Multi-Product Multi-Period and Multi-Compartment Vehicle Routing Problem: Files Formats

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1 Instance file format

The usual meta data in the header contain the name of the instance.

Size Section
n= number of producers (depot not included)

Vehicle Number Section
K= fleet size

Compartments _Capacities Section
The number of lines in this section depends on K.
Each line contains the following data:
$\mathbf{L}^{k}$ $\boldsymbol{\beta}^{k}$ $\mathbf{Q}^{lk}$

$\mathbf{L}^{k}$ = number of compartments of vehicle k
$\mathbf{B}^{k}$ = cost of using vehicle k
$\mathbf{Q}^{lk}$ = capacity of compartment l of vehicle k (the list length depends on L^{k})

Products_Periods Section
The next line contains the following data:
M **p**

M = number of products
p = number of periods

Distance Matrix Section
This section reports the distance matrix between all vertices.

T1-T6 Section
This section contains **n** blocks.
Each block contains **M** lines and **p** columns.
Each cell value corresponds to the quantity being offered by the corresponding producer for this product in that period.

2 Solution file format

The instance name is given first. The CPLEX output follows.
The optimal objective function and the optimal values of the nonzero variables are then given as follows:
x_i_j_k_t, **y_j_k_t**, **z_i_m_k_l_t**, **w_m_k_l_t** and **u_k_l_t.**

Reference

R. Lahyani, L. C. Coelho, G. Laporte, M. Khemakhem, and F. Semet. (2014) A multi-compartment vehicle routing problem arising in the collection of olive oil in Tunisia, submitted for publication.