

Interpretations of the Results

We have executed all the algorithm run for ten times and select the best one as logs file upload to the SVN. This is due to all log files is too large to upload which as we did in the previous assignment.

The best run log files are located in the corresponding exercise folder. For example, the log files for the exercise 1 is located in the folder named “e1_logs” under the folder “exercise 1”. Each run generated two log files, which are “FUN” and “VAR”. We use the result from FUN to visualize the final populations.

The visualization of the final populations for Exercise 1, Exercise 4 and Exercise 5 are all in “plots of the final populations.xlsx”. As you can see when you open this file, there are three sheets on the bottom of the file, which presents the visualization of each exercise.



As required in exercise 1, we have run NSGA-II for 10,000 generations on ZDT 2 and ZDT 3 with population sizes 10,100, and 1,000. As you can see in ex1, the results of last six objective values 1 and the last six objective values 2 have been copied from each “FUN” file. The corresponding figures have been generated base on these result data. The two figures on the top are the final 6-population view for ZDT 2, while the two figures on the bottom are the final 6-population view for ZDT 3.

As required in exercise 4, we run instance: a280_n279_bounded-strongly-corr_01.ttp, a280_n279_bounded-strongly-corr_01.ttp and a280_n2790_uncorr_10.ttp using NASGA-II with population sizes 10 and 100 for 100, 1,000 and 10,000 generations. As you can see in ex4, all the data needed for generated the corresponding figures have been copped from the log files. However, due to the constraint setting of the maximum weight of the packing plan, some of the runs cannot meet the target weight. Less than 18 results have been come out in the

log files. The main reason of this situation is the bad performance of our algorithms. Unfortunately, we don't have enough time to optimize our algorithms. The figures for each best-run result are generated from up to down which can be seen in ex4.

As required in exercise 5, we tested the performance of the algorithms NSGA-II, SPEA2 and IBEA as well as the algorithm we used in assignment 2 on the instances a280 n279 bounded-strongly-corr 01.ttp, fnl4461 n4460 bounded-strongly-corr 01.ttp, and pla33810 n33809 bounded-strongly-corr 01.ttp. As can be seen in sheet ex5, the last 10 TTP objective values and last 10 packing plan objective values have been copied from the log file and used to generate the corresponding required figures. After the compared, I choose SPEA2 as a best algorithm.