Submission ID: 1869672
Inf2-IADS Coursework 3: marks and feedback.

Date Submitted: Monday, 30 March 2020 15:42:51 o'clock BST
Extension?: No
Late penalty?: 0

Overall mark: 76/100

Part A: 25/25

__init: 15/15
tourValue: 10/10

Part B: 32/35

TrySwap: 8/10
TryReverse: 10/10
Greedy: 14/15

TrySwap uses ‘tourValue’ twice to decide whether the swap improves it. However, this decision could be made by just looking at 4 cells of ‘dists’ (as you did in TryReverse). Instead, you use ‘tourValue’ which does O(n) work.

greedy gets most results correct and looks logically sound however disagrees in largest case. There are some inefficiencies, using min on line 230 is an extra O(n) factor which could be avoidable by looping through destinations and skipping those in myperm with an if statement and tracking the minimum.

Part C: 11/20

implements 3opt. There is a good section pseudocode in the report and an attempt at explanation of runtime. While a single round of 3-Opt improvement is O(n^3) the overall algorithm you have implemented performs as many rounds until no more improvements are gained (the while better loop). This means the algorithm isn't polynomial as in general this loop can perform a superpoly number of iterations.

implementation 5/8
report 4/8
poly 2/4

Part D: 8/20

there are results for the given graphs as well as code and results for random graphs. It would have been advantageous to average over several random graphs as the results shown could just be a product of lucky choices. This would ensure the graphs display more expected patterns (like tour value increasing as nodes increase). More discussion of the results would have been good.

report 4/10
implementation 4/10