

Homework 3

(1) = essential, (2) = important insight, (3) = more challenging, (C) = code available

1. 22.1-2 (1)

11. 23.1-1 (2)

2. 22.1-5 (3)

12. 24.3-1 (1)

3. 22.2-1 (1)

13. a. Determine the transitive closure of the following Boolean matrix by using Warshall's algorithm. (1)

4. 22.2-4 (1)

5. Do a DFS on figure 22.6 (p. 611). Classify each edge based on the DFS tree you determine. (1C)

1	0	1	1	0
0	0	1	1	0
1	0	0	0	0
1	0	1	1	1
0	0	0	1	0

6. Find the strongly connected components in figure 22.6. (1C)

b. Convert the matrix to indicate successors and use the version of Warshall's algorithm that allows path tracing. (1C)

7. 22.4-1 (1)

15. 26.2-2 (1)

8. 22.5-1 (1)

16. 26.2-3 (1C)

9. 22.5-3 (2)

17. 26.3-1 (1C)

10. 22.5-4 (2)