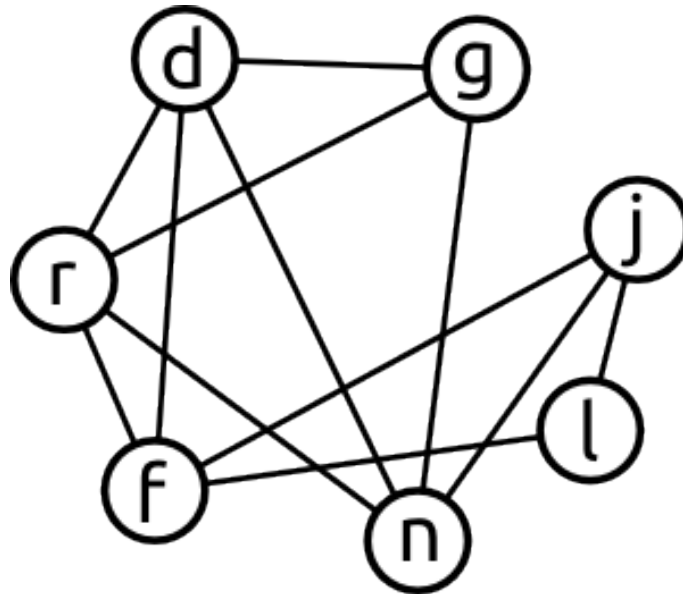


CS:1210 (22C:16) Quiz 10(b)

You have 15 minutes to complete this quiz. This quiz depends on the `searchWordNetwork` function that was part of the program `playLaddersGame2.py`. Code from this function appears on the back of this page.



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

1. Show the contents of the `reached` dictionary and the `processed` dictionary at the beginning of each iteration of the while-loop in `searchWordNetwork`. Make sure you show the key-value pairs in each dictionary and not just a list of keys. Assume that each time we pull an element out of `reached` using `popitem()`, we get the element that is alphabetically smallest.

2. Following up on Problem 1, show the contents of the `processed` dictionary, when it is returned from `searchWordNetwork`.

```
def searchWordNetwork(source, target, D):
    processed = {source:0}
    reached = {}
    for e in D[source]:
        reached[e] = source

    while reached:
        if target in reached:
            processed.update({target:reached[target]})
            return processed

        item = reached.popitem()
        newWord = item[0]
        parent = item[1]

        processed[newWord] = parent
        for neighbor in D[newWord]:
            if neighbor not in reached and neighbor not in processed:
                reached[neighbor] = newWord

    return {}
```
