

GAMS Prep

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1. (AMO)

4.13. Single-duty crew scheduling. The following table illustrates a number of possible duties for the drivers of a bus company. We wish to ensure, at the lowest possible cost, that at least one driver is on duty for each hour of the planning period (9 A.M. to 5 P.M.). Formulate this scheduling problem as a shortest path problem.

Duty hours	9-1	9-11	12-3	12-5	2-5	1-4	4-5
Cost	30	18	21	38	20	22	9

In other words, construct a graph, by specifying how to create the nodes and edges. Then, give two nodes in the graph, let's call them s and t , such that the shortest path from s to t tells us the minimum cost hiring schedule.