

Exam: Module 11 Quiz
Submitted: 11/10/2022 06:12:25 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: 7 minutes 7 seconds



Question 1:

Coca-Cola's "Simply Orange" product division ships oranges from three different groves to five processing plants. Typically, how many decision variables would be needed for the core distribution model? Additionally, how many combined supply and demand constraints would be needed?

Type: Multiple Choice

Points Awarded: 1.000/1.000

User Answer(s):

15 decision variables, 8 supply/demand constraints

Correct Answer(s) :

8 decision variables, 15 supply/demand constraints

15 decision variables, 8 supply/demand constraints (correct)

15 decision variables, 15 supply/demand constraints

Cannot be determined



Question 2:

Coca-Cola's "Simply Orange" product division ships oranges from three different groves to six different processing plants. Upon completion of processing the oranges at the processing plants, the output is then sent to four different packaging facilities in the OJ supply chain. Consider the groves the supply portion of the supply chain, and the packaging facilities where the supply chain system 'demand' resides.

Typically, how many decision variables relating to orange and processed orange shipments would you find in an LP model representing this supply chain operation?

Type: Multiple Choice

Points Awarded: 1.000/1.000

User Answer(s):

42

Correct Answer(s) :

13

30

42 (correct)

72



Question 3:

Pick the most accurate statement given below about the relationship between transportation models and assignment models in our LP world.

Type: Multiple Choice

Points Awarded: 1.000/1.000

User Answer(s):

Basic assignment models are transportation models with supply and demand set equal to 1.

Correct Answer(s) :

The models are unrelated in all ways.

The models are related because their union is legal in all 50 states.

Basic assignment models are transportation models with supply and demand set equal to 1. (correct)

Transportation models are assignment models without restrictions on integrality.



Question 4:

Coca-Cola's "Simply Orange" product division ships oranges from three different groves to six different processing plants. Upon completion of processing the oranges at the processing plants, the output is then sent to four different packaging facilities in the OJ supply chain. Consider the groves the supply portion of the supply chain, and the packaging facilities where the supply chain system 'demand' resides.

How many in-out logical constraints not involved with initial orange supply or final demand for processed oranges would we expect in an LP model representing this supply chain situation? (These are the 'don't lose oranges' and/or 'don't magically create oranges' constraints).

Type: Multiple Choice

Points Awarded: 1.000/1.000

User Answer(s):

6

Correct Answer(s) :

3

4

6 (correct)

13



Question 5:

When needing to eliminate a potential 'match' in a LP/Assignment model, which choice below is NOT a reasonable or correct strategy. Assume our model goal is to minimize a cost in determining the optimal matchings.

Type: Multiple Choice

Points Awarded: 1.000/1.000

User Answer(s):

Associate a small number in the objective function with the corresponding 'match' decision variable.

Correct Answer(s) :

Associate a small number in the objective function with the corresponding 'match' decision variable. (correct)

Add a constraint that sets the corresponding 'match' decision variable to be ≤ 0 .

Do not include the corresponding 'match' cell as a decision variable in the Solver model.

Make the objective function value very 'unattractive' for that corresponding 'match' decision variable.