

Unary Operator Overloading

1. You are building a weather forecasting app. Each city has a Temperature class with its temperature recorded in Celsius. Overload the unary minus (-) operator so that when applied, it converts the temperature to Fahrenheit for users who prefer it.
2. A banking app tracks customer balances using an Account class. Customers can choose to see their balance grow daily based on interest. Overload the unary increment (++) operator to add the daily interest to the balance whenever invoked.
3. In a physics simulation, vectors represent forces acting on an object. Create a Vector class that can invert the direction of a force using the unary minus (-) operator, allowing users to simulate opposite force applications easily.
4. An online store keeps track of product inventory using an Item class. When a product is sold, the stock count decreases by one. Overload the unary decrement (--) operator to simulate a sale of one unit, enabling the inventory manager to decrement the stock with a single operation.
5. You're creating a circuit simulator that tracks the states of digital signals (1 or 0). Develop a Signal class and overload the unary not (!) operator to invert a signal, simulating the behavior of NOT gates in a digital circuit.
6. In a calendar scheduling app, dates are managed using a Date class. Overload the unary plus (+) operator to move the current date forward by one day, allowing users to navigate their schedules more easily.
7. A robot's energy consumption is monitored through a Battery class. Every action the robot performs consumes some energy. Overload the unary minus (-) operator to simulate an energy-consuming action, adjusting the battery level accordingly.
8. In a car simulation game, a Car class represents the vehicle's speed. To simulate braking, overload the unary decrement (--) operator to reduce the car's speed by 10 units, making the game's controls more intuitive.
9. In an RPG game, a Character class tracks a player's health. When a health potion is picked up, the character's health increases. Overload the unary plus (+) operator to simulate this boost, adding to the player's immersive experience.
10. You are developing a task management tool. Each task is represented by a Task class with a completed status. Overload the unary not (!) operator to toggle a task's completion status, making it easier for users to manage their to-do lists.