Portfolio Exercise 3 (Deadline 6/11 at 12:00)

You are going to develop a travel-planning system in which you will need to implement a method for computing the cheapest route between destinations.

Data about the destinations and possible routes between them are placed in a file (to be found on black board next to the assignment) where each line contains a destination followed by the cities to which you can travel and the associated cost. An example of this is

{Odense, Aakirkeby, 35, Hårlev, 123, Fredensborg, 150, Askeby, 71, Bækmarksbro, 136, Gislinge, 77, Vinderup, 141, Aalestrup, 6, Rødovre, 20, Kalundborg, 34, Ørbæk, 149, Birkerød, 58, Ry, 31, Løkken, 59, Skagen, 166, Stenlille, 190, Ryomgård, 164, Tjele, 197, Kjellerup, 44, Bredebro, 0, Kokkedal, 120, Gudbjerg, 171, Faaborg, 228}

It means that if you are in Odense you can go to Aakirkeby for 35kr, Hårlev for 123kr, Fredensborg for 123kr and so forth. Notice that even though there is a route from A to B, there might not be one from B to A.

Implement the following functionality:

- A routine for loading in the file and appropriate data structures for representing the data.
- A method for determining which cities you can reach from a given start city.
- A method for computing the quickest route between two destinations.

To be handed in:
- A short description of which methods and data structures you have chosen.
- At least 3 examples where you use your algorithms to investigate the existence of routes and plan the cheapest one.
- Benchmarks for how long it takes to plan a route.
- Code needs to be delivered in an appendix.

Deadline is the 6/11/2014 at noon (12:00).

You are allowed to make this project in groups of 1 to 3 persons! Only one in the group should hand-in the assignment, but remember that all names should be on the report.