Problem 1

• You have a map showing communication links in a network.
• Each link has a known bandwidth.
• Find a route from A to B that maximizes the minimum bandwidth along the path, using each link at most once.
Problem 2

• You have a map showing rooms and connecting passages in a castle.
• Each room contains some known amount of gold.
• Find a route from A to B that maximizes the amount of gold you collect, visiting each room at most once.
Problem 3

- You have a map showing all upcoming inter-city flights within North America.
- Each flight has a departure time and an arrival time.
- Find a route from A to B that minimizes the total time from now until arrival.
Today

- Boring details
- Outline
- Actual content!
Administrivia:
Me: Robin Dawes, dawes@cs.queensu.ca
Marking scheme:

5 tests: 4 @ 22.5%

1 @ 10%

- no midterm, no final
- no make-up tests for missed tests
- tests will be held in class on ...
- first test will be on ...

Course URL: http:sites.cs.queensu.ca/courses/cisc365
Course Outline:

The calendar says …

*Principles of design, analysis and implementation of efficient algorithms.* Case studies from a variety of areas illustrate divide and conquer methods, the greedy approach, branch and bound algorithms and dynamic programming.

I say …

*For the next 200 callers, we'll include an introduction to NP-Completeness too – at no extra charge!*
!!! ACADEMIC INTEGRITY !!!

Don’t be evil.
Course Syllabus:

Topics will be covered in the following sequence:

- Complexity and NP-Completeness
- Divide and Conquer Algorithms
- Greedy Algorithms
- Dynamic Programming Algorithms
- Branch and Bound Algorithms
- Class Choice
And Now ...

Actual Content!
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