

Course Name & Section OOP Date 26-3-24Student's Name Syed Saad Asif Roll No. 23-052 Section 2-D

Q / Part No.

"GROUP B"

Rough
Work

#include <iostream>

using namespace std;

Class Car $2 + 1 + 3 + 3 + 3 + 2 + 2 + 2$
2

Private:

char* name;

int top speed;

bool electric_car;

static int total_cars; // current no.

Public:

Car(char* a, int b, bool c)

{
int len=0;

for(int i=0; a[i]!='\0'; i++) // didn't see ✓

{
len++;

len++;

name = new char[len];

for(int i=0; a[i]!='\0'; i++)

{
name[i] = a[i];

top_speed = b; Car::total_cars++;

electric_car = c;

}

~Car()

{

delete [] name; Car::total_cars--;

{


```

Car (const Car& rhs);
Car& operator = (const Car& rhs);
Car& operator + (const Car& rhs);
bool Car& operator ! (const Car& rhs);
void upgrade Car (const Car& rhs);
Car print_info();
void print_info() void print_info(const Car& rhs);
};

```

```

Car::total_cars = 0;

```

```

Car::Car (const Car& rhs)
{
    Car::total_cars++;
    this->name = rhs.name;
    this->top_speed = rhs.top_speed;
    this->electric_car = rhs.electric_car;
}

Car::Car& operator = (const Car& rhs)
{
    Car obj; int len=0;
    strlen(rhs.name, len);
    obj.name = new char[len];
    for(int i=0; rhs.name[i]!='\0'; i++)
    {
        obj.name[i] = rhs.name[i];
    }
    obj.top_speed = rhs.top_speed;
    obj.electric_car = rhs.electric_car;
    return obj;
    Car::total_cars++;
}

Car::Car& operator + (const Car& rhs)
{
    Car obj(const
    obj Car::total_cars++;
    Car obj = rhs;
    obj.top_speed += this->top_speed;
    return obj;
}

Car::Car& operator ! (const Car& rhs)
{
    if ( this rhs.electric_car )
        return false;
    else
        return true;
}

```



```
Car::upgrade_Car(const Car& rhs)
{
    if ( rhs.top_speed > this->top_speed )
    {
        *this->top_speed += rhs.top_speed;
    }
    else
    {
        cout << "error : the speed is lesser \n";
    }
}
```

```
Car::print_info(const Car& rhs)
{
    cout << "This is a ";
    for ( int i=0 ; rhs.name[i] != '\0' ; i++ )
    {
        cout << rhs.name[i];
    }
    cout << ", ";
    cout << "its top speed is " << rhs.top_speed;
    cout << ". ";
    if ( rhs.electric_car )
    {
        cout << "it is a electric car" << endl;
    }
    else
    {
        cout << "it is not a electric car" << endl;
    }
}
```

```
int main()
{
    // implementation

    return 0;
}
```