Exam: Module 13 Quiz

Submitted: 12/08/2022 10:52:27 PM Student: moises marin martinez

Attempt: 1

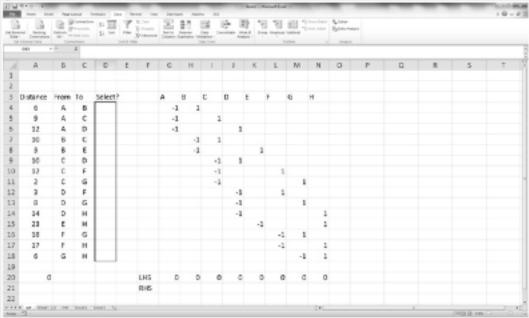
# Score

Your score on this attempt: 5.000 out of a possible 5 (100.00%)

Graded Score: 5 out of a possible 5 (100.00%) Completion Time: 9 minutes 12 seconds



# Question 1:



What formula would you expect in row 20? Let's use Column H (node B) as an example.

Type: Multiple Choice

Points Awarded: 1.000/1.000

User Answer(s):

SUMPRODUCT(D4:D18, H4:H18)

## Correct Answer(s):

SUMPRODUCT(A4:A18, H4:H18)

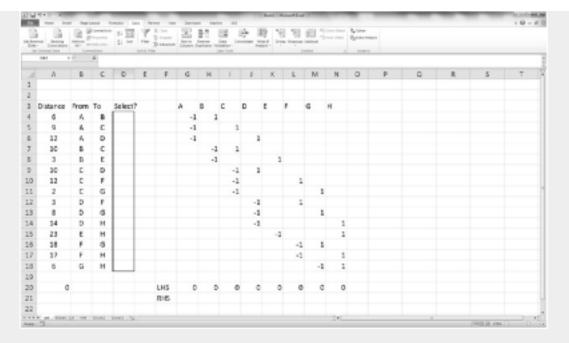
SUMPRODUCT(D4:D18, H4:H18) (correct)

SUM (H4:H18)

No formula, it's just a number representing whether it is a origin, destination or intermediate node.



Question 2:



What formula would you expect in row 21? Let's use Column H (node B) as an example.

Type: Multiple Choice

Points Awarded: 1.000/1.000

User Answer(s):

No formula, it's just a number representing whether it is a origin, destination or intermediate node.

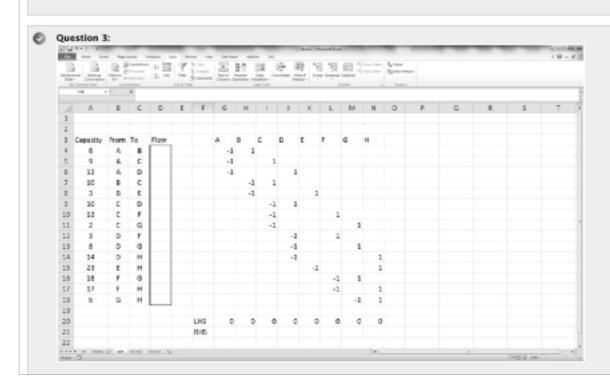
### Correct Answer(s):

SUMPRODUCT(A4:A18, H4:H18)

SUMPRODUCT(D4:D18, H4:H18)

SUM (H4:H18)

No formula, it's just a number representing whether it is a origin, destination or intermediate node. (correct)



Which of the following statements is NOT true:

Type: Multiple Choice

Points Awarded: 1.000/1.000

User Answer(s):

You can find the maximum flow of this network by either maximizing G20 or N20.

#### Correct Answer(s):

You can find the maximum flow of this network by either maximizing G20 or N20. (correct)

IN-OUT is enforced only for intermediate nodes.

The capacity constraints are implemented logically by Column D <= Column A.

By their nature, Max Flow models often times can give us situations with multiple optimal solutions.

## Question 4:

In a shortest route problem, how would we force the path to go through, say, Node B?

Type: Multiple Choice

Points Awarded: 1.000/1.000

User Answer(s):

Sum the links entering the node and add a constraint that forces this sum to be equal to 1.

### Correct Answer(s):

Keep solving the model over and over and hope that it miraculously occurs.

Sum the links entering the node and add a constraint that forces this sum to be equal to 1. (correct)

Sum the links both entering the node and leaving the node, then add a constraint that forces this sum to be equal to 1.

Sum the links entering the node and, in the same cell, subtract the links leaving the node, then add a constraint that forces this formula to be equal to 1.

### Ouestion

In shortest route models where a number of 'side constraints' are added, sometimes a phenomenon called 'subtours' occurs. What should we do in this case?

Type: Multiple Choice

Points Awarded: 1.000/1.000

User Answer(s):

Add a constraint that does not allow all the links/paths in the subtours to be selected by the model, but allows some of the links/paths to be selected

# Correct Answer(s) :

Rerun the models over and over again and hope that the subtours miraculously go away.

Add a constraint that forces none of the links/paths in the subtour to be selected by the model.

Add a constraint that does not allow all the links/paths in the subtours to be selected by the model, but allows some of the links/paths to be selected. (correct)

Add a constraint that does not allow all the links/paths in the subtours to be selected by the model, but selects the best n=1 links/paths to be included in the shortest path.