Programming assignment 3

Heuristic Optimization Techniques, 2015WS

November 9, 2015

Advanced Local Search [10 points]

The third programming assignment is to develop your *own* advanced local search for the K-page crossing number minimization problem. The subtasks for this exercise are:

1. Implement one of:
   - General Variable Neighbourhood Search
   - Very Large Neighbourhood Search
   - Adaptive Large Neighbourhood Search
2. Use incremental evaluation for evaluating the objective function where possible.
3. Run experiments and write a report as discussed in the problem description.
4. Submit your best solution for each instance (in the described solution format) on the cluster (optional).

For the development and the report consider the following points:

- You can reuse your neighbourhoods from Assignment 2. Consider that many neighbourhoods can be parametrized themselves e.g. moving 2 vertices instead of one. Does the order of your neighbourhoods affect the solution quality?
- If you want to implement a VLNS consider neighbourhoods discussed in the lectures.
- If implementing an ALNS there are two basic targets for destroy/recreate operations: vertices or edges. Consider different side conditions for these operations e.g. removing vertices with high/low degree.

Hand in your report via TUWEL until *2015-11-22, 23:55*. For further questions send an e-mail to: `heuopt-ws15@ac.tuwien.ac.at`