Experiments details for the paper "Three Generalizations of the FOCUS Constraint"

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Abstract

We give in this appendix the reproduction details regarding the experiments.

Description

The source code is available at `ucc.insight-centre.org/msiala/focus/focus-source.zip`. It should be compiled with JDK 1.6.

- Classes with main functions:
  - bench/Sls.java for Sports league scheduling
  - bench/chordsMain.java for SortingChords problem
  - bench/RentalSchedulingMain.java for RentalScheduling problem
- The implementation of the WeightedSpringyFocus Constraint is available in focusw/FocusPropagatorsWH.java. The decomposition using GCC is in focusw/FlattenFocusWH.java
- Experiments configuration.
  1. First extract each project separately into a jar file (i.e., chords.jar, rentalScheduling.jar, and sly.jar).
  2. The configuration used for sports league scheduling is the following:
     ```
     #  java -Xmx1g -jar sls.jar
     ```
  3. The configurations used for SortingChords is the following (30 different seeds):
     ```
     #  java -Xmx1g -jar chords.jar 3 SEEDVALUE 14 12 7 0 3
     ```

```
#  java -Xmx1g -jar chords.jar 4 SEEDVALUE 14 12 7 0 3

#  java -Xmx1g -jar chords.jar 6 SEEDVALUE 14 12 7 0 3

#  java -Xmx1g -jar chords.jar 4 SEEDVALUE 14 12 7 1 3

#  java -Xmx1g -jar chords.jar 6 SEEDVALUE 14 12 7 1 3

#  java -Xmx1g -jar chords.jar 4 SEEDVALUE 14 12 7 2 3

#  java -Xmx1g -jar chords.jar 6 SEEDVALUE 14 12 7 2 3

#  java -Xmx1g -jar chords.jar 3 SEEDVALUE 16 14 8 0 3

#  java -Xmx1g -jar chords.jar 4 SEEDVALUE 16 14 8 0 3

#  java -Xmx1g -jar chords.jar 6 SEEDVALUE 16 14 8 0 3

#  java -Xmx1g -jar chords.jar 4 SEEDVALUE 16 14 8 1 3

#  java -Xmx1g -jar chords.jar 6 SEEDVALUE 16 14 8 1 3

#  java -Xmx1g -jar chords.jar 4 SEEDVALUE 16 14 8 2 3

#  java -Xmx1g -jar chords.jar 6 SEEDVALUE 16 14 8 2 3

#  java -Xmx1g -jar chords.jar 3 SEEDVALUE 18 16 9 0 3

#  java -Xmx1g -jar chords.jar 4 SEEDVALUE 18 16 9 0 3

#  java -Xmx1g -jar chords.jar 6 SEEDVALUE 18 16 9 0 3

#  java -Xmx1g -jar chords.jar 4 SEEDVALUE 18 16 9 1 3

#  java -Xmx1g -jar chords.jar 6 SEEDVALUE 18 16 9 1 3

#  java -Xmx1g -jar chords.jar 4 SEEDVALUE 18 16 9 2 3

#  java -Xmx1g -jar chords.jar 6 SEEDVALUE 18 16 9 2 3

#  java -Xmx1g -jar chords.jar 3 SEEDVALUE 20 18 10 0 3

#  java -Xmx1g -jar chords.jar 4 SEEDVALUE 20 18 10 0 3
```

```
#  java -Xmx1g -jar chords.jar 6 SEEDVALUE 20 18 10 0 3

#  java -Xmx1g -jar chords.jar 4 SEEDVALUE 20 18 10 1 3

#  java -Xmx1g -jar chords.jar 6 SEEDVALUE 20 18 10 1 3

#  java -Xmx1g -jar chords.jar 4 SEEDVALUE 20 18 10 2 3

#  java -Xmx1g -jar chords.jar 6 SEEDVALUE 20 18 10 2 3
```

4. The configurations used for rentalScheduling is the following (20 different seeds):

```
#  java -Xmx1g -jar rentalScheduling.jar 3 SEEDVALUE 10 40 4 20 0 3

#  java -Xmx1g -jar rentalScheduling.jar 4 SEEDVALUE 10 40 4 20 0 3

#  java -Xmx1g -jar rentalScheduling.jar 6 SEEDVALUE 10 40 4 20 0 3

#  java -Xmx1g -jar rentalScheduling.jar 4 SEEDVALUE 10 40 4 20 1 3

#  java -Xmx1g -jar rentalScheduling.jar 6 SEEDVALUE 10 40 4 20 1 3

#  java -Xmx1g -jar rentalScheduling.jar 4 SEEDVALUE 10 40 4 20 2 3

#  java -Xmx1g -jar rentalScheduling.jar 6 SEEDVALUE 10 40 4 20 2 3

#  java -Xmx1g -jar rentalScheduling.jar 3 SEEDVALUE 10 43 4 20 0 3

#  java -Xmx1g -jar rentalScheduling.jar 4 SEEDVALUE 10 43 4 20 0 3

#  java -Xmx1g -jar rentalScheduling.jar 6 SEEDVALUE 10 43 4 20 0 3

#  java -Xmx1g -jar rentalScheduling.jar 4 SEEDVALUE 10 43 4 20 1 3

#  java -Xmx1g -jar rentalScheduling.jar 6 SEEDVALUE 10 43 4 20 1 3

#  java -Xmx1g -jar rentalScheduling.jar 4 SEEDVALUE 10 43 4 20 2 3

#  java -Xmx1g -jar rentalScheduling.jar 6 SEEDVALUE 10 43 4 20 2 3

#  java -Xmx1g -jar rentalScheduling.jar 3 SEEDVALUE 10 45 4 20 0 3

#  java -Xmx1g -jar rentalScheduling.jar 4 SEEDVALUE 10 45 4 20 0 3
```

```
#  java -Xmx1g -jar rentalScheduling.jar 6 SEEDVALUE 10 45 4 20 0 3

#  java -Xmx1g -jar rentalScheduling.jar 4 SEEDVALUE 10 45 4 20 1 3

#  java -Xmx1g -jar rentalScheduling.jar 6 SEEDVALUE 10 45 4 20 1 3

#  java -Xmx1g -jar rentalScheduling.jar 4 SEEDVALUE 10 45 4 20 2 3

#  java -Xmx1g -jar rentalScheduling.jar 6 SEEDVALUE 10 45 4 20 2 3

#  java -Xmx1g -jar rentalScheduling.jar 3 SEEDVALUE 10 47 4 20 0 3

#  java -Xmx1g -jar rentalScheduling.jar 4 SEEDVALUE 10 47 4 20 0 3

#  java -Xmx1g -jar rentalScheduling.jar 6 SEEDVALUE 10 47 4 20 0 3

#  java -Xmx1g -jar rentalScheduling.jar 4 SEEDVALUE 10 47 4 20 1 3

#  java -Xmx1g -jar rentalScheduling.jar 6 SEEDVALUE 10 47 4 20 1 3

#  java -Xmx1g -jar rentalScheduling.jar 4 SEEDVALUE 10 47 4 20 2 3

#  java -Xmx1g -jar rentalScheduling.jar 6 SEEDVALUE 10 47 4 20 2 3

#  java -Xmx1g -jar rentalScheduling.jar 3 SEEDVALUE 10 50 4 20 0 3

#  java -Xmx1g -jar rentalScheduling.jar 4 SEEDVALUE 10 50 4 20 0 3

#  java -Xmx1g -jar rentalScheduling.jar 6 SEEDVALUE 10 50 4 20 0 3

#  java -Xmx1g -jar rentalScheduling.jar 4 SEEDVALUE 10 50 4 20 1 3

#  java -Xmx1g -jar rentalScheduling.jar 6 SEEDVALUE 10 50 4 20 1 3

#  java -Xmx1g -jar rentalScheduling.jar 4 SEEDVALUE 10 50 4 20 2 3

#  java -Xmx1g -jar rentalScheduling.jar 6 SEEDVALUE 10 50 4 20 2 3
```

- Note: In order to use a static branching, the option "true" should be added at the end of each command. By default the solver will use the DomOverWDeg heuristic the way it was described in the paper.