

Homework Assignment #10: Programming Exercise #2

Due Date & Time

2:10PM Tuesday, April 14, 2016. Late submission will be penalized by 20% for each working day overdue.

Problem Description

Solve Problem C “Catering” of the 2015 Annual ACM International Collegiate Programming Contest World Finals (see the appended) or an alternative version with the following modifications:

- Moving several catering teams (along with their equipments) simultaneously incurs the same cost as that of moving one team from one site to another.
- Requests may be served out of time order; the cost of moving from site A to site B is the same as that of moving from site B to site A (i.e., the “edges” are undirected).

Notes

This assignment constitutes 4% of your grade. You may discuss the problem with others, but copying code is strictly forbidden. **Some of you may be requested to demonstrate your program.**

Submission Guidelines

- Indicate in a comment of your program which problem the program solves.
- Pack everything, excluding compiler-generated files, in a .zip file, named with the pattern “b037050xx-alg2016-hw10.zip”.
- Upload the .zip file to the Ceiba course site for Algorithms 2016:
<https://ceiba.ntu.edu.tw/1042algorithms>.
- If you use a Makefile, make sure that it outputs “hw10”. Otherwise, make sure that the whole application can be compiled by a single command like “gcc hw10.c”, “g++ hw10.cpp”, or “javac hw10.java”.

Grading

Your work will be graded according to its correctness and presentation. Before submission, you should have tested your program on several input cases. You should organize and document your program in such a way that other programmers, for example your classmates, can understand it. In the documentation, you may also want to explain how you have applied the algorithmic techniques, particularly design by induction and reduction, learned in class.

Below is a more specific grading policy:

Criteria	Score
incomplete or doesn't compile	≤ 20
complete, compiles, but with major errors	≤ 40
correct but with little documentation	≤ 80
correct and with good documentation	≤ 100
explanation of algorithmic techniques applied	+10