**README**

List of files submitted:

1. **SD\_R00183334\_GWSAT.py**:
2. **SD\_R00183334\_WalkSAT.py**:
3. **utils.py**: This file contains some important utility functions to get TSP population path using nearest neighbour approach (provided Prof. Diarmuid Grimes). Other functions are to get transformed fitness.
4. **Data files**: As first letter of my surname starts with “D”, I am supposed to use following files: inst-0.tsp,inst-5.tsp and inst-13.tsp. So these files are necessary.

How to setup:

1. Download the zip file submitted.
2. Extract the file at any location and make sure each file is in the same location.
3. Open file configs.json and change config according to you preference.
4. Each dictionary in list of dictionaries is a configuration.
5. Below are the choice and their numbers (By default, the config is setup as per the assignment requirements.):
   1. Population generation:

‘0’: Random

‘1’: Heuristic

* 1. Parent Selection:

‘0’: Random

‘1’: Stochastic

* 1. Crossovers:

‘0’: Uniform Crossover

‘1’: PMX Crossover

* 1. Mutation:

‘0’: Inversion Mutation

‘1’: Reciprocal Exchange Mutation

1. Change the config as per your needs and follow the next steps.

Steps to run the solution:

1. Navigate to the location where the submitted files are extracted.
2. Open terminal/CMD on that location.
3. Run below command

python SD\_R00183334.py <data-filename.tsp>

1. Based on the configuration in the configs.json, output files will be generated.