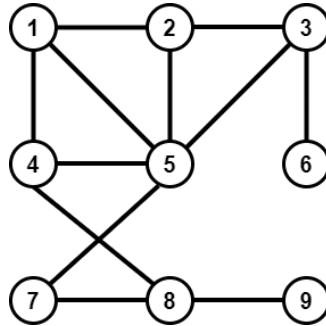


CSE 30
Spring 2021
Quiz 4

Solutions

1. (25 Points) Given the following graph, answer the questions below. (See the notes from [5-11-21](#), pages 5-7 and 12, for similar examples.)



- a. (5 Points) Determine a 9-6 path of length 8.

Solution: 9, 8, 7, 5, 4, 1, 2, 3, 6 (Note this is the only such path)

- b. (5 Points) Determine 9-6 trail of length 8 that is not a path.

Solution: 9, 8, 4, 5, 2, 1, 5, 3, 6 (There are other correct solutions)

- c. (5 Points) Determine 9-6 walk of length 8 that is not a trail.

Solution: 9, 8, 4, 5, 2, 3, 2, 3, 6 (There are other correct solutions)

- d. (10 Points) Determine the adjacency list representation of the above graph.

Solution:

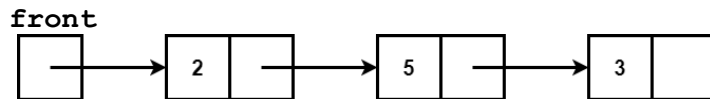
- 1:** 2, 4, 5
- 2:** 1, 3, 5
- 3:** 2, 5, 6
- 4:** 1, 5, 8
- 5:** 1, 2, 3, 4, 7
- 6:** 3
- 7:** 5, 8
- 8:** 4, 7, 9
- 9:** 8

(continued on next page)

2. (25 Points) Given the Python Node class

```
class Node:
    def __init__(self, x):
        self.data = x
        self.next = None
    # end
# end
```

and the pre-existing structure



write code that will manually insert a new Node object with data 7 between the Nodes with data 2 and 5.
(See page 4 of the notes from [5-4-21](#) for similar examples.)

Solution:

```
N = Node(7)
N.next = front.next
front.next = N
```