

Mini Project (2) - Build a Vehicle Management System

Create a C++ program that fulfills the following requirements:

1. Create a base class **Vehicle** with:

- A name property.
- A pure virtual function **getFuelEfficiency()** to calculate fuel efficiency.

2. Derive two classes from **Vehicle**:

- Car: Includes **engineSize** (in liters) and **weight** (in kilograms).
- Bike: Includes **engineCC** (engine capacity in CC).

3. Implement the **getFuelEfficiency()** function:

- In Car, compute using a formula involving engine size and weight.
 - Fuel Efficiency= $100 / (\text{engineSize} \times (\text{weight}/1000))$
- In Bike, compute using a formula involving engine CC.
 - Fuel Efficiency= $200/\text{engineCC}$

4. Overload the << operator to print:

- The name of the vehicle.
- Its fuel efficiency is kilometers per liter (km/l).

5. In the **main()** function:

- Create pointers to dynamically allocate objects of Car and Bike.
- Store these pointers in a container (like std::vector).
- Use polymorphism to calculate and display their fuel efficiencies.
- Use proper memory management (e.g., delete the pointers after use).