C++ Programming Assignment (Extra—for practice)

1. Define a class called Car with attributes such as make, model, and year. Include member functions to set and get these attributes. Create an object of the Car class and demonstrate the use of its member functions

2. Define a class called Address with attributes such as street, city, and zipCode. Create a class called Person that has an Address object as a member variable. Demonstrate composition by creating a Person object and accessing its Address attributes.

3. Define a class called Vector to represent a 2D vector with x and y components. Implement operator overloading for addition (+), subtraction (-), scalar multiplication (\*), and equality (= =). Demonstrate the use of these overloaded operators by performing vector operations

4. Define a class called Counter to keep track of the number of objects created. Implement a static member variable count and a static member function to increment it each time an object is created. Demonstrate the use of static members by creating multiple Counter objects and displaying the total count.

5. Define a class called Matrix to represent matrices. Implement overloaded operators for multiplication (\*) to perform matrix multiplication. Demonstrate the use of the overloaded \* operator to multiply two matrices.

6. Define a class called MyString to represent strings. Implement an overloaded + operator to concatenate two strings. Demonstrate the use of the overloaded + operator to concatenate two MyString objects.

7. Define a class called Employee to represent employees with attributes such as name, ID, and salary. Implement overloaded comparison operators (<, >, ==) to compare employees based on their salaries. Demonstrate the use of these overloaded operators to compare Employee objects