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CS 1337  
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Pseudocode:

Create Bank.h and Bank.cpp

Read in file and deduce the number of entries in the file.

Read in file again and deduce the number of unique entries in file.

    Use array and linear search to find if account is new.

Dynamically Allocate an array with the size of the unique entries

Read the file into the array

    While (file doesn't end)

        Read information into temporary variables.

        Search object array to see if there is already an object with the new ID

        If no existing objects with identical id

            Set account number, type, and name of the next empty object in array

            Deposit or withdraw according to transaction type

        If there is an existing object with identical id

            Set type to the object found in array using linear search

            Deposit or withdraw according to transaction type

Print out table using normal function

Print out table using friend function

Input:

```
1 1000258915
2 0
3 456.78
4 Homer J. Simpson
5 1000251784
6 0
7 893.67
8 Jhon Hancock
9 1000253791
10 0
11 148.92
12 Jane Doe
13 1000258915
14 1
15 46.58
16 Homer J. Simpson
17 1000251784
18 0
19 83.67
20 Jhon Hancock
21 1000253791
22 1
23 48.92
24 Jane Doe
```

Output:

Account	Amount	Name
1000258915	910.20	Homer J. Simpson
1000251784	1477.34	Jhon Hancock
1000253791	600.00	Jane Doe

Account	Amount	Name
1000258915	910.20	Homer J. Simpson
1000251784	1477.34	Jhon Hancock
1000253791	600.00	Jane Doe

Input: Different people but with same name and last name

```
1000258915
0
456.78
Homer J. Simpson
1000251784
0
893.67
Jhon Hancock
1000253791
0
148.92
Jane Doe
1000258916
1
46.58
Homer J. Simpson
1000251787
0
83.67
Jhon Hancock
1000253798
1
48.92
Jane Doe
```

Output:

Account	Amount	Name
1000258915	956.78	Homer J. Simpson
1000251784	1393.67	Jhon Hancock
1000253791	648.92	Jane Doe
1000258916	453.42	Homer J. Simpson
1000251787	583.67	Jhon Hancock
1000253798	451.08	Jane Doe

Account	Amount	Name
1000258915	956.78	Homer J. Simpson
1000251784	1393.67	Jhon Hancock
1000253791	648.92	Jane Doe
1000258916	453.42	Homer J. Simpson
1000251787	583.67	Jhon Hancock
1000253798	451.08	Jane Doe

Input: Scenario when someone withdraws more than they own

```
1000258915
0
456.78
Homer J. Simpson
1000251784
1
893.67
Jhon Hancock
1000253791
0
148.92
Jane Doe
|
```

Output:

```
Insufficient balance, Jhon Hancock

    Account    Amount    Name
1000258915    956.78    Homer J. Simpson
1000251784      0.00    Jhon Hancock
1000253791    797.84    Jane Doe

    Account    Amount    Name
1000258915    956.78    Homer J. Simpson
1000251784      0.00    Jhon Hancock
1000253791    797.84    Jane Doe
```

Input: Scenario when someone withdraws more than they own, but deposit after

```
1000258915
0
456.78
Homer J. Simpson
1000251784
1
893.67
Jhon Hancock
1000253791
0
148.92
Jane Doe
1000251784
0
100
Jhon Hancock
```

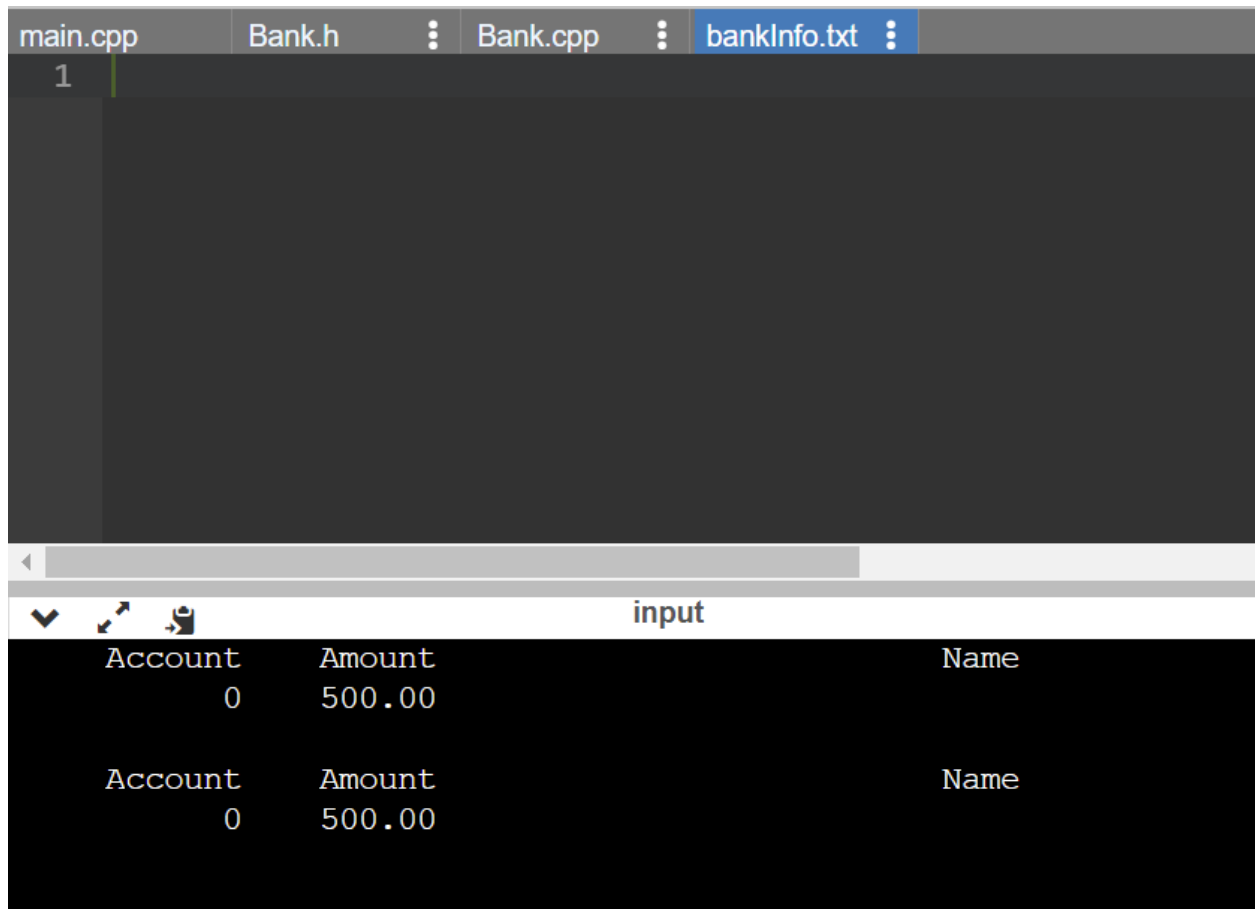
Output:

```
Insufficient balance, Jhon Hancock

    Account    Amount
1000258915    956.78
1000251784    100.00
1000253791    648.92
Homer J. Simpson
Jhon Hancock
Jane Doe

    Account    Amount
1000258915    956.78
1000251784    100.00
1000253791    648.92
Homer J. Simpson
Jhon Hancock
Jane Doe
```

Input and Output of empty file:



The screenshot shows a code editor with four tabs: main.cpp, Bank.h, Bank.cpp, and bankInfo.txt. The bankInfo.txt tab is active and shows an empty file with a cursor at line 1. Below the editor is a terminal window titled 'input' which displays the output of the program. The output consists of two identical lines of text: 'Account 0 Amount 500.00 Name'.

```
main.cpp Bank.h Bank.cpp bankInfo.txt
1
input
Account 0 Amount 500.00 Name
Account 0 Amount 500.00 Name
```