



The Internet

Which website is the most important?

Where do they go?

The table shows the likelihood of changing from one fast-food restaurant to another.

From/to	Wendy's	McDonald's	Burger King
Wendy's	0.70	0.15	0.15
McDonald's	0.15	0.80	0.05
Burger King	0.10	0.02	0.88

Suppose that currently 20% of people go to Wendy's, 35% to McDonald's, and 45% to Burger King. What proportion of people end up at each restaurant in the long run?

3. **Warm-up:** Three regular Oreos have 160 calories. Two double-Stuf Oreos have 140 calories. How many calories are in the cookie part, and how many are in the Stuf part?
4. Next time:
 - (a) Sections 1.2, 1.3