# Attachments of Multiple Couriers Planning Problem

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# A Appendix: Graphical solution

To make the result clearer and easier to inspect, we have also developed an algorithm to draw it as a graphic solution. It exploits the MultiDimensional Scaling (MDS), a machine learning algorithm able to reproduce the original spatial coordinates from a metric distance (derived by the matrix D), and provided by the scikit-learn library.
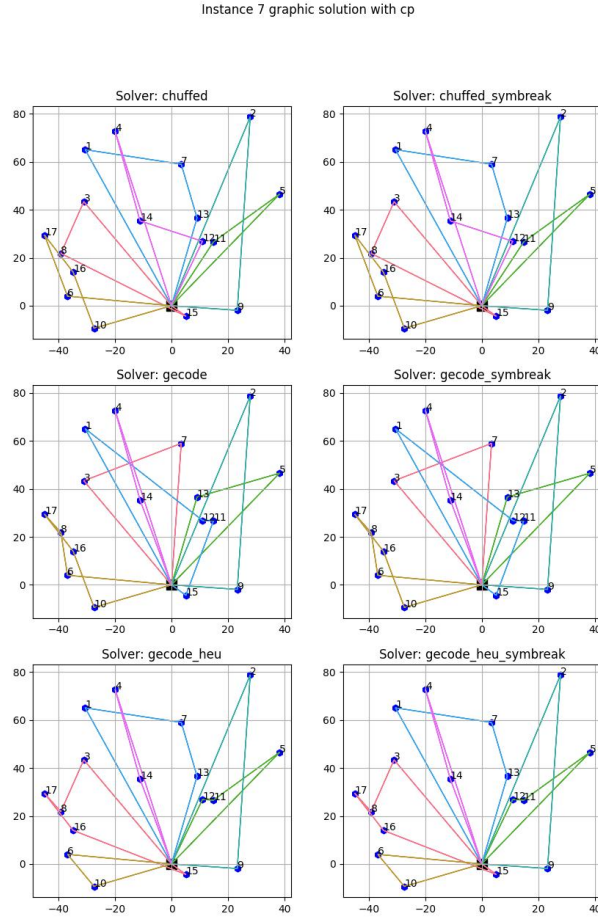


Figure 1: Display of the solution found using CP for the instance number 7.
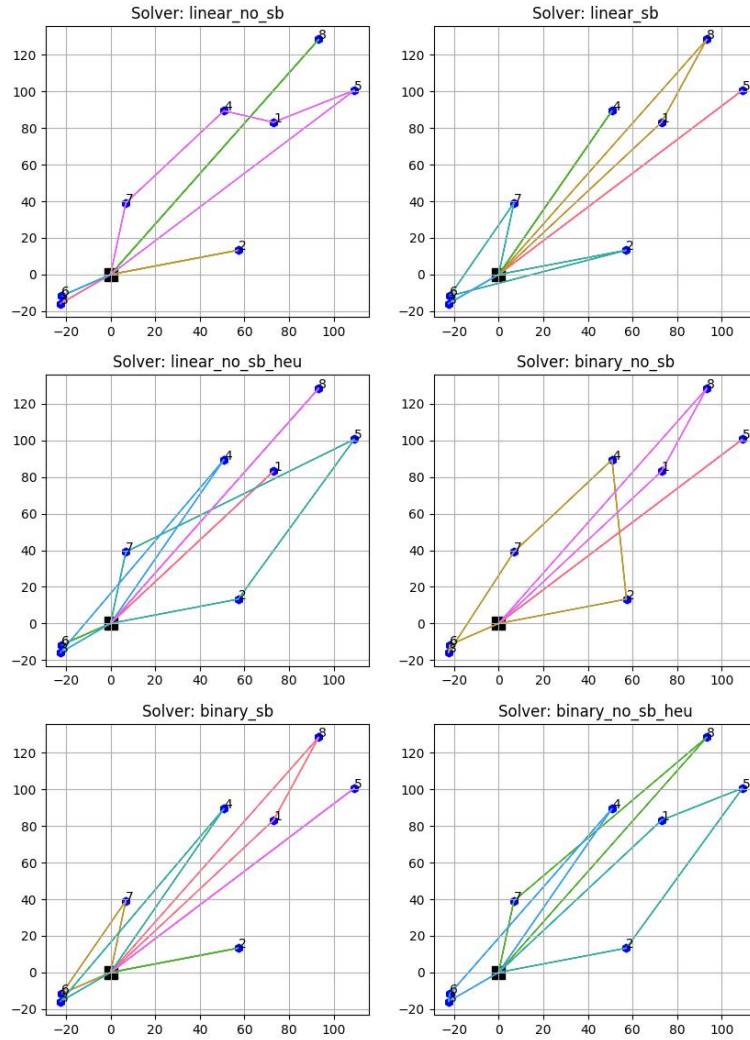
Figure 2: Display of the solution found using SAT for the instance number 6.

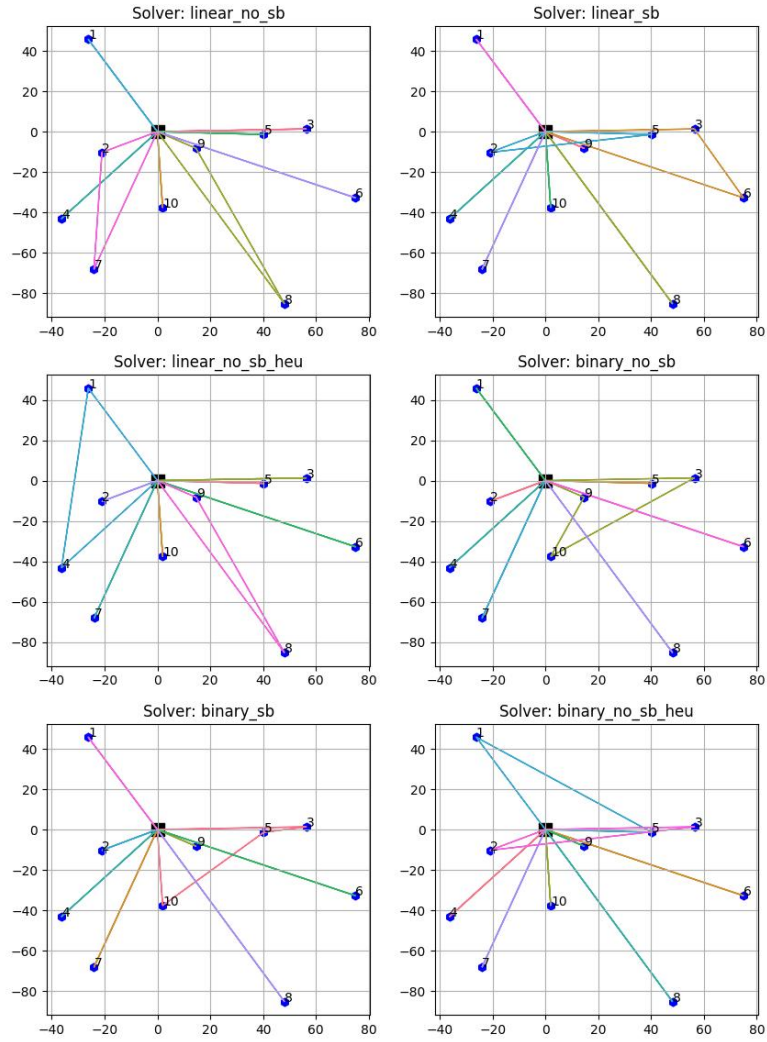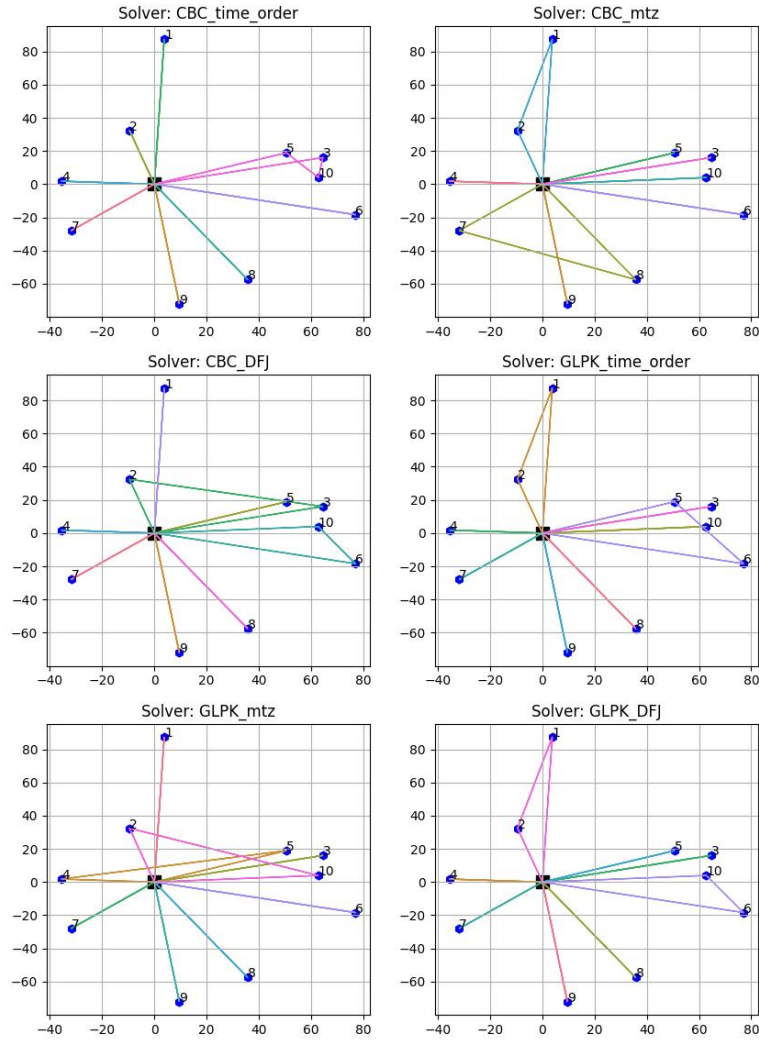Figure 3: Display of the solution found using SMT for the instance number 4.

Figure 4: Display of the solution found using MIP for the instance number 8.