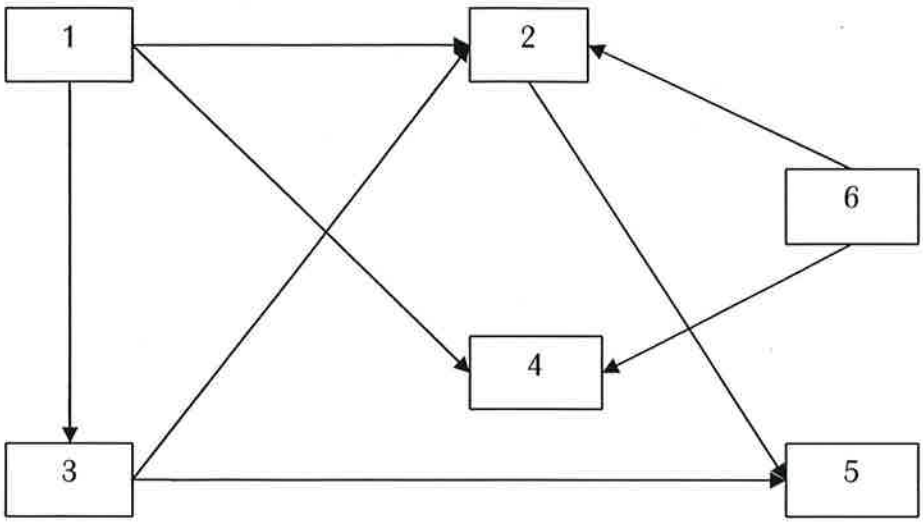
NAME: Answers

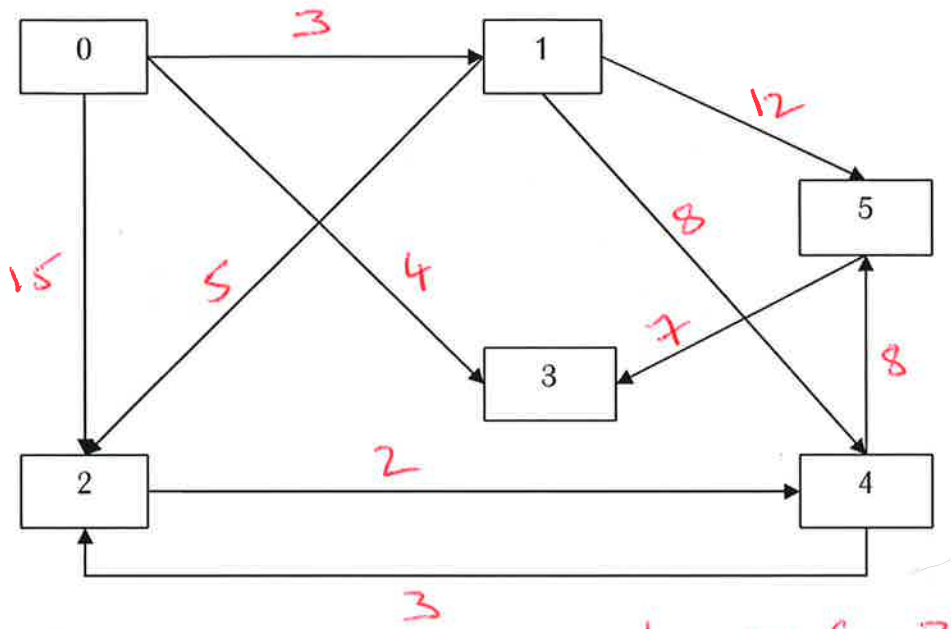
CSCI 340-3 **Quiz 12** **Fall 2017**
Closed Book & Notes

1) For the following digraph, show the *adjacency matrix*.



	1	2	3	4	5	6
1	0	1	1	1	0	0
2	0	0	0	0	1	0
3	0	1	0	0	1	0
4	0	0	0	0	0	0
5	0	0	0	0	0	0
6	0	1	0	1	0	0

2) Consider the following weighted digraph with the given weight factors: w (0, 1) = 3, w (0, 2) = 15, w (0, 3) = 4, w (1, 2) = 5, w (1, 4) = 8, w (1, 5) = 12, w (2, 4) = 2, w (4, 2) = 3, w (4, 5) = 8, w (5, 3) = 7 in the following figure. Find the shortest distance from node 0 to every other node in the graph.



SD (0,1)

0-1 = (3)

SD (0,2)

0-2 = 15

0-1-2 = 3+5 = (8)

0-1-4-2 = 3+8+3 = 14

SD (0,3)

0-3 = (4)

0-1-5-3 = 3+12+7 = 22

SD (0,4)

0-1-4 = 3+8 = 11

0-1-2-4 = 3+5+2 = (10)

SD (0,5)

0-1-5 = 3+12 = (15)

0-1-4-5 = 3+8+8 = 19

0-1-2-4-5 = 3+5+2+8 = 18

SD(0,1) = 3

SD(0,2) = 8

SD (0,3) = 4

SD(0,4) = 10

SD(0,5) = 15