License:

The license of Gurobi 9.5.2 can be downloaded at the official website of Gurobi: https://www.gurobi.com/

Code instructions:

To run the code smoothly and correctly, please set the variables in the file "MIP\src\MIPmodel.py" as described below. Python 3.7 and Gurobi 9.5.2 are recommended.

1. Set the absolute path of the instance.

```
310    file_path = ["/home/li/JOC/data/k_2", "/home/li/JOC/data/k_4"] # ,"data/SET_1_k_6",
311
312    time_limit = [60]
```

2. Set the running time in minutes.

```
310    file_path = ["/home/li/JOC/data/k_2", "/home/li/JOC/data/k_4"]  # ,"data/SET_1_k_6",
311
312    time_limit = [60]
```

3. Modify this line to "**m, n, t, q, demands, distance = self.load_data()**" when running the instances of Class SD.

```
 9  class VRPModel():
10
11      def __init__(self, file_path, title, output_path=None):
12          self.path = file_path
13          self.title = title
14          self.output_path = output_path
15          m, n, t, q, demands, distance = self.load_data()
16          vrp_dict = self.process_data(m, n, t, demands, distance)
```

Modify this line to "**m, n, t, q, demands, distance = self._load_data()**" when running the instances of Class P.

```
 9  class VRPModel():
10
11      def __init__(self, file_path, title, output_path=None):
12          self.path = file_path
13          self.title = title
14          self.output_path = output_path
15          m, n, t, q, demands, distance = self._load_data()
16          vrp_dict = self.process_data(m, n, t, demands, distance)
```

4. The results output are saved in the directory at the same level as the file "MIP\src\MIPmodel.py". The "txt" files are stored in different folders based on the

running time and the number of depots.