

Data_Manager

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[ ]: import json
import os.path
```

This module contains all functions used to retrieve the and save the desired data in a .json file.

```
[ ]: def get_data():

    # if file exists on disk send it back else send dummy dat to prevent crash
    if os.path.exists('simulation_data.json'):
        with open('simulation_data.json', 'r+') as f: # read
            data = json.load(f)
            return data
    else:
        print('\nThere is so simulation data present on the drive!  --  ')
        ↪returning dummy data to prevent crash')
        trafficDataDict = { # dummy data needed to make the file a template
            "PIR": {
                "carsServiced": "0",
                "simulationTime": "0",
                "AWT": "0"
            },
            "Camera": {
                "carsServiced": "0",
                "simulationTime": "0",
                "AWT": "0"
            },
            "Antenna": {
                "carsServiced": "0",
                "EastToWest": "0",
                "NorthToSouth": "0",
                "AWT": "0"
            },
        },
        return trafficDataDict
```

```
[ ]: def make_data_file():
    trafficDataDict = { # dummy data needed to make the file a template
        "PIR": {
            "carsServiced": "nil",
            "simulationTime": "nil",
            "AWT": "nil"
        },
        "Camera": {
            "carsServiced": "nil",
            "simulationTime": "nil",
            "AWT": "nil"
        },
        "Antenna": {
            "carsServiced": "nil",
            "EastToWest": "nil",
            "NorthToSouth": "nil",
            "AWT": "nil",
        },
    }

    # the json file where the output must be stored
    out_file = open("simulation_data.json", "w")
    json.dump(trafficDataDict, out_file, indent=5)
    print('File made')
    out_file.close()
```

```
[ ]: def safely_check_if_file_exists():
    if os.path.exists('simulation_data.json'):
        pass
    else:
        print('Simulation data file is not present\nMaking file . . .')
        make_data_file()
```

```
[ ]: def show_All_Data():
    file = open('simulation_data.json', 'r+')

    # returns JSON object as
    # a dictionary
    data = json.load(file)

    # Iterating through the json
    # list
    for i in data:
        print(i, data[i])
```

```
[ ]: def save_Antenna(NorthToSouthCars, EastToWestCars, AWT):
    safely_check_if_file_exists()
```

```

data = get_data()
with open('simulation_data.json', 'w') as f: # write
    data['Antenna']['EastToWest'] = EastToWestCars # left and right
    data['Antenna']['NorthToSouth'] = NorthToSouthCars # top and bottom
    data['Antenna']['AWT'] = AWT
    data['Antenna']['carsServiced'] = (EastToWestCars+NorthToSouthCars)
    json.dump(data, f, indent=5)

```

```

[ ]: def save_PIR(carsSeviced, simulationTime, AWT):
    safely_check_if_file_exists()
    data = get_data()
    with open('simulation_data.json', 'w') as f: # write
        data['PIR']['carsServiced'] = carsSeviced
        data['PIR']['simulationTime'] = simulationTime
        data['PIR']['AWT'] = AWT
        json.dump(data, f, indent=5)

```

```

[ ]: def save_Camera(carsSeviced, simulationTime, AWT):
    safely_check_if_file_exists()
    data = get_data()
    with open('simulation_data.json', 'w') as f: # write
        data['Camera']['carsServiced'] = carsSeviced
        data['Camera']['simulationTime'] = simulationTime
        data['Camera']['AWT'] = AWT
        json.dump(data, f, indent=5)

```

```

[ ]: if __name__ == '__main__':

    # save_PIR('1', '1')
    # save_Camera('2', '2')
    # show_All_Data()
    # safely_check_if_file_exists()
    pass

```