CS 361 Quiz 3: March 1, 2016

Name: ____________________________________________

Note that this quiz has two sides.

1. (Short answer – 12 points) Fill in the word or phrase that best matches the description provided. In most cases, what is needed is a general term, not a specific instance of the concept.

(a) ____________________________  Security concern involving whether resources are on hand when needed.

(b) ____________________________  The common name for the partial order among security levels in a hierarchical access control system such as Bell and La-Padula.

(c) ____________________________  An information transmission medium that utilizes system resources that were not designed to transmit information.

(d) ____________________________  The aspect of security concerning who can alter or modify stored information.

(e) ____________________________  Security policy that says that an agent cannot access information for a client if he has previously served a client in the same “conflict” class.

(f) ____________________________  The property that says that the levels of subjects and/or objects can vary, but only in ways that don’t violate the system security properties.

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2. (5 points) Suppose you work for a company with a Chinese Wall security policy with clients in the following conflict classes:

- { Cadbury, Nestle }
- { Ford, Chrysler, GM }
- { Citicorp, Credit Lyonnais, Deutsche Bank }
- { Microsoft }

You have previously worked on cases for Nestle and Citicorp, and you are ready for a new assignment.

List any of your company’s clients for whom you are not able to work as your next assignment. Assume you can work for a client for whom you have previously worked.

3. (3 points) Labels in the Bell and Lapadula model are of the form \((L, C)\), where \(L\) is from a totally ordered set and \(C\) is a set of need-to-know categories. You could map this onto a set of labels just containing categories where dominates becomes set membership, though you might have to add some new categories. Illustrate how this would work in a system that has hierarchical levels \(\{l, h\}\) and categories \(\{A, B\}\) by showing how to map a label in the old system to a label in the new system that accomplishes “the same thing.” I.e., \(dom(x, y)\) in the old system iff \(dom(x', y')\) in the new system.