A Parameter-less Iterated Greedy Method for the Hybrid Flowshop Scheduling Problem with Setup Times and Due Windows. Accompanying on-line materials.

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This short document explains the contents of the accompanying on-line materials to the paper. These materials contain all files, results, best solutions, benchmarks, statistic files, plots and tables needed to fully check the results reported in the paper. The materials are available at `http://soa.iti.es` (they were too large to be posted as online materials acoompanying the paper).

There are three ZIP files inside the online materials. Each one of them has several subfolders:

1. `Benchmarks`. Contains the benchmarks used in the paper for the problems HFSDDW-SDST.
2. `Results and solutions`. Contains all the detailed results in the paper, as well as complete solution sequences.
3. `Calibrations`. Contains all the calibration results for the HFSDDW-SDST problem.

Further details are given in the following sections.

1. Benchmarks file

This file contains two subdirectories: `Large` and `Small`. Inside each one of these subdirectories we have the following subdirectories:

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1. `Calibration`: Calibration instances.
2. `Instances_25_SDST`: Benchmark with small ($P = 25\%$) setup times.
3. `Instances_50_SDST`: Benchmark with medium ($P = 50\%$) setup times.
4. `Instances_100_SDST`: Benchmark with large ($P = 100\%$) setup times.

See Section 5.1 in the paper for more details.

2. Results and solutions file

This file contains all results in the paper. It has one directory for the HFSDDW problem (`HFSDDW`) and another one for the HFSDDW-SDST problem (`HFSDDW SDST`). Inside each one we have further directories with `Small` and `Large` instances. In the case of the HFSDDW-SDST problem there are three further subdirectories, `25`, `50` and `100` for the instances with small, medium and large setup times, respectively. For each one of these 8 sets of results we find the following three files:

1. `HFSDDW SSS Best Sequence.txt`: Where SSS is either Small or Large, depending on the case. It is a large text file where we have, for each instance, its information, the best raw objective value found and the sequence of jobs for each stage.
2. `HFSDDW SSS Instance.xlsx`: Where SSS is either Small or Large, depending on the case. It is a Microsoft Excel file containing all detailed results that are averaged in the paper in Tables 4-11. Each Excel file has several sheets with the results. The first sheet (Sheet1) contains raw objective function values, where column `Ins` is the instance (from 0 to the total number of instances-1 for each benchmark), `Rep` is the replicate carried our for each instance (note that these are randomized), `Jobs` and `Stages` indicate the size of the instance and `CPU` is either 30, 60 or 90 according to the different tested ρ values. Sheet2 contains basically the same information but the raw values are now RDI values. Sheet3 is just a dynamic table that together with Sheet4 are used to construct the tables in the paper. Finally, the sheet Plot contains the same results as Sheet2 but in an amenable format for statistical analysis where all algorithms are one after the other in the `Method` column.
3. `Plot.docx`: Microsoft Word file containing the result of a multifactor ANOVA in the form of an interaction plot between the CPU time and the algorithm tested. All depicted means include Tukey Honest Significant Differences (HSD) 95% confidence intervals. This is similar to Figure 2 in the paper.

See Section 6 in the paper for more details.

3. Calibrations file

Inside this file, we have two directories with `Small` and `Large` instances. Inside each one we have the detailed results of the calibration for the methods IG, IGT, ILS, ILST and ADA. The files at each directory are varied but in all cases there is a Microsoft Word file with detailed explanations, plots and tables of the calibration, along with a text file with the raw results and a Microsoft Excel file with processed results.