Computer Science 134C – Fall 2018 **Anonymous ID:**

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Homework 2 – *Due: September 24*

Please turn in answers to the following questions next Monday, in class.

1. Rewrite the following expressions in a simpler or more elegant way.
   Assume `i` is a non-negative `int` and `result` and `b` are type `bool`.

   (a)
   ```
   i = i - 19
   ```

   (b)
   ```
   if True:
       print("Hello, world!")
   ```

   (c)
   ```
   a = (b == False)
   ```

   (d)
   ```
   if result:
       return True
   else:
       return False
   ```

   (e)
   ```
   # assume i is non-negative
   while i >= 100:
      i = i - 100
   ```

2. The relationships between values.

   (a) Explain the difference between `(o1 is o2)` and `(o1 == o2)`.

   (b) Possible or not: `( (o1 is o2) and not (o1 == o2) )`? Explain.

   (c) Write Python that sets two non-empty lists `l1` and `l2` in such a way that `( (l1 == l2) and not (l1 is l2) )`

3. Consider these concepts related to *abstraction*.

   (a) We use functions or *procedures* to support *procedural abstraction*.
   What part of a function is its public interface?

   What part is its private implementation?

   (b) This week we're learning about *modules*. A module is a file that contains a collection of functions and values that support a single purpose (*e.g.* the `math` module). Modules typically have an `__all__` variable that controls how symbols are imported.
   Explain how a module is an abstraction.