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The beginning steps of SUMO TraCI programming with Python script

1. Unpack the example folder containing:
   - SUMO files (net file, configuration file, etc.), and
   - Python script file.
2. Start Spyder (Anaconda).
3. Open the **roundabout.py** script file, and the following simple TraCI program will appear:

```
import os, sys
import time

if 'SUMO_HOME' in os.environ:
    tools = os.path.join(os.environ['SUMO_HOME'], 'tools')
    sys.path.append(tools)
else:
    sys.exit("please declare environment variable 'SUMO_HOME'")

import traci
import traci.constants

sumoBinary = "C:"+os.sep+"Sumo"+os.sep+"bin"+os.sep+"sumo-gui.exe"
sumoCmd = [sumoBinary, "-c", "roundabout.sumocfg", "--start"]
traci.start(sumoCmd)

print("Starting SUMO")
traci.gui.setSchema("View #0", "real world")

j = 0;

while(j<60):
    #this runs one simulation step
    time.sleep(0.5);
    traci.simulationStep();

    vehicles=traci.vehicle.getIDList();
    if (j%10)==0: #every 10 sec....

        for i in range(0,len(vehicles)):
            #print(len(vehicles))
            print(vehicles[i])
            traci.vehicle.setSpeedMode(vehicles[i],0)
            #sets the speed of vehicles to 15 (m/s)
            traci.vehicle.setSpeed(vehicles[i],15)
            #get actual speed, emission, edge ID and total distance
travelled of vehicles
            print("Speed ", vehicles[i], ":
",traci.vehicle.getSpeed(vehicles[i]), " m/s")
```

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```
            print("CO2Emission ", vehicles[i], ": ",
traci.vehicle.getCO2Emission(vehicles[i]), " mg/s")
            print("EdgeID of veh ", vehicles[i], ": ",
traci.vehicle.getRoadID(vehicles[i]))
            print('Distance ', vehicles[i], ": ",
traci.vehicle.getDistance(vehicles[i]), " m")

    j = j+1;

#get network parameters
IDsOfEdges=traci.edge.getIDList();
print("IDs of the edges:", IDsOfEdges)
IDsOfJunctions=traci.junction.getIDList();
print("IDs of junctions:", IDsOfJunctions)

traci.close()
```

4. Start simulation by clicking **Run file** or pressing **F5**.
5. Further help on TraCI programming is available on the SUMO website: https://sumo.dlr.de/docs/TraCI.html