Olympiad in Informatics

Graphs #1

Instructor: Ha Viet Uyen Synh, Ph.D.

1. Use DFS algorithm to find vertex v on a graph D.
2. Use BFS algorithm to find vertex v on a graph D
3. Implement Kruskal's algorithm to find a minimum spanning tree for a connected weighted graph D.
4. Write a program that solves a TopoSort problem finding a PERL line in a schedule.
5. Write a program that solves a Closure problem. You can assume that there is a set of rules and given a set of LHSes. You have to find as maximum information as you can.
6. Write a program that solves a minimum closure problem.
7. Write a program that solves a stock problem using the exchange rate to convert one currency into the same unit of currency to gain benefit.

   1 USD → 0.7 Pound
   1 Pound → 9.5 Franc
   1 France → 0.16 USD
   ⇨ 1 USD → 0.7 Pound → 0.7*9.5 Franc → 1.064 USD

   You can gain 6.4% soon. ☺