

CSCI 283 and CSCI 172 - Computer Security - Fall 2008
Quiz 7 Solutions

A. Consider the following graph that describes domination relationships among entities in the BLP model. \rightarrow implies domination, i.e. C dominates D .

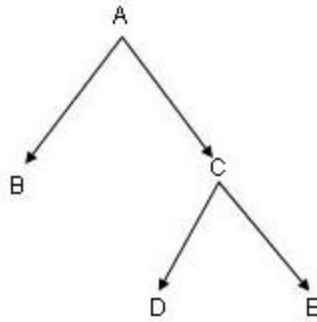


Figure 1:

Answer a-g with either “True” or “False” or “not enough information provided”. An explanation is not needed and will not be considered. There is no partial credit. **You will get +1 for a correct answer, and -1 for an incorrect one.**

a. B dominates E.

Not enough information provided.

b. Assume that $TS > S > C > P$. Suppose A is $(TS, \{Asia, Europe, Australia\})$, C is $(TS, \{Europe, Australia\})$, and D is $(S, \{Europe, Australia\})$.

(i) E can be $(TS, \{Europe, Australia\})$.

True.

(ii) E can be $(S, \{Asia, Europe, Australia\})$.

False.

(iii) B can be $(S, \{Asia, Europe, Australia\})$.

True.

B. Suppose the graph of Figure 1 represents integrity in the Biba model, i.e. \rightarrow implies decrease in integrity, i.e. C has a higher integrity rating than does D .

c. D can write to B.

Not enough information provided.

d. D can read B.

Not enough information provided.

e. A can write to C.

True.

f. E can write to C.

False.

g. D can read C.

True.

h. (1 points) Name exactly two edges, with direction, that, when added to the graph, result in a complete ordering, i.e., after their addition, given any two nodes on the graph, one can say which has higher integrity than the other.

One edge should be between B and C in either direction. The other should be between D and E in either direction.