Homework Assignment #10: Programming Exercise #2

Due Date & Time

2:10PM Tuesday, December 31, 2019. Late submission will be penalized by 20% for each working day overdue.

Problem Description

Solve Problem E "Dead-End Detector" or Problem H "Hobson's Trains" (one of them!) of the 2019 Annual ACM International Collegiate Programming Contest World Finals (see `https://icpc.baylor.edu/worldfinals/problems/icpc2019.pdf` or the course website).

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

- Pack everything, excluding compiler-generated files, in a .zip file, named with the pattern "`b077050xx-alg2019-hw10E.zip`" (if you solve Problem E) or "`b077050xx-alg2019-hw10H.zip`" (Problem H).
- Upload the .zip file to the Ceiba course site for Algorithms 2019:

  `https://ceiba.ntu.edu.tw/1081alg2019`.
- If you use a Makefile, make sure that it outputs "`hw10E`" or "`hw10H`". Otherwise, make sure that the whole application can be compiled by a single command like "`gcc hw10E.c`", "`g++ hw10E.cpp`", or "`javac hw10E.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 (preferably as comments in the source code) 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
complete, compiles, but with minor errors	≤ 60
correct but with little documentation	≤ 80
correct and with good documentation	≤ 100
explanation of algorithmic techniques applied	$+10$