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CS 2024 - C++ Programming
Assignment #11

In this assignment, we are supposed to build up a file that can store the BankAccount information, and we should read and write the file so that we can always access the information of bank accounts from last time.

To complete this assignment, I decided to read the file at the very beginning of the main() function. Since the account number, account name, account amount are stored in three single lines in my file, I can build up a bank account by reading every three lines in the file. The code of reading the file is shown below:

```cpp
std::ifstream in("bankaccount.txt");
if (in){
  while(!in.eof()){
    char buffer[80];
    in.getline(buffer,80);
    int accountnumber=atoi(buffer);
    in.getline(buffer,80);
    std::string accountname;
    accountname=buffer;
    in.getline(buffer,80);
    int accountamount=atoi(buffer);
    BankAccount *ba=new BankAccount(accountnumber,accountname,accountamount);
    if (ba !=NULL){
      if((*ba).getName()!=""){
        int accountnumber = (*ba).getAccountNumber();
        IDRecord rec(accountnumber,ba);
        myAccounts.insert(rec);}
    }
  }
}
```

At the end of the main() function, I overwrite my file to store all the bank accounts which are in the bank currently. I write account number, name and account balance of each account in three single lines. The code of writing the file is shown below:

```cpp
std::ofstream out("bankaccount.txt",std::ios::out);
if(out.is_open()){
  std::map<int, BankAccount *> allAccounts=myBank.getmAccounts();
  for(IDRecordIterator p1=allAccounts.begin();p1!=allAccounts.end();p1++){
    int AccountNumber=p1 ->first;
    BankAccount *b=p1 ->second;
    if((*b).getName()!=""){
    out<<AccountNumber<<std::endl;
    out<<(*b).getName()<<std::endl;
    out<<(*b).getBalance()<<std::endl;
```

Also, to assign the mAccounts in my Bank, I add a getmAccounts() to return the mAccount list in Bank (used for writing) , and a setmAccounts() to set the mAccount list in Bank(used for reading).

This assignment reminds me of the basic knowledge of reading and writing files. I used source code from A9 solution from cmsx as well as my own code from A10. I used c++11 in this

assignment and call "g++ -std=c+11 -o main" to run my code on the terminal. I think a write up can help me summarize the points in the courses.