CST 370 Design and Analysis of Algorithms
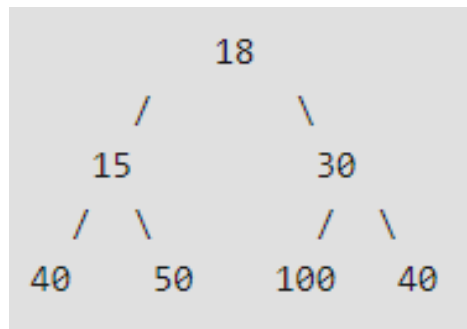# Spring 2020 – Quiz 5

Name: _____

Four-digits ID: _____

"On my honor, I have neither given nor received unauthorized aid in doing this assignment."

Signature _____

- Do not start until told to do so.
- Look over all the questions and observe their point values before you start.
- Use your time wisely—make sure to answer the questions you know first.
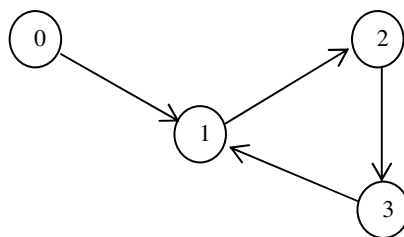- **Read the questions carefully.**

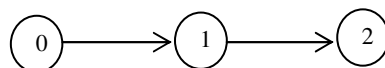1. (2 points) Consider the following binary tree. Present the sequences of in-order and post-order traversals.

```
                18
             /       \
          15          30
         /  \         /  \
       40    50    100    40
```

In-order: _____
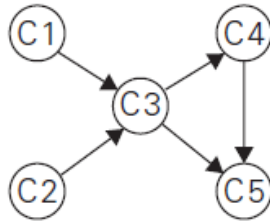
Post-order: _____

2. (1 point) (a) Is the following graph a DAG? (Yes/No)

(b) Is the following graph a DAG? (Yes/No)

3. (2 points) For the following graph, you are going to conduct the **topological sorting**.

(a) Present the **starting node(s)** for the topological sorting.

(b) Conduct the topological sorting using the **DFS algorithm**. Then, present the **topological order** as we discussed in the class. For the problem, you have to follow our convention of alphabetical order.

   Topological Order: _____