**Classes, Attributes and Methods:**

1. **Camera:**

* Attributes:
* isNight
* picture
* Methods:
* countCars()
* sendCarsNum()
* changeMode()
* compare()

1. **Car:**

* Attributes:
* plate
* isEmergency
* Methods:
* InitiateCounting()

1. **Moror:**

* Attributes:
  + EmployeeID
  + department
  + city
* Methods:
  + checkCrowdArea()
  + systemMaintenance()
  + calculateCrowd()
  + updateCrowdArea()
  + sendCrowdArea()
  + AnalyseReports()

1. **TrafficLights:**

* Attributes:
  + ID
  + isWorking
  + locationX
  + locationY
  + Status
* Methods:
  + turnON(ID)
  + turnOff(ID)
  + setStatus()

1. **ControlUnit:**

* Attributes:
  + isEmpty
  + redLightTimeCounter
* Methods:
  + prossesTraffic()
  + calculateLanePriority()
  + generateStatistics()
  + calculateRedLight()
  + generateLogs()
  + generateReports()
  + checkEmergency()

**Relationships:**

1. **Camera** has an association with **ControlUnit**
   * Relationship: Aggregation (many-to-one)
   * Explanation:ControlUnit uses the camera to know which lines contain cars.
2. **Car** has an association with **Camera**
   * Relationship: Aggregation (many-to-one)
   * Explanation: The camera detects cars and counts them.
3. **Moror** has an association with **TrafficLight**
   * Relationship: Aggregation (one-to-many)
   * Explanation: moror maintains and observes TrafficLight.
4. **TrafficLight** has an association with **ControlUnit**
   * Relationship: Aggregation (many-to-one)
   * Explanation: ControlUnit is responsible for controlling the traffic light and when to open and close.
5. **ControlUnit** has an association with **Moror**
   * Relationship: Aggregation (one-to-one)
   * Explanation: ControlUnit generates reports and sends them to moror for analysis.