## COP 5407: Spring 2019: Quiz 1

## Panther ID (No name please):

The following are quiz questions from COP 3530 (**Data Structures**), which I will assume you are familiar with.

- 1. To state the upper bound for the sorting problem, one would use the
  - (a) O (big-Oh) notation
  - (b) o (small-Oh) notation
  - (c)  $\omega$  notation
  - (d)  $\Omega$  notation
- 2. To state the lower bound for the sorting problem, one would use the
  - (a) O (big-Oh) notation
  - (b) o (small-Oh) notation
  - (c)  $\omega$  notation
  - (d)  $\Omega$  notation
- 3. The lower bound for the sorting problem asymptotically equals its upper bound. True or False.
- 4. In one or 2 sentences, explain the difference between upper bound of the time complexity of a problem and upper bound on the time complexity of an algorithm to solve that problem.

5. In one or 2 sentences, explain the difference between lower bound of a problem and lower bound on the time complexity of an algorithm to solve that problem.