IE 411
HW \#3 (Dynamic programming)


Solve the following problems from the Modules of the Book:
1- M2-10:
Solve the shortest-route problem for the network shown in Figure M2.11.
FIGURE M2.11
(for Problem M2-10)


## 2- M2-11:

Solve the shortest-route problem for the network shown in Figure M2.12.

## FIGURE M2.12

(for Problem M2-11)


## 3- M2-12:

Mail Express, an overnight mail service, delivers mail to customers throughout the United States, Canada, and Mexico. Fortunately, Mail Express has additional capacity on one of its cargo planes. To maximize profits, Mail Express takes shipments from local manufacturing plants to warehouse for other companies. Currently, there is room for another 6 tons. The following table shows the items that can be shipped, their weights, the expected profit for each, and the number of available parts.

| ITEMS TO BE SHIPPED |  |  |  |
| :---: | :---: | :---: | :---: |
| ITEM | WEIGHT (TONS) | PROFIT/UNIT | NUMBER AVAILABLE |
| 1 | 1 | $\$ 3$ | 6 |
| 2 | 2 | 9 | 1 |
| 3 | 3 | 8 | 2 |
| 4 | 1 | 2 | 2 |

a) How many units of each item do you suggest that Mail Express ship?
b) Solve the problem using Microsoft Excel Software.

Due Date: To be determined by the Instructor.

Groups: The HW could be submitted in Groups, the maximum number of students for one group is 4 students.

