

ABC is an LTL (Less-than-truckload) trucking company that delivers loads on a daily basis to five customers. The following list provides the customers associated with each route. The segments of each route are dictated by the capacity of the truck delivering the loads. For example, on Route 1, the capacity of the truck is sufficient to deliver the loads to customers 1, 2, 3, and 4 only. The following table lists distances (in miles) among the truck terminal (ABC) and the customers.

Route	Customers served on the route
1	1,2,3,4
2	4,3,5
3	1,2,5
4	2,3,5
5	1,4,2
6	1,3,5

		Miles from i to j				
	ABC	1	2	3	4	5
ABC	0	10	12	16	9	8
1	10	0	32	8	17	10
2	12	32	0	14	21	20
3	16	8	14	0	15	18
4	9	17	21	15	0	11
5	8	10	20	18	11	0

The objective is to determine the least distance needed to make the daily deliveries to all five customers. Though more than one route may serve the solution, the implementation phase will use only one such route. Formulate the problem as an ILP.