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CS 202
Project 5 Documentation

Compile Instructions: Type “make all” into the console.

```
Vehicle v1;
```

-Creates a vehicle object and calls the default constructor. s_idgen incremented.

```
cout << v1 << endl;
cout << "Base idgen: " << Vehicle::getIdgen() << endl;
```

-Calls the vehicle insertion operator overload to print default constructor values and then prints the s_idgen number.

```
float lla_rno[3] = {39.54, 119.82, 4500.0};
Vehicle v99(99, lla_rno);
```

-Creates a vehicle object with a passed vin and lla coordinates and increments s_idgen.

```
cout << v99 << endl;
cout << "Base idgen: " << Vehicle::getIdgen() << endl;
```

-Calls vehicle insertion operator overload to print parameterized object values and then prints s_idgen.

```
Vehicle v99_cpy( v99 );
```

-Creates a new vehicle object using the copy constructor and copies member data from v99 to **v99_cpy. Increments s_idgen by 1.**

```
cout << v99_cpy << endl;
cout << "Base idgen: " << Vehicle::getIdgen() << endl;
```

-Calls vehicle insertion operator overload and prints all data from v99_cpy. Prints s_idgen number.

```
v1 = v99_cpy;
cout << v1 << endl;
cout << "Base idgen: " << Vehicle::getIdgen() << endl;
```

-Calls assignment operator overload and assigns all values from v99_cpy to v1. Calls insertion operator overload to print all data from v1 then prints s_idgen number.

```
float lla_new[3] = {37.77, 122.42, 52.0};
v1.move( lla_new );
```

-Calls the move function for v1 and passes in a new set of lla coordinates through the parameters.

```
Car c1;
```

-Creates a new car object using the default constructor for the Car class.

```
cout << c1 << endl;
cout << "Derived idgen: " << Car::getIdgen() << endl;
```

-Calls insertion operator overload for Car c1 to print its data and prints the s_idgen number.

```
char plates_999[] = "Gandalf";
Car c999(plates_999, 999, lla_rno);
```

-Creates a parameterized car object. Passes in plates, a vin number, and a set of lla coordinates which are assigned to the object.

cout << c999 << endl;

-Calls insertion operator overload for Car to print its data.

Car c999_cpy(c999);

-Creates a new car object by calling the Car copy constructor and assigned values from c999 to c999_cpy.

cout << c999_cpy << endl;

-Calls Car insertion operator overload for c999_cpy to print its data.

c1 = c999_cpy;

cout << c1 << endl;

cout << "Derived idgen: " << Car::getIdgen() << endl;

-Calls Car assignment operator overload to assign values from c999_cpy to car c1. C1 calls insertion operator overload to print its new data and then prints the s_idgen number.

c1.move(lla_new);

-Calls the move function for Car c1 and passes in a new set of lla coordinates.

The overall purpose of this program was to practice creating and implementing base and derived classes. The only problem I ran into was initializing the value of m_vin through the ctor lists.