

***Q1 You are provided with declaration of two classes, Income and Expense which simulate the cash of a retail business. Your task is to ensure that cash levels are accurately tracked between both classes without making any global variable.***

```
class Income {
public:
    void recordIncome(double amount);
};

class Expense {
public:
    void recordExpense(double amount);
};
```

***Code for only following question:***

- 1) Create a Singleton class named 'CashFlowManager' to keep track of business cash flow. This class should have a double attribute to maintain cash amount.***
- 2) Complete the implementation of 'Income' and 'Expense' class functions, and show its usage in main.***

```
class CashFlowManager {
private:
    static CashFlowManager* instance;
    double cashAmount;
    CashFlowManager() : cashAmount(0.0) {}

public:

    static CashFlowManager* getInstance() {
        if (instance == nullptr) {
            instance = new CashFlowManager();
        }
        return instance;
    }

    void addCash(double amount) {
        cashAmount += amount;
    }

    void subtractCash(double amount) {
        cashAmount -= amount;
    }
};

// Initialize static member of CashFlowManager
CashFlowManager* CashFlowManager::instance = nullptr;

class Income {
public:
    void recordIncome(double amount) {
        CashFlowManager::getInstance()->addCash(amount);
    }
};
```

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```
class Expense {
public:
    void recordExpense(double amount) {
        CashFlowManager::getInstance()->subtractCash(amount);
    }
};

int main() {
    Income income;
    Expense expense;
    income.recordIncome(500.0);
    expense.recordExpense(200.0);

    return 0;
}
```