Three graph theory problems

Math 40210, Fall 2012

September 25, 2012

Three problems

1. **Vertices**: radio towers

   Edges: pairs of towers close enough to interfere with each other

   Task: assign broadcast frequencies to towers, interfering towers use different frequencies, *using as few frequencies as possible*

2. **Vertices**: meetings to be scheduled today in the office

   Edges: pairs of meetings that have participant in common

   Task: assign time slots to meetings, conflicting meetings use different time slots, *using as few time slot as possible*

3. **Vertices**: animals being transported

   Edges: pairs of animals, one of whom eats the other

   Task: assign cages to animals, belligerent pairs going into different cages, *using as few cages as possible*