Create a set of working classes representing a car park as described below. The code you write should contain sufficient commenting and be of production quality. You may use the internet during your time. You may also ask questions to clarify the details described below.

* A car park has a name
* A car park has a certain number of bays (car spots). 🡺 BaysManager
* A car park has a list of vehicles currently in the car park 🡺 VehiclesManager
* **A car park has a property indicating how full the car park** 🡺Need more info % or count
* *Vehicles can enter and exit the car park.* When a vehicle enters the car park, the occupancy count goes up by 1. When a vehicle exits the car park, the occupancy count goes down by 1. 1) **A vehicle cannot enter the car park if it is full.** 2) **A vehicle cannot exit the car park if its fee has not been paid.**
* All vehicles have a weight
* All vehicles have a fee for parking in the car park. This vehicle fee is $2
* Vehicles have the following details.
  + Standard Car: Fee is calculated as vehicle fee + $5
  + Luxury Car: Fee is calculated as standard car fee + $3
  + Motorbike: Fee is calculated as vehicle fee + $2.
  + Truck: Fee is calculated as vehicle fee + $10.
* Vehicle Extra charges.
  + An extra charge of $3 is added to a vehicle fee if its weight is over 100kg.
* When calculating the fee keep in mind that new fees could be added to the system. Developers should only need to extend the code not modify existing code to do this

Demonstrate the following order of events in a console or windows forms application using the classes you have built:

1. Initialise the car park with 10 bays and a name of “Test carpark”
2. Have one of each type of vehicles enter the car park. The truck should have a weight of 101 kg.
3. List the details of all the vehicles in the car park including their type and outstanding fees.
4. Pay the outstanding fee for the luxury car
5. List the details of all the vehicles in the car park including their type and outstanding fees.
6. Have the luxury car exit the car park
7. List the details of all the vehicles in the car park including their type and outstanding fees.
8. Pay the outstanding fees for the remaining cars
9. Have the remaining cars exit the car park
10. List the details of all the vehicles in the car park including their type and outstanding fees.
11. Have a motorbike enter the car park
12. Have the motorbike exit the car park
13. List the details of all the vehicles in the car park including their type and outstanding fees.