

Module 8 – Bank Account Simulation Program

The screenshot shows two instances of the Online C++ 17 Compiler IDE. Both instances have the same code editor window open, displaying the `Module 8 bank_account.cpp` file. The code implements a `BankAccount` class with methods for depositing funds, making purchases, displaying the balance, and saving transactions to a file.

Code Editor Content:

```
1 #include <iostream>
2 #include <fstream>
3 #include <string>
4 using namespace std;
5 class BankAccount {
6 private:
7     double balance;
8 public:
9     BankAccount() { balance = 0.0; }
10    void deposit(double amount) {
11        balance += amount;
12        cout << "Deposited: $" << amount << endl;
13        saveTransaction("Deposit", amount);
14    }
15    void makePurchase(const string &item, double cost) {
16        if (cost > balance) {
17            cout << "Insufficient funds for " << item << endl;
18            saveTransaction("FAILED Purchase - " + item, cost);
19        } else {
20            balance -= cost;
21            cout << "Purchased: " << item << " for $" << cost << endl;
22            saveTransaction("Purchase - " + item, cost);
23        }
24    }
25    void displayBalance() {
26        cout << "Current Balance: $" << balance << endl;
27    }
28    void saveTransaction(const string &type, double amount) {
29        ofstream file("transactions.txt", ios::app);
30        if (file.is_open()) {
31            file << type << ":" << $ << amount << endl;
32        }
33        file.close();
34    }
35 }
```

Output Window Content (Top Instance):

```
-- Bank Account Simulation --
Deposited: $200
Purchased: Coffee for $5.25
Purchased: Shoes for $49.99
Current Balance: $144.76
Transactions saved to transactions.txt

--- transactions.txt contents ---
Deposit: $200
Purchase - Coffee: $5.25
Purchase - Shoes: $49.99
-----
```

Output Window Content (Bottom Instance):

```
-- Bank Account Simulation --
Deposited: $200
Purchased: Coffee for $5.25
Purchased: Shoes for $49.99
Current Balance: $144.76
Transactions saved to transactions.txt

--- transactions.txt contents ---
Deposit: $200
Purchase - Coffee: $5.25
Purchase - Shoes: $49.99
-----
```

This program simulates a bank account where the user can deposit funds, make purchases, and view the current balance.