Quiz 2: Network Models Results for Liangrui Lu

Correct answers are hidden.

Score for this attempt: **8** out of 10
Submitted Sep 28, 2021 at 4:14pm
This attempt took 15 minutes.

问题 1

1 / 1 pts

Pete's Plastics manufactures plastic at plants in Miami, St. Louis and Cleveland. Pete needs to ship plastic to customers in Pittsburgh, Atlanta and Chicago. He wants to minimize the cost of shipping the plastic from his plants to his customers. The data for the problem is summarized in the following table.

Distance From Plants to Customers

Plant	Pittsburgh	Atlanta	Chicago	Supply
Miami	1,200	700	1,300	30
St. Louis	700	550	300	40
Cleveland	125	675	350	50
Demand	40	60	20	

Which method is preferred for solving this transportation problem?

- [x] Linear Programming
- [ ] Simulation
- [ ] Integer Programming
- [ ] Assignment

问题 2

1 / 1 pts

Which of the following are assumptions or requirements of the transportation problem?

- (•) Goods are the same, regardless of source.
- ( ) There must be multiple routes between each source and destination.
- ( ) There must be multiple sources.
- ( ) There must be multiple destinations.

问题 3

1 / 1 pts

In a transshipment problem, items may be transported

- ( ) directly from sources to destinations
- ( ) from one transshipment point to another.

all of the options

from destination to destination.

问题 4

1 / 1 pts

The difference between the assignment and the transportation problem is that:

total supply must equal total demand in the assignment problem.

each supply and demand value is 1 in the assignment problem.

there is no difference.

the number of origins must equal the number of destinations in the transportation problem.

Incorrect

问题 5

0 / 1 pts

In the linear programming formulation of a network flow problem,

there is one variable per arc

the total flow in and out of a node is constrained by the supply or demand at the node

all options are correct

there is one constraint per node

问题 6

1 / 1 pts

For most real-world applications, an unbalanced transportation model is a more likely occurrence than a balanced transportation model.

True

False

问题 7

1 / 1 pts

In an assignment problem all supply and demand values are equal to one.

True

False

问题 8

1 / 1 pts

A plant has four jobs to be assigned to four machines, and each machine has different manufacturing times for each product. The production manager wants to determine the optimal assignments of four jobs to four machines to minimize total manufacturing time. This problem can be most efficiently solved using the _____ model.

- shortest path
- transshipment
- assignment
- transporation

问题 9

1 / 1 pts

A **shortest path problem** cannot be solved as an LP problem, but is solved easily using a simple manual algorithm.

- True
- False

Incorrect

问题 10

0 / 1 pts

In a shortest path problem, there is a unit supply at the origin and a unit supply at the destination.

True

False

Quiz Score: 8 out of 10