

Learning Activity

C++ Programming Exercise

Subject Code and Title	SEP401 Software Engineering Principles
Module Number	Module 4

Please complete the following exercise:

Write a program to manage 100 bank accounts. The accounts have numbers ranging from 1001 to 1100 (decimal). There are several types of transactions, which the program will read. If allowed, the program may modify the account balance. Otherwise a warning message will be printed. The dialogue for the transactions has the following forms:

In the following, the bold type represents questions the program types to the user. Each response to the *transaction type* question is a single character. Any attempted illegal transaction causes an error message. Amounts are in dollars and can have 0, 1 or 2 digits after the point: 2765 or 123.4 or 8864.57:

Interaction	Explanation
Transaction type?: O Initial deposit?: amount	Open an account, giving the initial deposit. Allowed if less than 100 accounts now open. Prints the new account number.
Transaction type?: B Account number?: account_number	A Balance inquiry, prints the account number and the balance, only allowed if the account is open.
Transaction type?: D Account number?: account_number Amount?: amount	A Deposit, prints the account number and new balance, only allowed if account open.
Transaction type?: W Account number?: account_number Amount?: amount	A Withdrawal, only allowed if account open and sufficient funds available, prints account number and new balance.
Transaction type?: C Account number?: account_number	Close the account. Only allowed if account is open.
Transaction type?: I Interest rate?: interest_rate	Compute interest at given % rate. and apply to all accounts
Transaction type?: P	Print all the account numbers and amounts.
Transaction type?: E	Close all accounts and exit program

Use structures in your bank account program. The main data structure should now be an array of structures. Each account's details should be kept in a structure.