Steps to Generate the Synthetic Data Set

Step 1

Open the code for generate_edge_data.py script and enter the required M value (Number of edges). And edit the name of json file at the end. (For M =64, name the file as Edge64Data.json). Save it.

Step 2

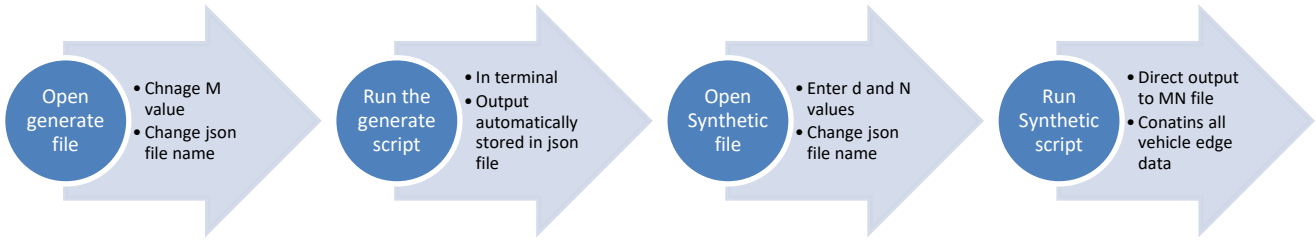
In the terminal run the command “python3 generate_edge_data.py”. This will generate the required Edge data json file.

Step 3

Open the code for Synthetic_data_generator.py script and enter the required d and N value (d is the square root of M. So make sure d is an integer. N is the number of vehicles). Also enter the corresponding file name for the json file created in Step 2. (For M =64, file name is Edge64Data.json)

Step 4

In the terminal run the command “python3 Synthetic_data_generator.py >M36N140Data.txt”. This command will run the script and store the output in the MN Data file. (Note: Enter appropriate M and N values in the file name). This script will output the vehicle_edge data such as service send data, service receive data etc along with the vehicle path, vehicle to edge travel time, overlapping sets and length of overlapping sets at each edge (This is a list set in such a way that the indexes of the overlapping sets that are present at the i^{th} edge are denoted as the indexes between the len_of_sets[i-1] and len_of_sets[i].



Steps to Generate the Real Data Set

Step 1

Open the code for generate_edge_data.py script and enter the required M value (Number of edges). And edit the name of json file at the end. (For M =64, name the file as Edge64Data.json). Save it.

Step 2

In the terminal run the command “python3 generate_edge_data.py”. This will generate the required Edge data json file.

Step 3

Open the code for Real_data_generator.py script and enter the required M and N value (Make sure M is less than the number of edges in edge_list(70). N is the number of vehicles). Also enter the corresponding file name for the json file created in Step 2. (For M =70, file name is Edge70Data.json)

Step 4

In the terminal run the command “python3 Real_data_generator.py >M36N140DataR.txt”. This command will run the script and store the output in the MN Data file. (Note: Enter appropriate M and N values in the file name). This script will output the vehicle_edge data such as service send data, service receive data etc along with the vehicle path, vehicle to edge travel time, overlapping sets and length of overlapping sets at each edge (This is a list set in such a way that the indexes of the overlapping sets that are present at the i^{th} edge are denoted as the indexes between the len_of_sets[i-1] and len_of_sets[i].