

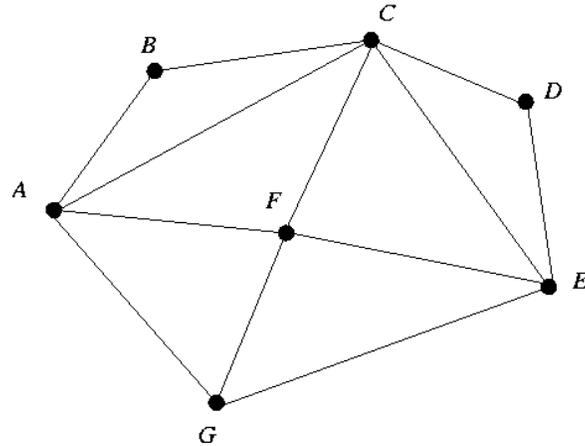
## 22C:16 Practice Problem Set 9

Morning Section: Complete before Tuesday, 4-23-2013

Evening Section: Complete before Monday, 4-22-2013

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These practice problems are based on the program that plays the word ladders game. This is called `playLaddersGame2.py` and is posted on the course website.



Consider the network of “words” shown above. Suppose that we call the function `searchWordNetwork` on this word network with source “A” and target “D”.

1. Show the contents of the `reached` dictionary and the `processed` dictionary at the beginning of each iteration of the while-loop in `searchWordNetwork`. Assume that each time we pull an element out of `reached` using `popitem()`, we get the element that is alphabetically largest.
  2. Following up on Problem 1, show the contents of the `processed` dictionary, when it is returned from `searchWordNetwork`.
  3. Solve Problem 1 again, but now assume that (i) the list of neighbors of each node is in alphabetical order and (ii) each time we pull an element out of `reached` using `popitem()`, we get the element that was inserted earliest into `reached`. The implication of assumption (i) is that the `for`-loops in the function that walk through neighbors will do so in alphabetical order.
  4. Following up on Problem 3, show the contents of the `processed` dictionary, when it is returned from `searchWordNetwork`.
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