**HW6 (50 pts Due November 22 by 11:59 pm)**

1. (20 pts) Use Bellman-Ford algorithm to find shortest path from vertex s to all the other vertices on the following graph. Clearly show all your steps in the algorithm by filling the table as in the class

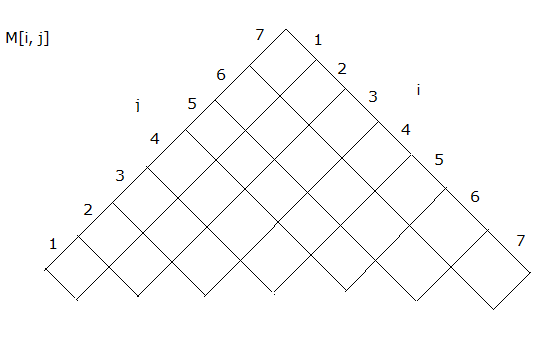
Table

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1. (15 pts) Using Matrix Chain Multiplication algorithm determine minimum number of multiplications to compute the following matrix sequence where sequence of row-column of the above matrices is: <10,20,5,6,20,15,10,20>. Clearly show how two-dimensional matrix is completed to determine minimum number of multiplications. Also show what is the best multiplication order in the above matrix sequence. Fill the following recurrence table:



1. (15 pts) Apply longest subsequence dynamic-programming algorithm to find LCS of these two sequences:

X=<1,0,1,1,0,1,0,1,1,0,0,0,1,1,1,0> and Y=<1,0,1,1,0,1,1,0,1,0,1,1,0,0>. Clearly fill out your table.