# Question 4 Solution:

For this assignment you will design a set of classes that work together to simulate a police officer issuing a parking ticket. The classes you should design are:

* The **ParkedCar Class**: This class should simulate a parked car. The class’s responsibilities are: – To know the car’s make, model, color, license number, and the number of minutes that the car has been parked
* The **ParkingMeter Class:** This class should simulate a parking meter. The class’s only responsibility is: – To know the number of minutes of parking time that has been purchased
* The ParkingTicket Class: This class should simulate a parking ticket. The class’s responsibilities are: – To report the make, model, color, and license number of the illegally parked car – To report the amount of the fi ne, which is $25 for the first hour or part of an hour that the car is illegally parked, plus $10 for every additional hour or part of an hour that the car is illegally parked – To report the name and badge number of the police officer issuing the ticket
* The PoliceOfficer Class: This class should simulate a police officer inspecting parked cars. The class’s responsibilities are: – To know the police officer’s name and badge number – To examine a ParkedCar object and a ParkingMeter object, and determine whether the car’s time has expired – To issue a parking ticket (generate a ParkingTicket object) if the car’s time has expired

Write a program that demonstrates how these classes collaborate. \*\*HINT\*\*: use Aggregation,

\*\*HINT: create with a UML diagram first \*\*

Which are standalone

* ParkedCar
* Parking Meter

Police Officer has a Parking Meter can generate -> Parking ticket

