**CPSC 1160: Week 8 HW Bitwise Operators**

**Due: As indicated by submission link**

**Total Marks: 10**

**Instructions – PLEASE READ**

1. This work is to be done individually.
2. You should submit only one version via D2L. Check instructions from TA regarding what to submit (zip/just code). Code files must always be included.
3. Keep a copy of everything you submit in some online storage that is accessible by you only.

# EXERCISES

Suppose that a car rental company (such as Car2Go) wants to keep track of which cars are in use and which are not. This company has 8 cars.

Use the following enum in your code.

enum CARS {Car0 = 1, Car1 = 2, Car2 = 4, Car3 = 8, Car4 = 16, Car5 = 32, Car6 = 64, Car7 = 128};

1. Create an unsigned char pointer type variable named fleet to store the rental status of each car.

Initially all cars are not rented (0 for each car’s bit means not rented).

1. Write a function named RentCar that takes fleet as its parameter and the car name (from the enum above) to set the bit for that car.
2. Write a function named ReturnCar that takes fleet as its parameter and the car name (from the enum above) to reset the bit for that car.
3. Write a function named RentalStatus that takes fleet as its parameter and the car name (from the enum above) and returns true if the car is rented; false otherwise.
4. Write a function named ShowFleet that displays each car’s name and current rental status.
5. Write a recursive method named Menu that may be used to do the following.

0: Exit Program

1: Show Fleet (show’s the current rental status of the whole fleet)

2: Rent Car (then user has to choose between available cars and enter that choice, choice must be verified)

3: Return Car (then user has to choose from rented cars and enter that choice, choice must be verified)