

Q1 You are provided with the definitions of two classes, `CheckOutVehicle` and `ReturnVehicle`, which manage the allocation and return of vehicles in a car rental company. Your task is to ensure that the total count of available vehicles is accurately managed across both classes without using any global variable.

```
class CheckOutVehicle {
public:
void allocateVehicle(int count);
};

class ReturnVehicle {
public:
returnVehicle(int count);
};
```

Code for only following question:

1. Create a Singleton class named ‘FleetManagement’ to monitor the number of available vehicles (single integer count).
2. Implement the functionalities for the ‘CheckOutVehicle’ and ‘ReturnVehicle’ classes to interact with ‘FleetManagement’ and demonstrate their usage in a main function.

```
class FleetManagement {
private:
    static FleetManagement* instance;
    int count;
    FleetManagement() : count(0) {}

public:

    static FleetManagement* getInstance() {
        if (instance == nullptr) {
            instance = new FleetManagement();
        }
        return instance;
    }

    void decrementInv(int c) {
        count -= c;
    }

    void incrementInv(int c) {
        count += c;
    }
};

// Initialize static member of Library Inventory
FleetManagement* FleetManagement::instance = nullptr;

Class ReturnVehicle {
public:
    void returnVehilce(int count) {
        FleetManagement::getInstance()->incrementInv(count);
    }
};
```

```
} ;  
  
class CheckoutVehicle {  
public:  
    void checkoutVehilce(int count) {  
        FleetManagement::getInstance()->decrementInv(count);  
    }  
};  
  
int main() {  
    CheckoutVehicle c;  
    ReturnVehicle r;  
  
    r.returnVehicle(5);  
  
    c.checkoutVehicle(6);  
  
    return 0;  
}
```