Overview of CMSS

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COMPASS Seminar, 12 September 2014

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- ▶ We aim to create a community of researchers in this interdisciplinary field. In February 2014 we held a small, more focused workshop at UoA.

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- ▶ Neda Sakhaee (PhD student, from Auckland) to study validation of social network models.

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- ▶ A lot of other mathematical, statistical, computational knowledge (in particular Slinko, Wilson, Pritchard).

Example: election simulation

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- ▶ Methodology is mostly based on numerical simulations and statistical estimation.

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- ▶ Uses theorems, simulation.

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- ▶ Part of a much larger project to understand diffusion models in social networks.

What the subjects saw

Question

1 out of 5

Remaining time to make your choice   14

This is iteration 2.
The percentages of your feeds who chose answers 1), 2) or 3) were 0%, 0%, 100%, respectively. Your previous answer to this question was 2. (Note: "0" means you did not answer).

Question

If it takes 5 machines 5 minutes to make 5 widgets, how long will it take 100 machines to make 100 widgets?

Options

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- ▶ Epidemic models have been widely used for disease, but they are less relevant for behaviour. Threshold models (introduced by Granovetter) seem better adapted to "complex contagions".
- ▶ This is a huge topic with a lot of theoretical and practical interest even after over a decade of intense work.
- ▶ Questions: how to compare/validate such models; understand basic properties of these models.

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- Else if too few neighbours are red or green, switch to yellow.
- The version of this model without "yellow" as an allowed state has been used in many contexts, in particular to model adoption of new products, (un)healthy behaviours, etc.
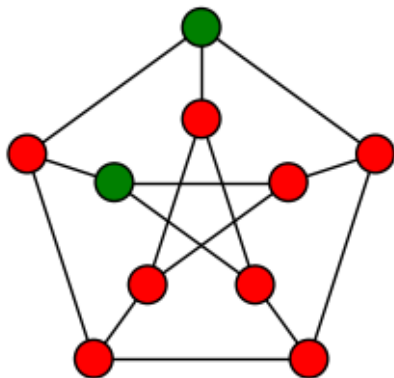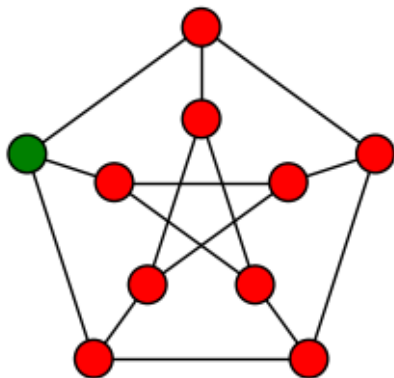
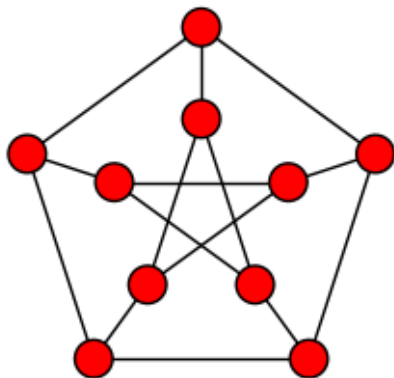# Example: Petersen, step 0
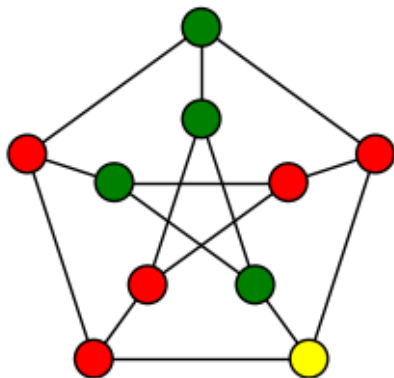
Example: Petersen, step 1
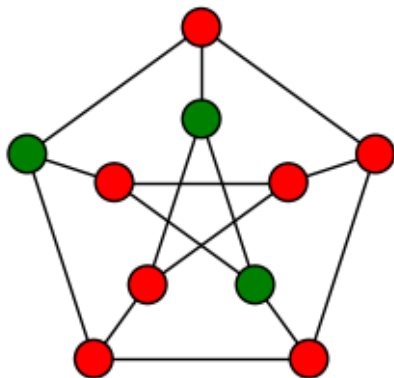
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Example: Petersen, step 4

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