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Heuristic Optimisation

Implementation Exercise 1

Iterative improvement algorithms for the PFSP

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1 Introduction

2 Code Use

3 Exercise 1.1

3.1 The Results

We list here the average percentage deviation from the best solutions for each algorithm tested, along with the average computation time:

Algorithm	APD	ACT(ms)
–random–exchange–best	289	111
–random–exchange–first	295	38
–random–insert–best	313	100
–random–insert–first	277	133
–random–transpose–best	411	5
–random–transpose–first	416	12
–slack–exchange–best	241	110
–slack–exchange–first	255	34
–slack–insert–best	223	103
–slack–insert–first	200	120
–slack–transpose–best	299	16
–slack–transpose–first	308	16

3.2 Difference between the solutions

We used the Student t-test to determine whether there there is a statistically significant difference between the solutions generated by the different perturbative local search algorithms.

4 Exercise 1.2