OR-Library

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OR-Library is a collection of test data sets for a variety of OR problems.

A full list of the test data sets available in OR-Library can be found here.

Bin packing - one-dimensional

There are currently 8 data files.

These files contain the instances of the bin packing problem considered in E.Falkenauer (1994) "A Hybrid Grouping Genetic Algorithm for Bin Packing" Working paper CRIF Industrial Management and Automation, CP 106 - P4, 50 av. F.D.Roosevelt, B-1050 Brussels, Belgium, email: efalkena@ulb.ac.be.

These data files are binpack1, binpack2, ..., binpack8 and were contributed by E. Falkenauer.

The format of these data files is as follows:

Number of test problems (P)

For each test problem (p=1,...,P) in turn:

Problem identifier

Bin capacity, Number of items (n), Number of bins in the current best known solution

For each item i (i=1,...,n): size of the item

There are 2 classes of bin packing instances. The first class, files binpack1 to binpack4 (problem identifiers beginning with 'u') consists of items of sizes uniformly distributed in (20,100) to be packed into bins of size 150.

The second class, files binpack5 to binpack8 (problem identifiers beginning with 't') consists of 'triplets' of items from (25,50) to be packed into bins of size 100.

For the 'uniform' class, the value for "Number of bins in the current best known solution" is the one found by algorithm in the above-referenced paper. Except for problems u120_08, u120_19, u250_07, u250_12 and u250_13, this is also the smallest number of bins capable of accommodating all the items, so the value is the proven optimum.

For the 'triplets' class, the instances were constructed with a known global optimum of n/3 bins, i.e. the guaranteed optimal solution has exactly three items per bin.

Acknowledgement: Although the procedure of generating 'triplets' of a known optimum is due to Falkenauer, Andre van Vliet from the Econometric Institute, Erasmus University Rotterdam, has first suggested the idea of instances of that nature.

The largest file is binpack4 of size 60Kb (approximately). The entire set of files is of size 200Kb (approximately).

Click here to access these files

OTHER SOURCES

Other bin packing test problems can be found here see also here