ABSTRACT

This paper introduces a MathAccounting software which is based on a mathematical accounting model. The MathAccounting software has four function models: Transactions, Reports, Backup/Restore, and Maintenances which will be introduced in detail. The MathAccounting software has little limitation, so the MathAccounting software can be used by all economic entities regardless of their size, nature of business, or form of business organization without any altering

Keywords: transactions, reports, backup/restore, and maintenances

2. Introduction of MathAccounting Software

Based on introduced mathematical accounting model, I have developed the MathAccounting Software by using the Visual Basic 2012 language and the SQL Server 2012 database in February 2015.

The MathAccounting software has little limitation, just like the equation of "1 + 1 = 2", it may be that one person plus one person equals two persons or one apple plus one apple equals two apples. So, the MathAccounting software can be used by all economic entities regardless of their size, nature of business, or form of business organization without any altering.

The MathAccounting software has four function models: Transactions, Reports, Backup/Restore, and Maintenances. Following will introduce the MathAccounting's four function models and how to use them.

We suggest that the names of all accounts and subaccounts are only consisted of English alphabets, number, and blank space when you enter these names.

For this version of MathAccounting software in March 2016, there are some limitations (from theory, the numbers are infinite):

- The maximum number of entries in each transaction is eight, which means there are maximum eight terms (items) in a sub-equation (general equation).
- The maximum number of customers or suppliers is twenty.
- The maximum level number of any accounts is three levels. Its entering form in the "MultiSubaccount Name" box is changed as the "three-level subaccount<two-level subaccount<one-level subaccount" which is different from previous version.

After executing the software, you can get the Figure 1.

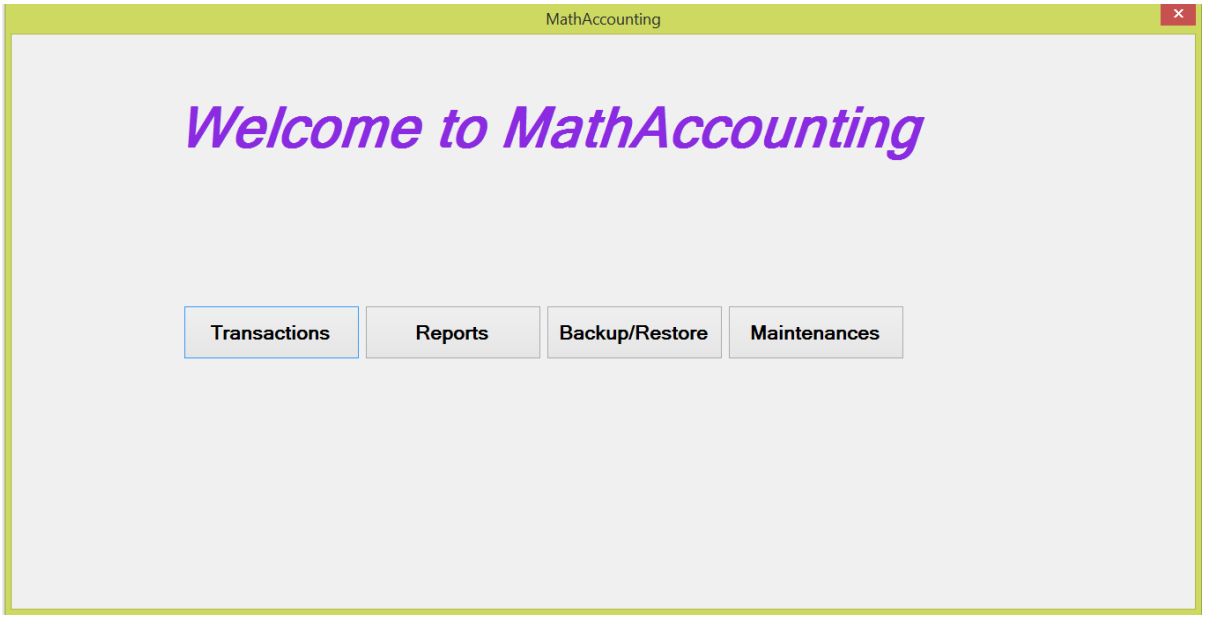


Figure 1 MathAccounting Interface

There are four boxes of functions in the Figure 1. The Transactions box is to enter each transaction, and to design your income statements, balance sheet, cash flows and so on. The Reports box is to get all information about all accounts, subaccounts, and company performance you entered. The Backup/Restore box is to backup and restore database. The Maintenances box is to delete useless accounts or alter some mistakes. However, I must emphasize such a fact that entering or altering of every amount can be only completed by use of entering a transaction in the Transaction function model.

1.1 Transactions Function Model

After clicking the Transactions box, you can get the Figure 2.

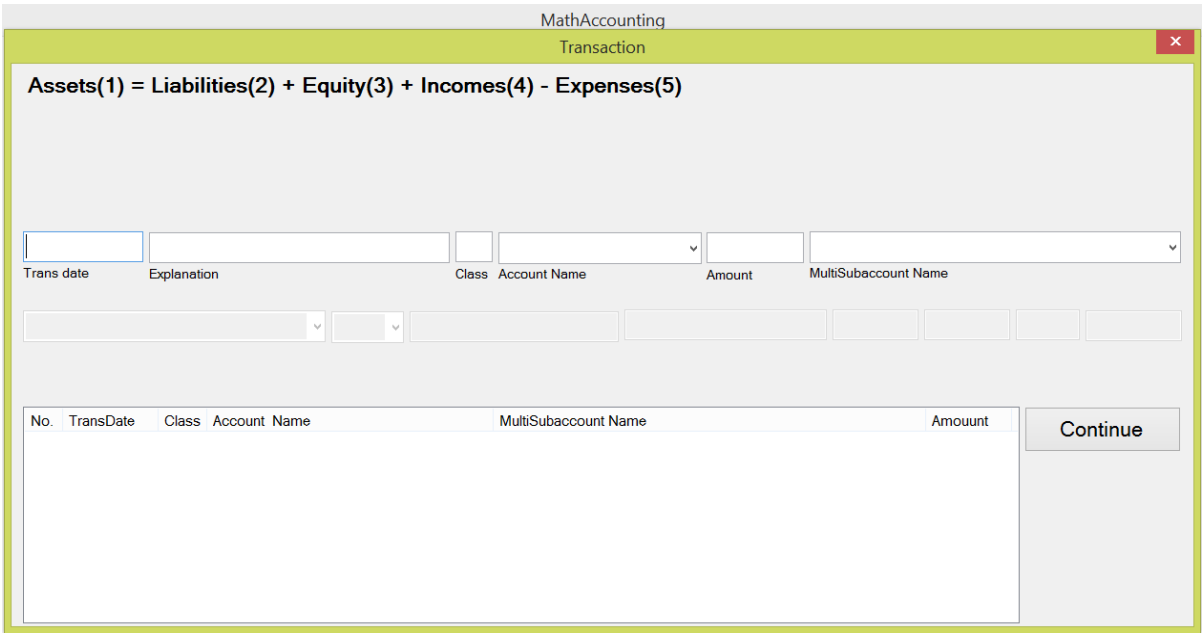


Figure 2 Transaction Entering Interface

There are three rows of boxes in the Figure 2, but you can only see the two rows of boxes now. The other row's box or boxes can be shown in satisfying special requirement, such as a new account being entered.

There are six boxes in the first row.

- Trans Date of box: enter transaction date;
- Explanation of box: enter transaction's explanation including any invoice number;
- Class of box: enter only one number of the "1-5";
- Account Name of box: enter parent account name which will appear in the income statement and the balance sheet;
- Amount of box: enter the amount. Increasing equity amount is the " + "(you can omit it); decreasing equity amount is the " – ";
- MultiSubaccount Name of box: enter a multi-subaccount name. Its form is the "three-level subaccount<two-level subaccount<one-level subaccount".

There are two boxes in third row.

- Big box: it only shows you how many entries you have entered in a transaction. If the sub-equation is equal, a general equation will appear under the dynamic accounting equation, which means that a transaction has entered into database completely and correctly. Meanwhile, the contents in the boxes of the first and second rows will disappear to be ready for a new transaction.
- Small box: click it to continue current transaction or begin a new transaction.

The second row boxes' functions will be introduced later while they are enabled.

Now, let me try to enter following five transactions.

- Investment by owners. On January 2, 2014, Ping Wang, Hua Li and Mike Newsome decide to open a RR trade business, so Ping Wang invests $4,000 cash in business, and Hua Li and Mike

Newsome each invest $3,000 cash in business.

The sub-equation can be written as following:

Cash (1): 10000 = Share Capital (3): 4000 + Share Capital (3): 3000

+ Share Capital (3): 3000

The Table 1 shows an original proof of the transaction. After I enter the “Cash” into Account Name box, the Subtotal and Reference boxes are enabled. The main functions of these two boxes are to build the balance sheet and income statements. In this transaction, I enter the “Current assets, 103” into the Subtotal Name box and the “104” into the Reference box, which shows in the following Figure 3.

Transaction Original Proof							
Transaction Date: 1/2/2014						General ID	1
Explanation: Ping Wang, Hua Li and Mike Newsome decide to open a RR trade business							
No.	Class	Account Name	Left Amount	Right Amount	MultiSubaccount Name	Subtotal Name	Ref
1	1	Cash	10000		Cash receipts from owners< Financing activities	Current assets,103	104
2	3	Share capital		4000	Capital-Ping Wang	Owners'capital,303	304
3	3	Share capital		3000	Capital-Hua Li		
4	3	Share capital		3000	Capital-Mike Newsome		
5							
6							
7							
8							
Total			10000	10000			
Customer or Supplier's Name			Address	E-mail		Postal Code	
City			State	Country			

Person Handling: Manager:

Date: Date:

Table 1 Original Proof of First Transaction

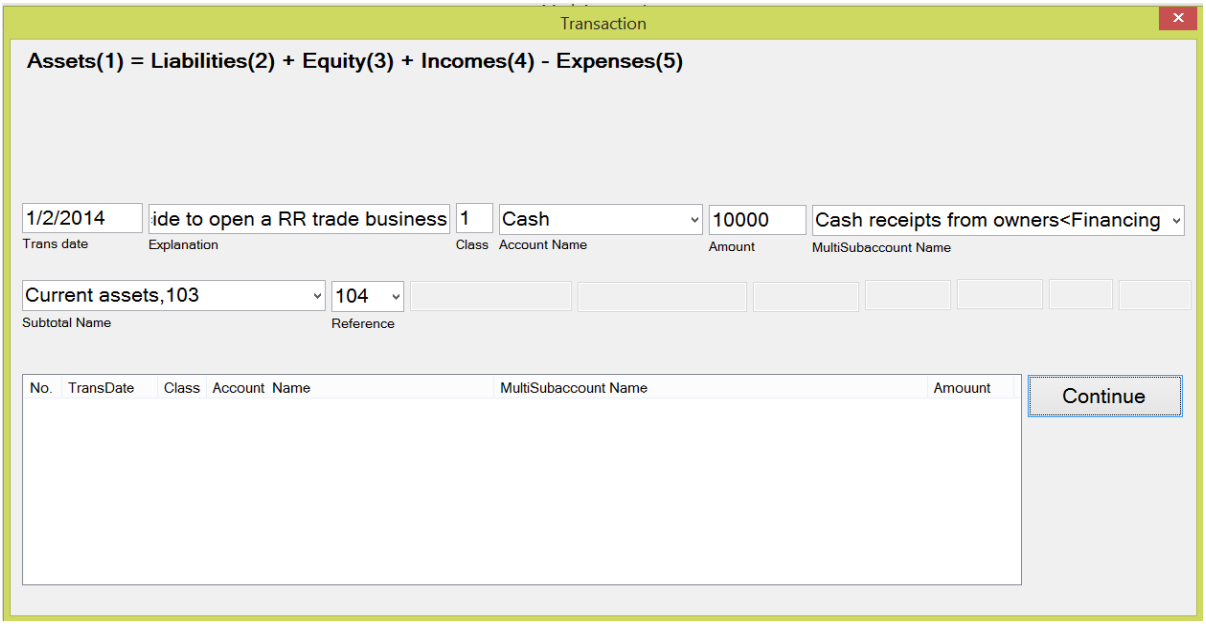


Figure 3 Entering Cash Account

Clicking Continue box, I get the Figure 4. The Figure 4 is different from the Figure 3. One is that some boxes are empty and the cursor is focus on the Class box, which tells you that this entry is completed and new entry can begin; another is that what I just entered appears in the big box.

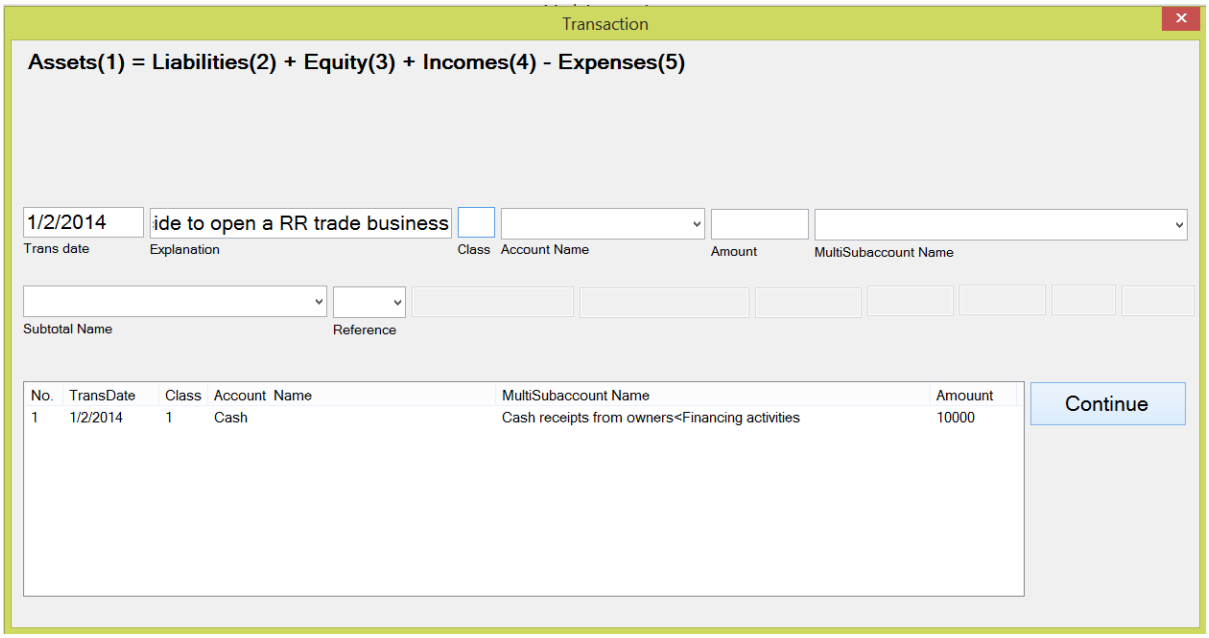


Figure 4 Entered Cash Interface

Because share capital account has three one-level subaccounts, I must enter these one-level subaccounts separately. The Figure 5, the Figure 6, and the Figure 7 show the three entries respectively.

From the Figure 5, you notice that the Subtotal Name box and the Reference box keep enabled after entering “Share Capital” into the Account Name box because the Share Capital is a new account. I enter the “Owners’ capital, 303” and the “304” into the Subtotal Name box and the Reference box” respectively.

From the Figure 6, the Subtotal Name box and Reference box are not enabled after entering “Share Capital” into the Account Name box because the Share Capital account has existed in the database.

From the Figure 7, the Subtotal Name box and Reference box are not enabled too after entering “Share Capital” into the Account Name box because of the same reason. A general equation appears under the dynamic accounting equation after clicking the Continue box and the cursor is focus on the Trans date box, which actually means that a transaction has completed correctly and the entering information has saved into the database.

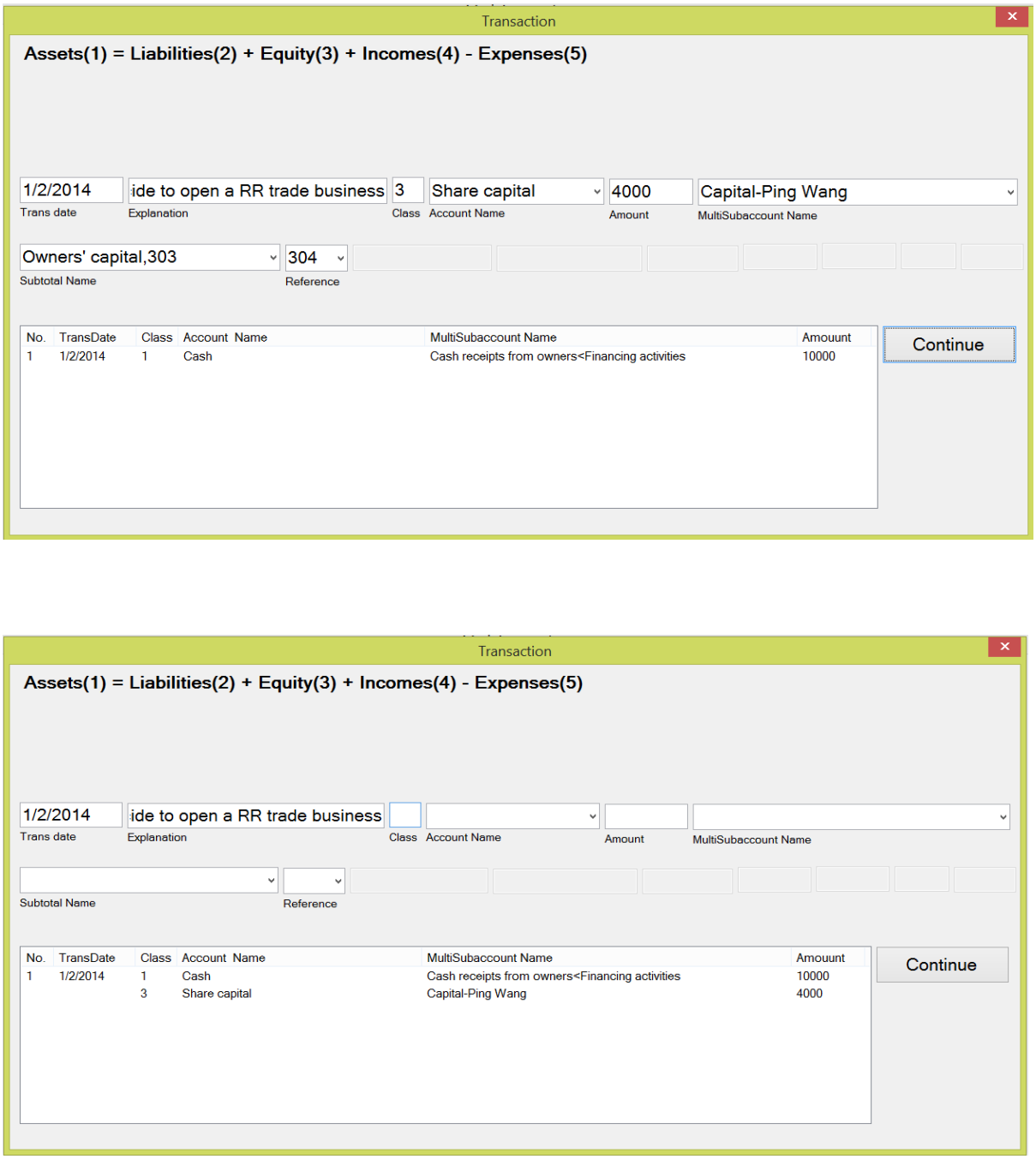
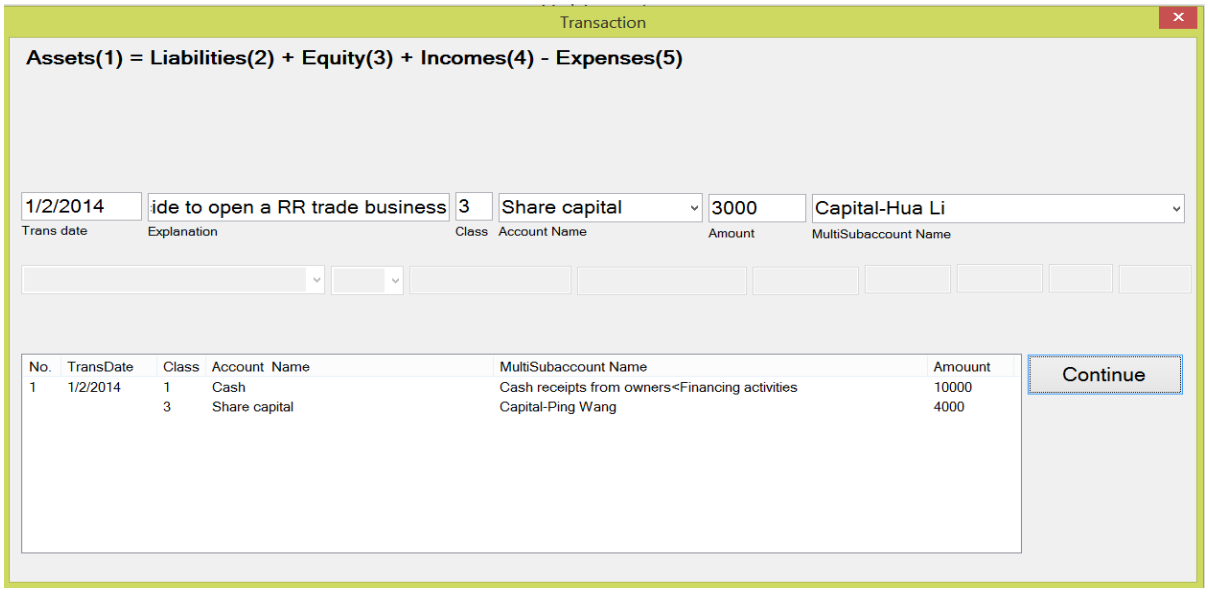


Figure 5 Entering First One-level Subaccount



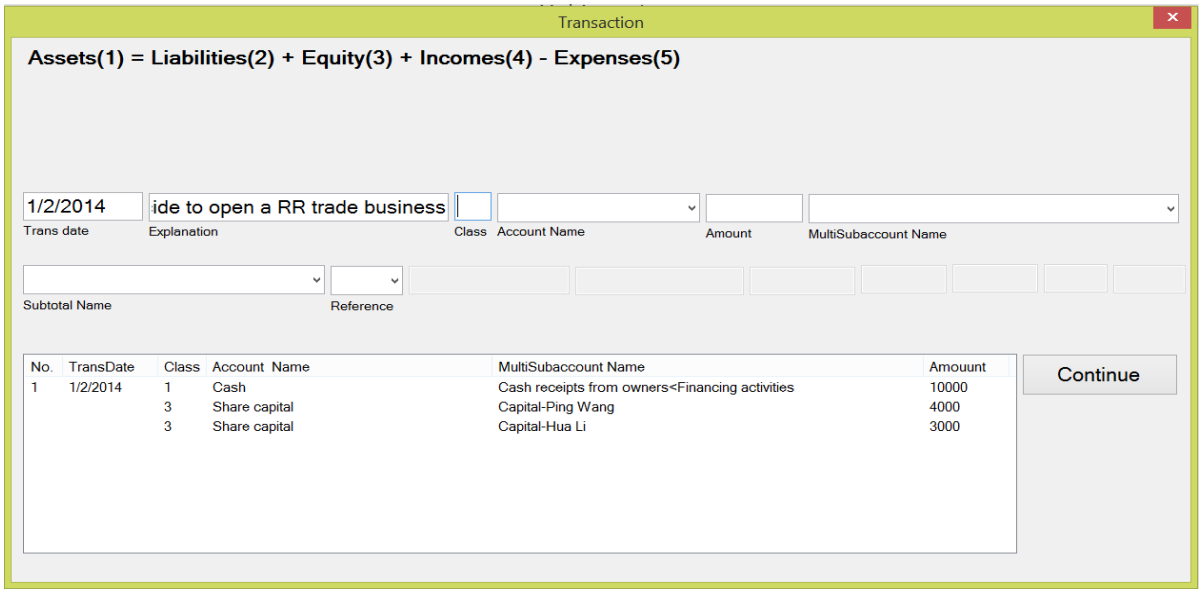
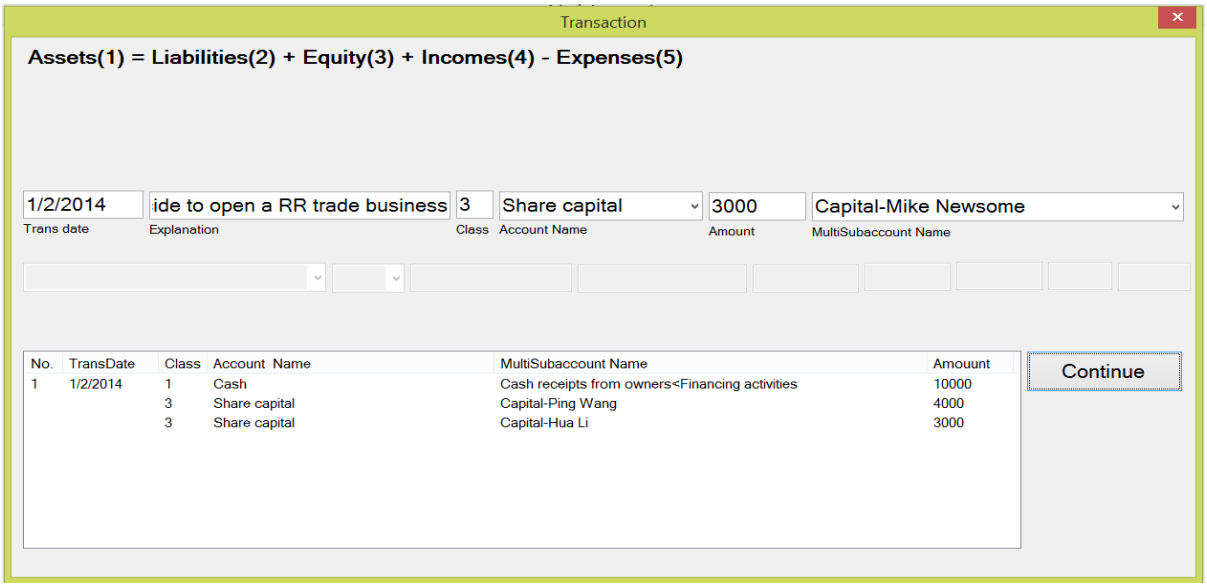


Figure 6 Entering Second One-level Subaccount



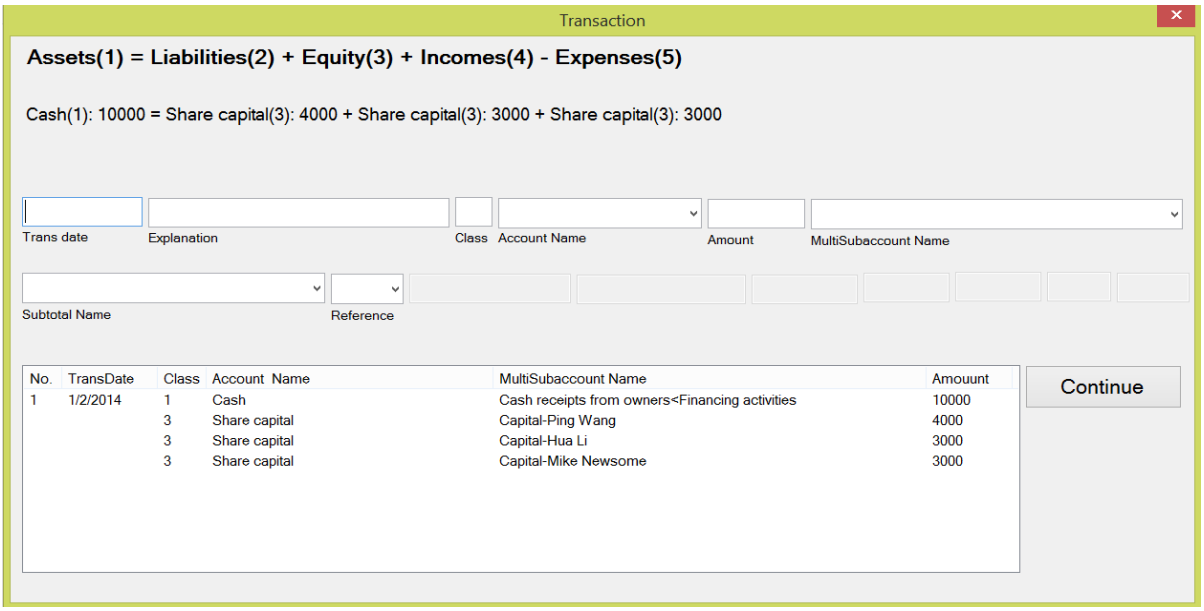


Figure 7 Entering Third One-level Subaccount and Completed a Transaction

- Purchase of supplies by cash. On January 3, 2014, RR purchases some supplies by $193 cash from the AA company.

  The sub-equation is

  Cash (1): -193 + Supplies (1): 193 = 0

  The Table 2 shows an original proof of the second transaction. After entering cash account's information, I get the Figure 8.

Transaction Original Proof							
Transaction Date: 1/3/2014						General ID	2
Explanation: Purchase of supplies							
No.	Class	Account Name	Left Amount	Right Amount	MultiSubaccount Name	Subtotal Name	Ref
1	1	Cash	-193		Cash payment for operating expenses< Operating activities		
2	1	Supplies	193		N	Current assets,103	106
3							
4							
5							
6							
7							
8							
Total			0	0			
Customer or Supplier's Name			Address	E-mail		Postal Code	
City			State	Country			

Person Handling: Manager:

Date: Date:

Table 2 Original Proof of Second Transaction

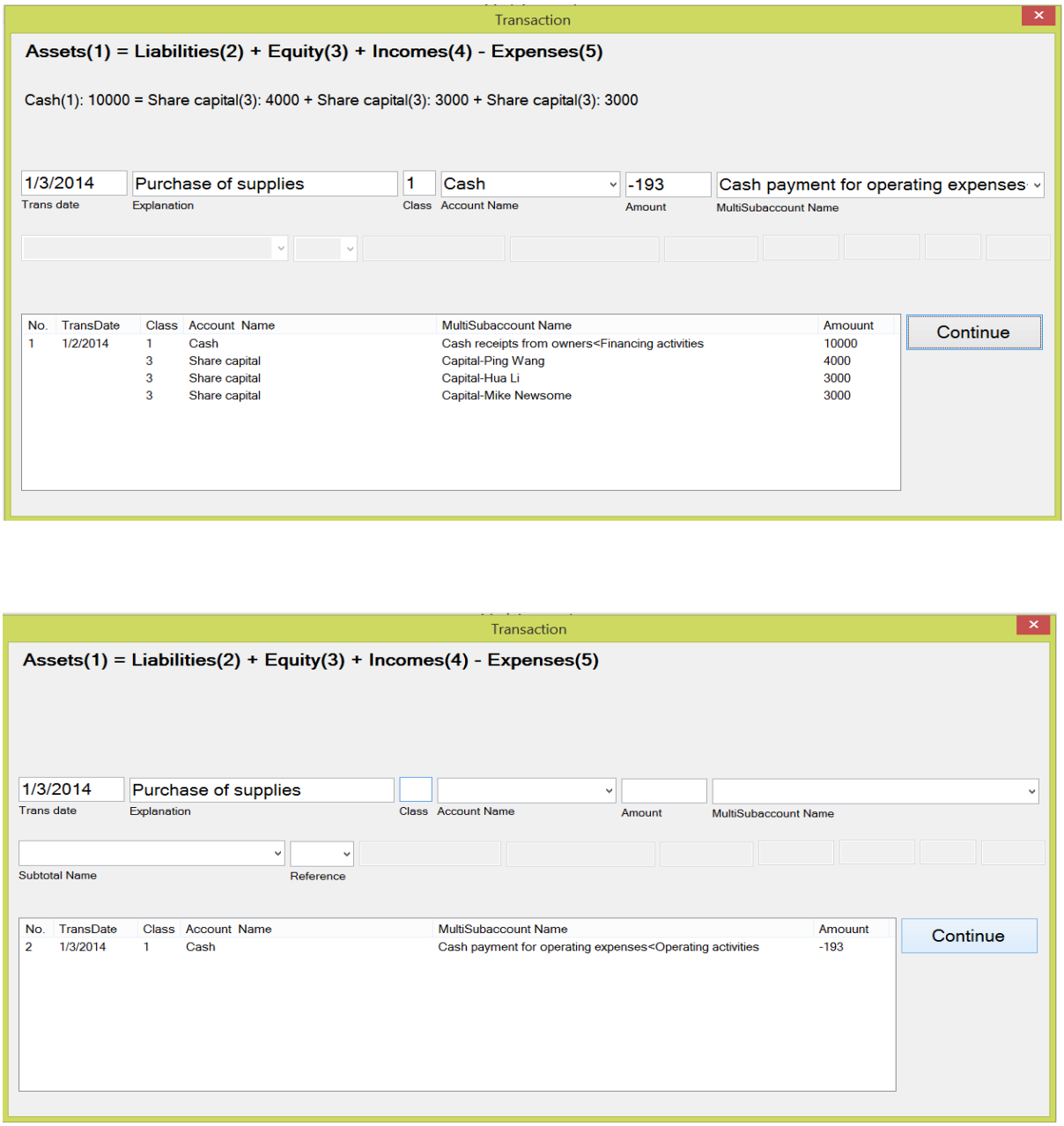


Figure 8 Entering Cash Account

The Multisubaccount Name box will build a cash flows statement by entering cash account's one-level subaccount and two-level subaccount into the Multisubaccount Name box. From the Figure 8, its entering form is the "Cash payment for operating expenses< Operating activities".

Similarly, I can build the account flows statement for every account if it has the two-level accounts. The detail of the account flows statement will be introduced later.

Entering the supplies account and getting the Figure 9.

From the Figure 9, the Supplies account is a new account, so I enter row number 106 into the Reference box. Of course, you may enter number105 or108 if you like. There is a letter of the "n" in the Multisubaccount Name box, which means that the supplies account has not any subaccount.

A general equation appears under the dynamic accounting equation in the Figure 9, which means that the transaction has entered into the database correctly.

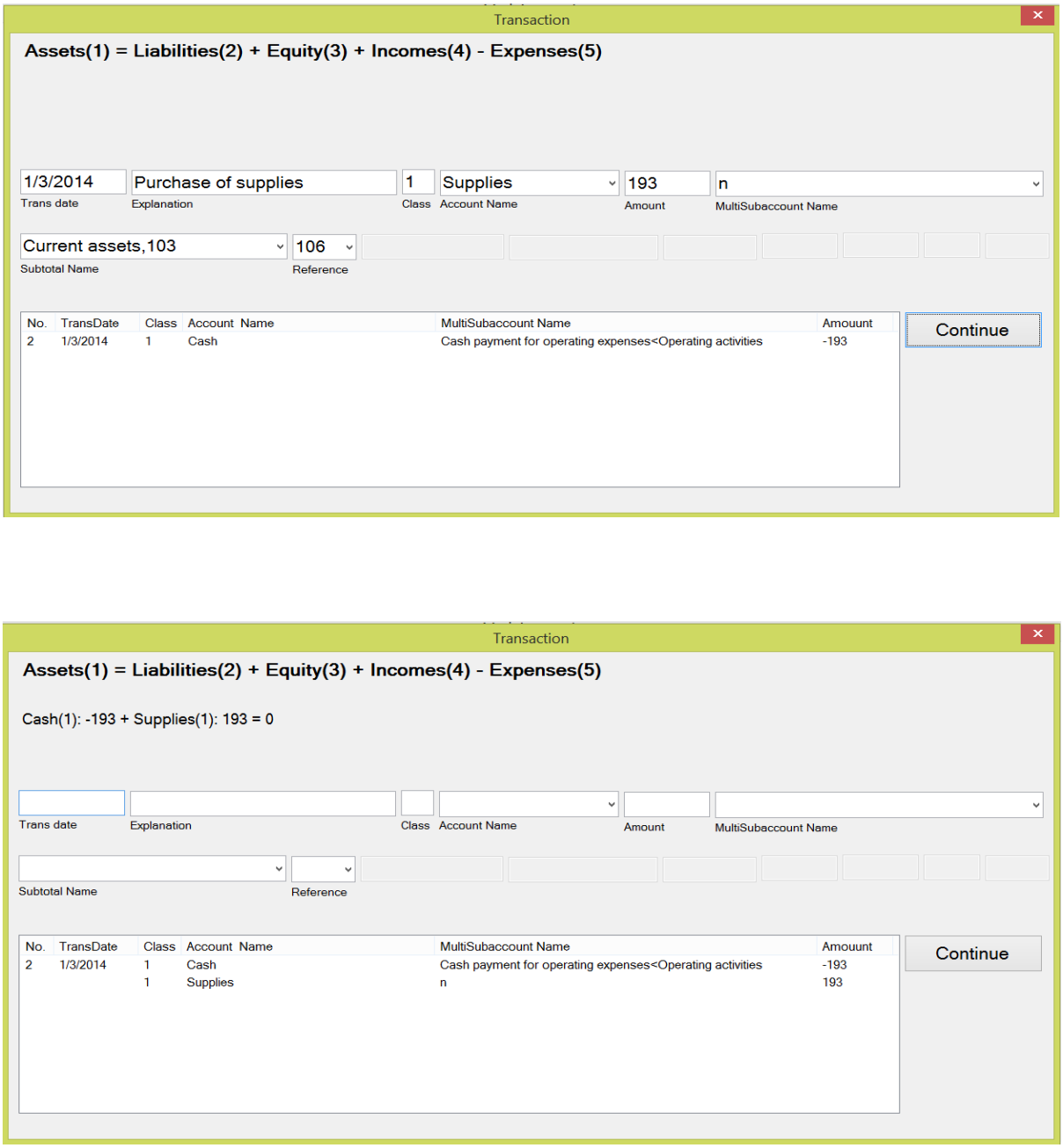


Figure 9 Entering Supplies Account

- Cash payment for Hua Li's taxi fee expense. On same day, Hua Li takes taxi to carry on the supplies for $47 cash.

  The sub-equation is

  Cash (1): -47 = - Travelling expenses (5): 47

  The Table 3 shows an original proof of the third transaction.

  The Travelling expenses account is a new account, so the Subtotal Name box must be entered. The travelling expenses must be under the row of the "Gross Margin" whose number is 451, so the row number of the Travelling expenses account should be greater than number 451. If the Subtotal name is the "Operating and Administrative expenses, 453"， the number in the Reference box should obviously be 454 (or 456 if you like), seeing the Figure 10.

  The Travelling expenses account has the two-level subaccounts, such as the "Different person< Purchase department", the "Different person< Office department", and the "Different person< Sales department", so its entering form should be the "Hua Li <Purchase department". However, if there are any other accounts with the two-level subaccounts which are also divided according to the different departments, then you must give a signal to distinguish them. Later, you will see an example of the other expenses account. So, its entering form is the "Hua Li-Travelling< Purchase department-Travelling".

Transaction Original Proof							
Transaction Date: 1/3/2014						General ID	3
Explanation: Cash payment for Hua Li’s taxi fee expense							
No.	Class	Account Name	Left Amount	Right Amount	MultiSubaccount Name	Subtotal Name	Ref
1	1	Cash	-47		Cash payment for operating expenses< Operating activities		
2	5	Travelling expenses		-47	Hua Li-Travelling< Purchase Department-Travelling	Operating and administrative expenses,453	454
3							
4							
5							
6							
7							
8							
Total			-47	-47			
Customer or Supplier's Name			Address	E-mail		Postal Code	
City			State	Country			

Person Handling: Manager:

Date: Date:

Table 3 Original Proof of Third Transaction

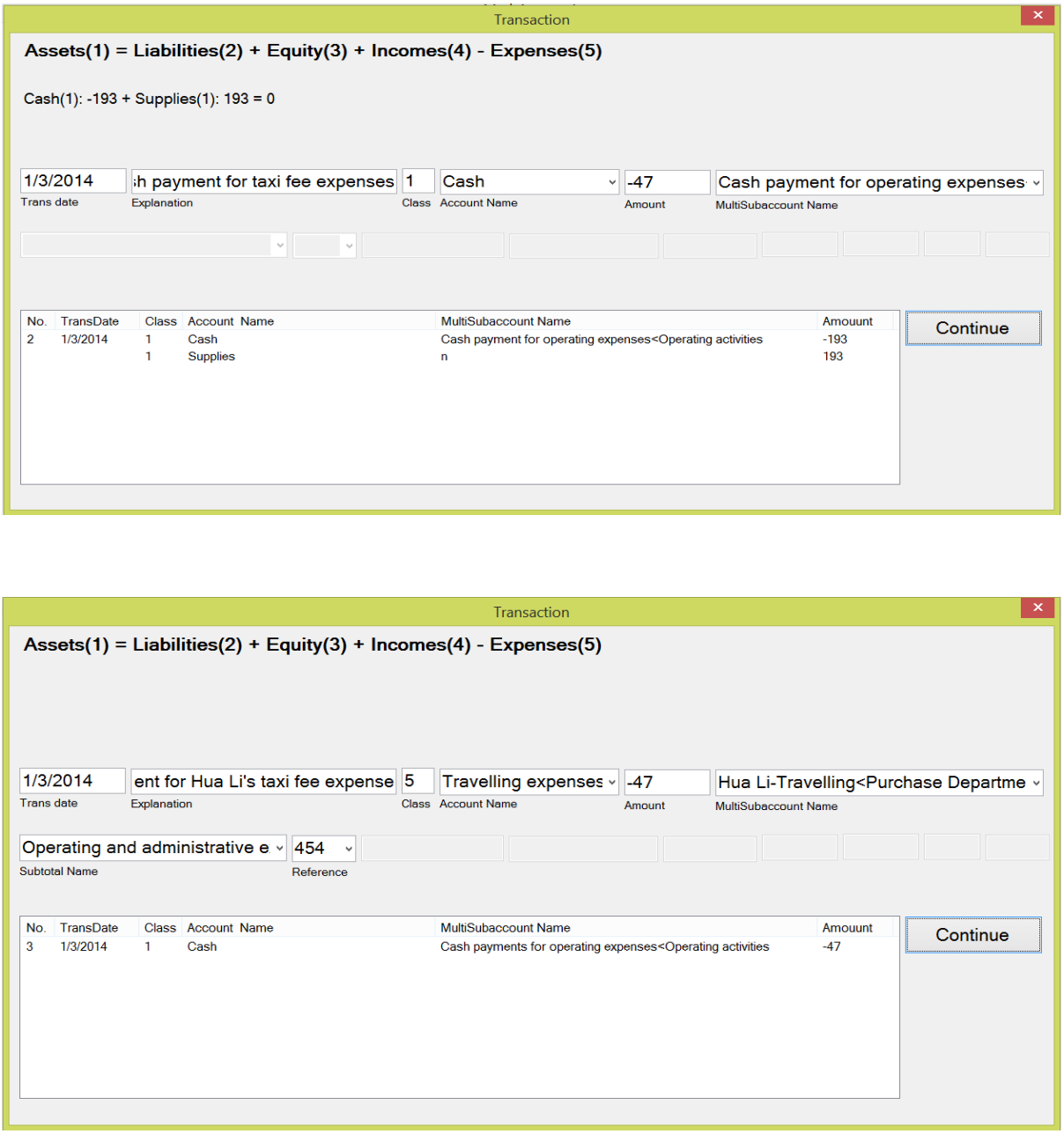


Figure 10 Entering Cash and Travelling expenses accounts

- Purchase of inventory for some cash and other on credit. On January 5, 2014, RR receives $3,670 inventory for $670 cash and other on credit from A1 company (phone number: 987654321).

  The sub-equation is

  Cash (1): -670 + Inventory (1): 3670 = Account payable (2): 3000

  The cash is paid to a supplier, but the payments still belongs to the “Operating activities”. The Multisubaccount Name box’s form is the “Cash payment to suppliers< Operating activities”.

  The inventory account belongs to the “Current assets” of the subtotal name too and it has the four three-level subaccounts and the one two-level subaccounts (it may have other subaccounts later), seeing the table 4, so I must separately enter these subaccounts, just like previous share capital account.

  For understanding the relationship of these subaccounts easily, I use mathematical language to describe them. In real environment, you can use actual names to replace these logical names.

  After entering the inventory account, I get the Figure 11.

Transaction Original Proof							
Transaction Date: 1/5/2014						General ID	4
Explanation: RR purchases $3,670 inventory by $670 cash and other on credit from A1 company (phone number: 987654321)							
No.	Class	Account Name	Left Amount	Right Amount	MultiSubaccount Name	Subtotal Name	Ref
1	1	Cash	-670		Cash payment to suppliers< Operating activities		
2	1	Inventory	10*165		Inven111<Inven11<Inven1	Current assets,103	108
3	1	Inventory	4*225		Inven112<Inven11<Inven1		
4	1	Inventory	0.8*650		Inven121<Inven12<Inven1		
5	1	Inventory	5*66		Inven122<Inven12<Inven1		
6	1	Inventory	30*9		Inven13<Inven1		
7	2	Account payable		3000	987654321	Current liabilities,203	204
8							
Total			3000	3000			
Customer or Supplier's Name			Address	E-mail		Postal Code	
A1			A2	A3		A4	
City			State	Country			
A5			A6	A7			

Person Handling: Manager:

Date: Date:

Table 4 Original Proof of Fourth Transaction

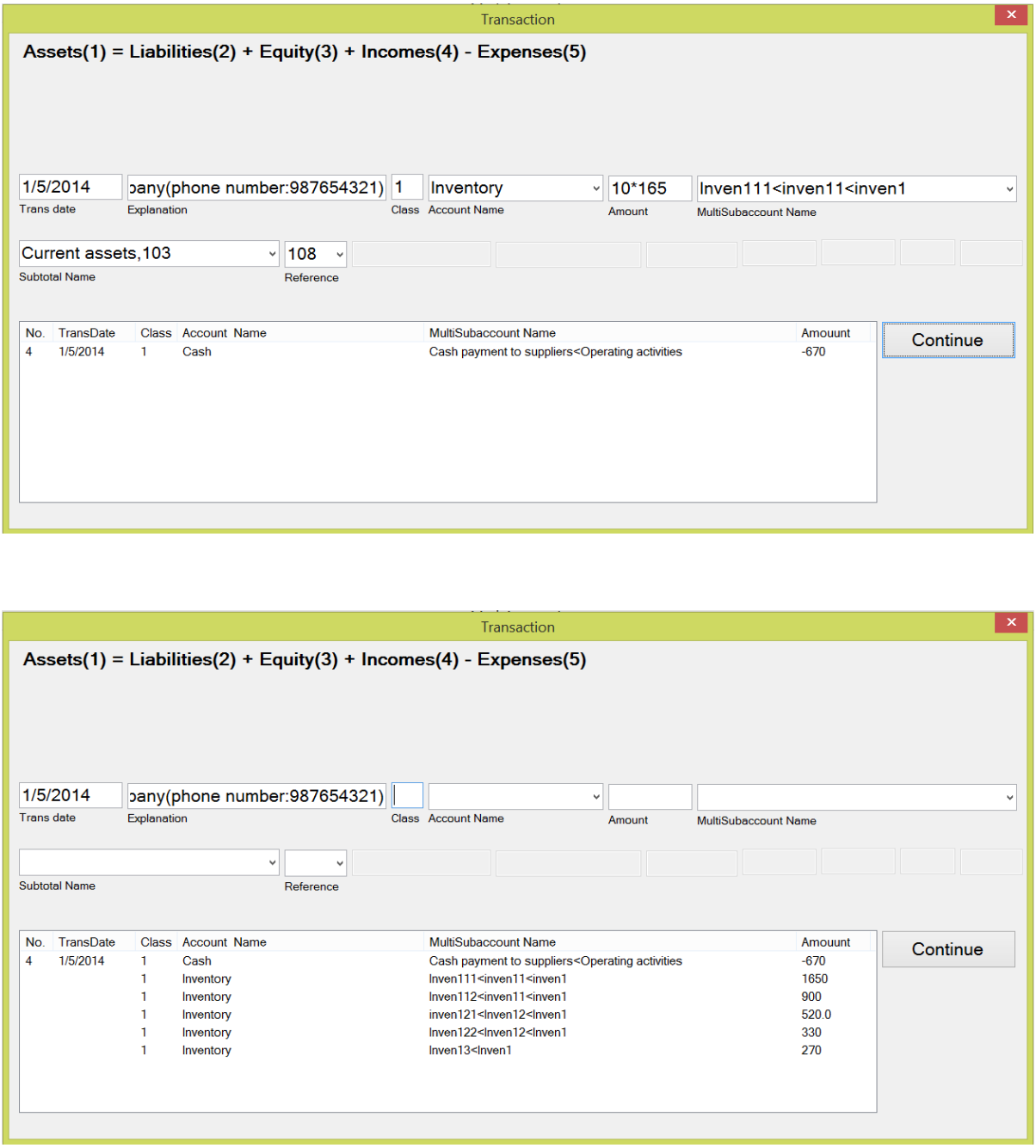


Figure 11 Entering Inventory Account

After entering the account payable account, I get the Figure 12. From the Figure 12, you notice that there is a big change which is that the other boxes of the second row are enabled now. These boxes are used to enter customers' or suppliers' information. Here is a supplier. The account payable is a new account, and its subtotal name should be the Current liabilities. I give the row number of subtotal name is 203, so the reference box is 204. In addition, a general equation appears under the dynamic accounting equation, which means the transaction is completed correctly.

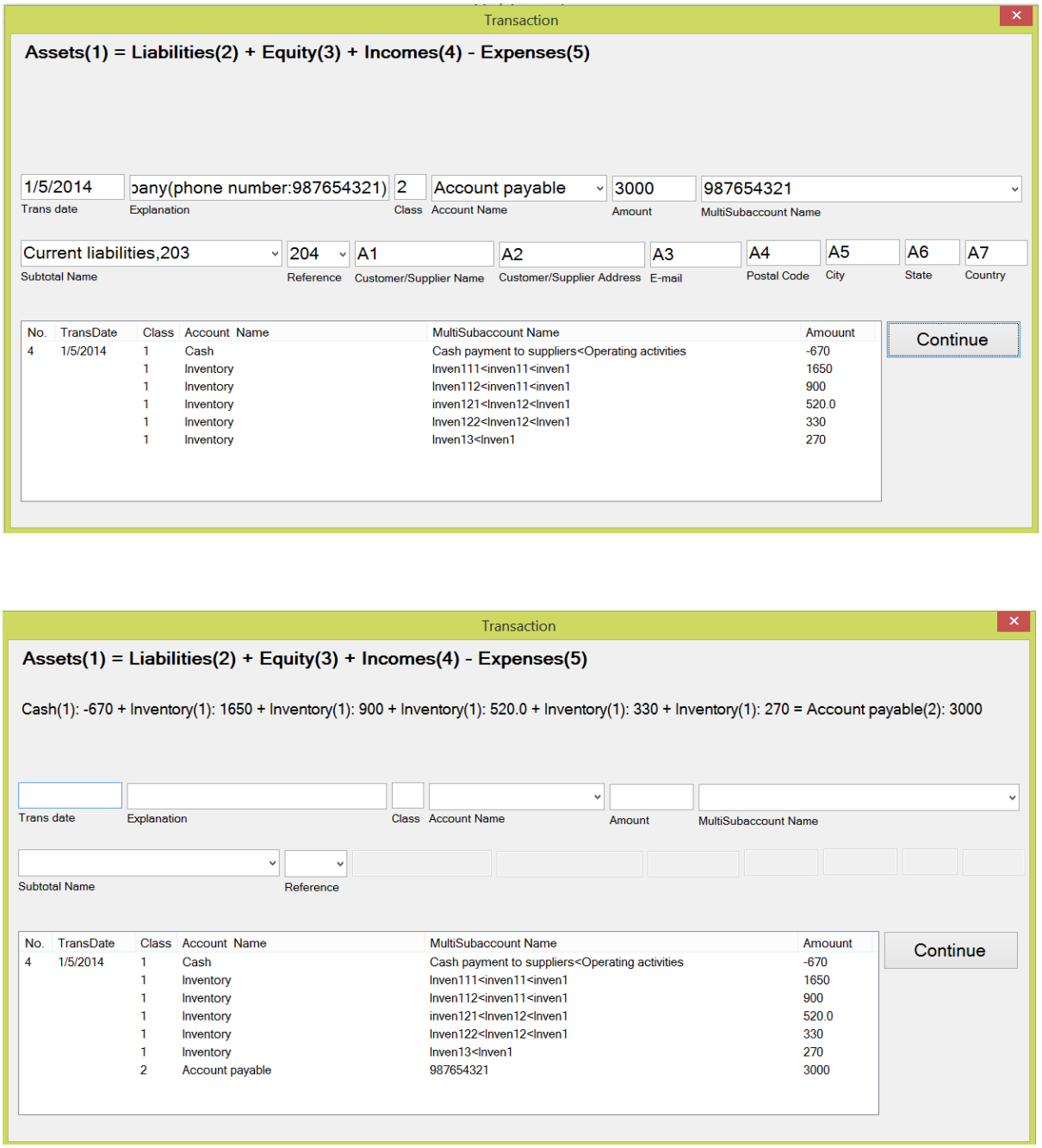


Figure 12 Entering Account Payable

- Xiao Zhou sales for some cash and other on credit. On January 5, 2014, RR sells $1,900 inventory for sales of $2,530 to B1 Company (phone number: 123456789), and receives cash 300.

  The sub-equation is

  Cash (1): 300 +Inventory (1): -1900 + Account receivable (1): 2230 = Sales (4): 2530

  -Cost of sales (5): 1900

  Cash is received from a customer, so the Multisubaccount Name box is entered by the "Cash receipts from customers< Operating activities", which is different from the previous cash entry. Its two-level subaccount is the "Cash receipts from customers", seeing the Table 5.

  The entries of the inventory are similar as previous inventory's entries, but please pay attentions of the fact that their amounts all should be negative because they are sold and the amounts decrease.

  The entry of the account receivable is similar as previous account payable's entry. Its subtotal name is the "Current assets,103" and its row number is 110.

  After entering the Sale account and clicking the Continue Box, I get the Figure 13.

Transaction Original Proof							
Transaction Date: 1/5/2014						General ID	5
Explanation: RR sells $1,900 inventory to B1 Company (phone number: 123456789) for sales of $2,530 and receives $300 cash							
No.	Class	Account Name	Left Amount	Right Amount	MultiSubaccount Name	Subtotal Name	Ref
1	1	Cash	300		Cash receipts from customers< Operating activities		
2	1	Inventory	-10*91		Inven111<Inven11<Inven1		
3	1	Inventory	-4*130		Inven112<Inven11<Inven1		
4	1	Inventory	-0.8*375		Inven121<Inven12<Inven1		
5	1	Inventory	-5*34		Inven122<Inven12<Inven1		
6	1	Account receivable	2230		123456789	Current assets,103	110
7	4	Sales		2530	Xiao Zhou-Sales	Revenues,403	404
8	5	Cost of sales		-1900	N	Cost,431	432
Total			630	630			
Customer or Supplier's Name			Address	E-mail		Postal Code	
B1			B2	B3		B4	
City			State	Country			
B5			B6	B7			

Person Handling: Manager:

Date: Date:

Table 5 Original Proof of Fifth Transaction

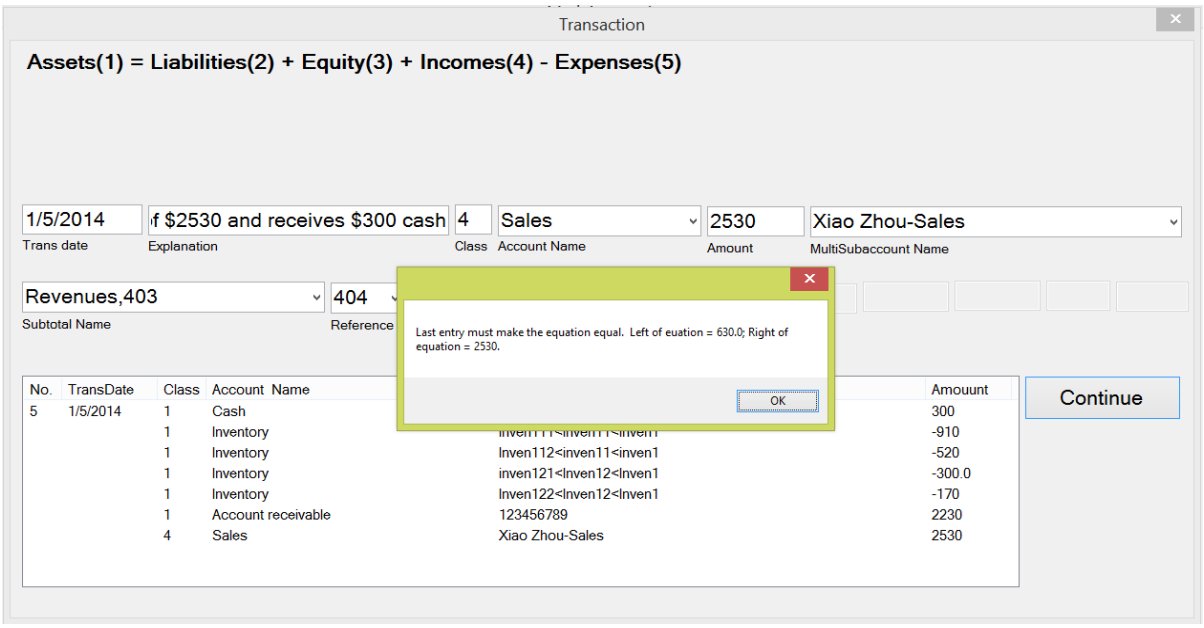
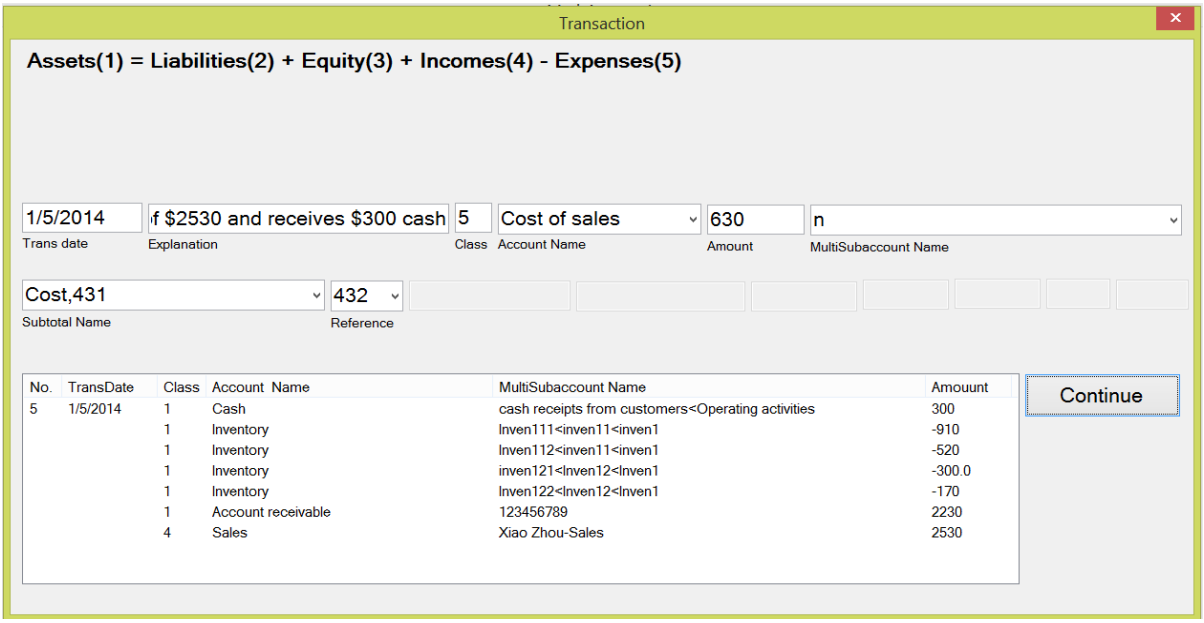


Figure 13 an Information Box Appearing

From the Figure 13, an information box appears. It tells me that I have entered 7 entries and the amounts of the left and the right of the sub-equation, so I must enter correct amount in the last entry (eighth entry) to make the two sides of the sub-equation equal.

A transaction has only a maximum number of eight entries in this version of the MathAccountion software. From theory, a transaction can have infinite entries. I will increase the entries' number of a transaction in later version of the MathAccounting software.

Entering the Cost of sales account gets the Figure 14. From the Figure 14, the cost of sales account is a new account and should appear under the Subtotal name of the "Revenues" (its row number is 403), so the row number of the Subtotal name should be 431 and the reference box's number be 432. In addition, a general equation appears under the dynamic accounting equation, which means that the transaction is completed correctly.



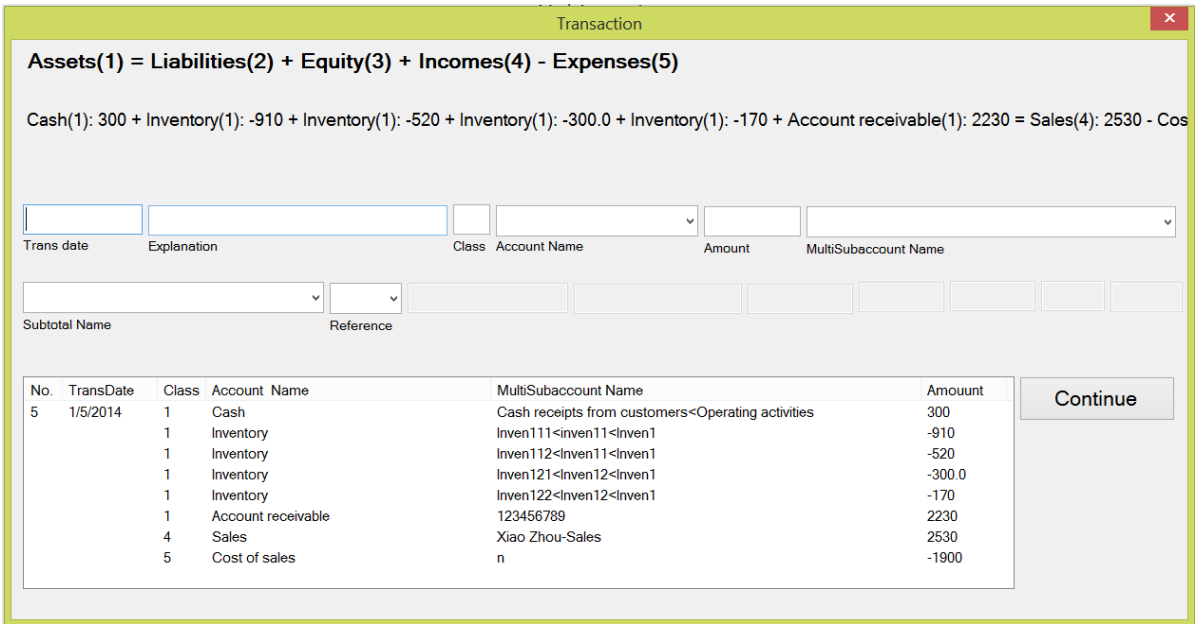


Figure 14 Entering Cost of Sales Account

Before entering more transactions, let us take a rest and look at the other three function models: Reports, Backup/Restore, and Maintenances.

2.2 Reports Function Model

The Reports function model does not check anything and only shows you all information you have entered into the database in the Transactions function model. After calculating or categorizing behind the screen, the information is shown by the kind of the tables.

Executing the MathAccounting software and clicking the Reports Box, you get the following Figure 15. There are 18 small boxes on the right of the screen, which means that you can get 18 different information tables. When you click a box, you may be required to enter simple information, such as an account name. Entering the capital case letters or the lower case letters does not matter.

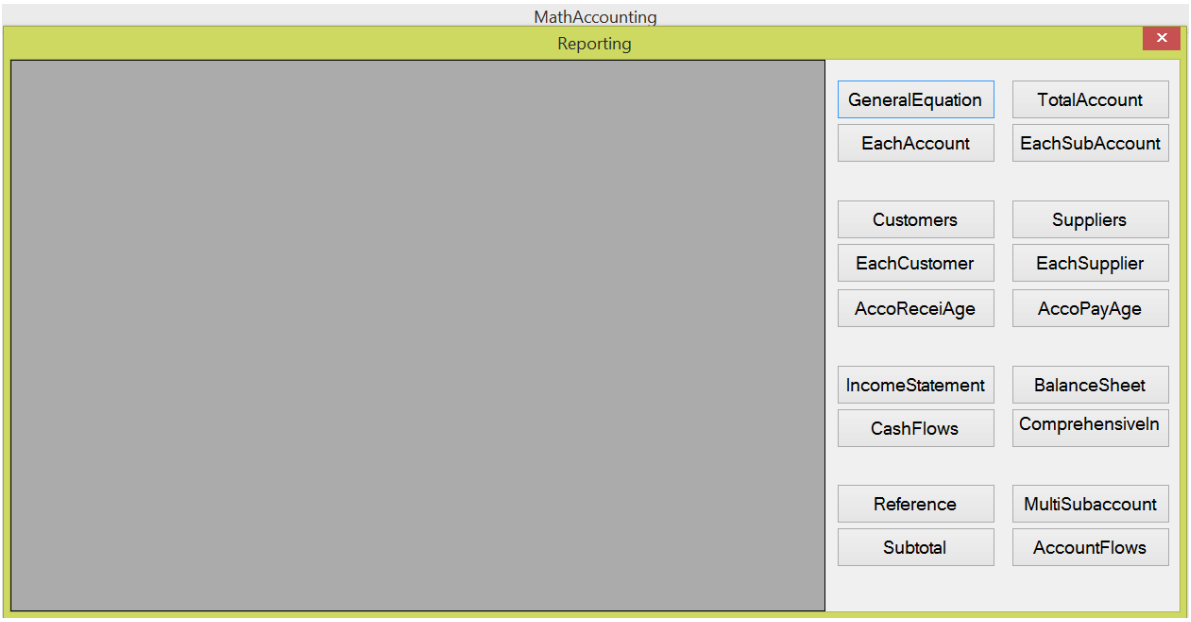


Figure 15 Reports Function Model Interface

Clicking the GeneralEquation box, you get the Figure 16, which shows you five general equations or sub-equations and other information you entered previously. The General ID is a very useful parameter which is often quoted or referenced by other processes or the tables except for recording total number of the transactions you have entered. Scrolling rightly, you can get more information.

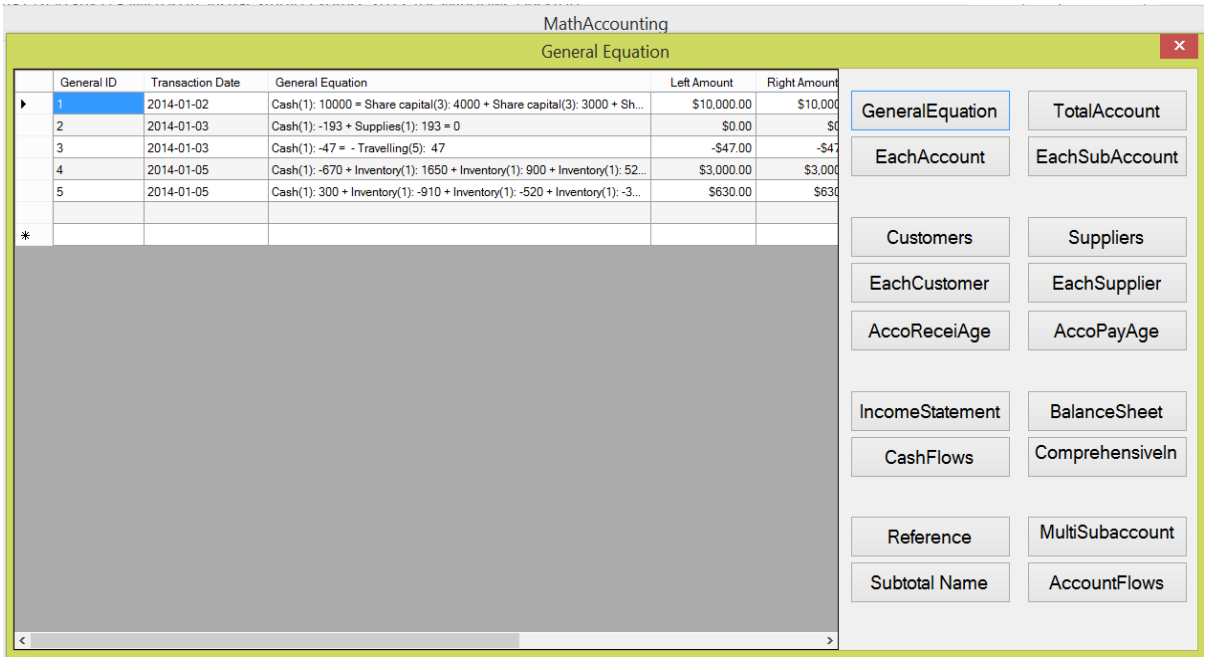


Figure 16 General Equation Table

Clicking the TotalAccount box, you get the Figure 17, which requires you enter one number of the class number 1-5. If entering “1” and clicking the OK box, you get the Figure 18. There are five accounts, their subtotal names and their balances in the Figure 18. Similarly, I can get other classes’ accounts.

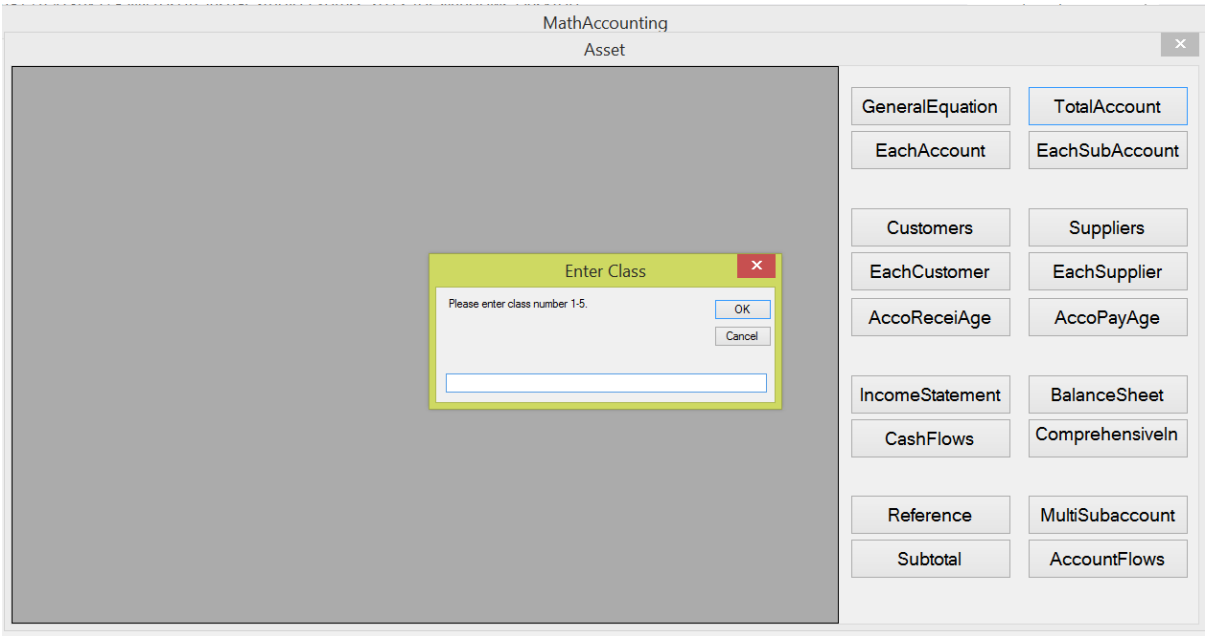


Figure 17 Entering Class Number

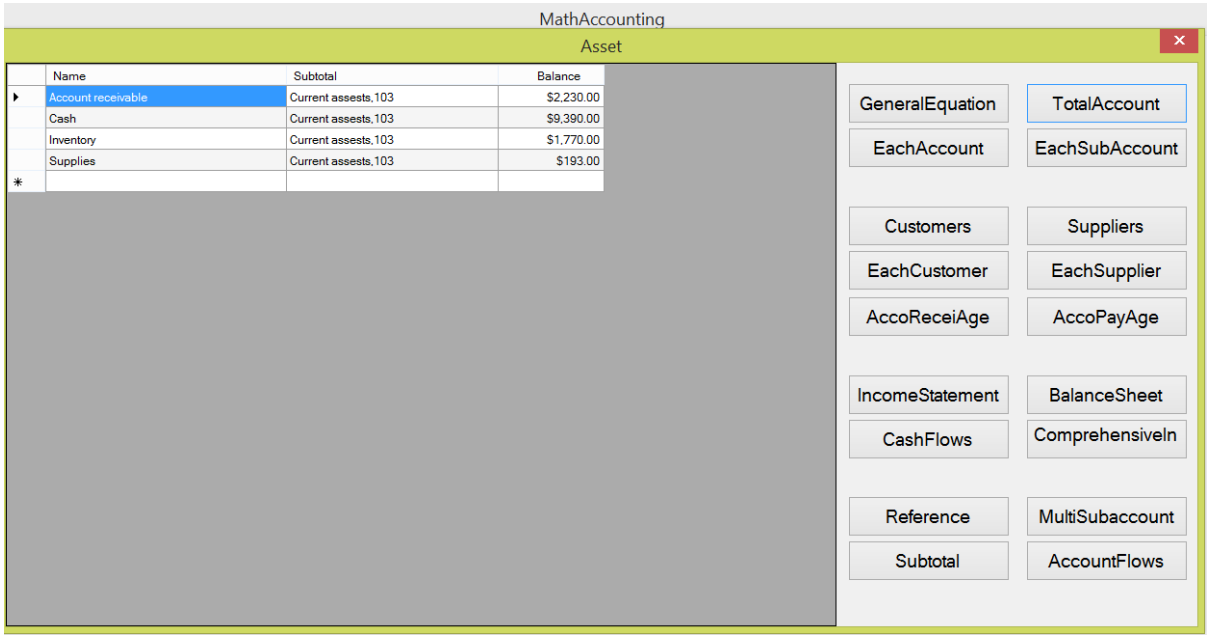


Figure 18 Total Assets Accounts Table

Clicking the EachAccount box, you get the Figure 19 which requires you to enter an account name. After entering the “iNvenTory” and clicking the OK box, you get the Figure 20. The ID number is the total entries of the Inventory account, which is different from the General ID obviously.

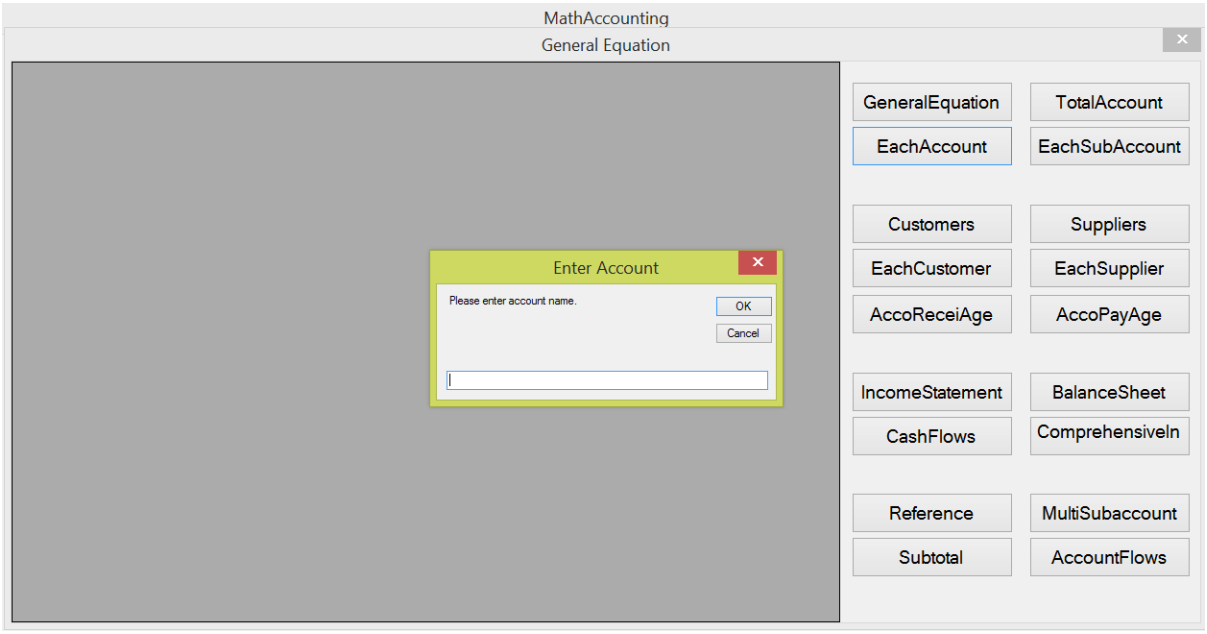


Figure 19 Entering Account Name

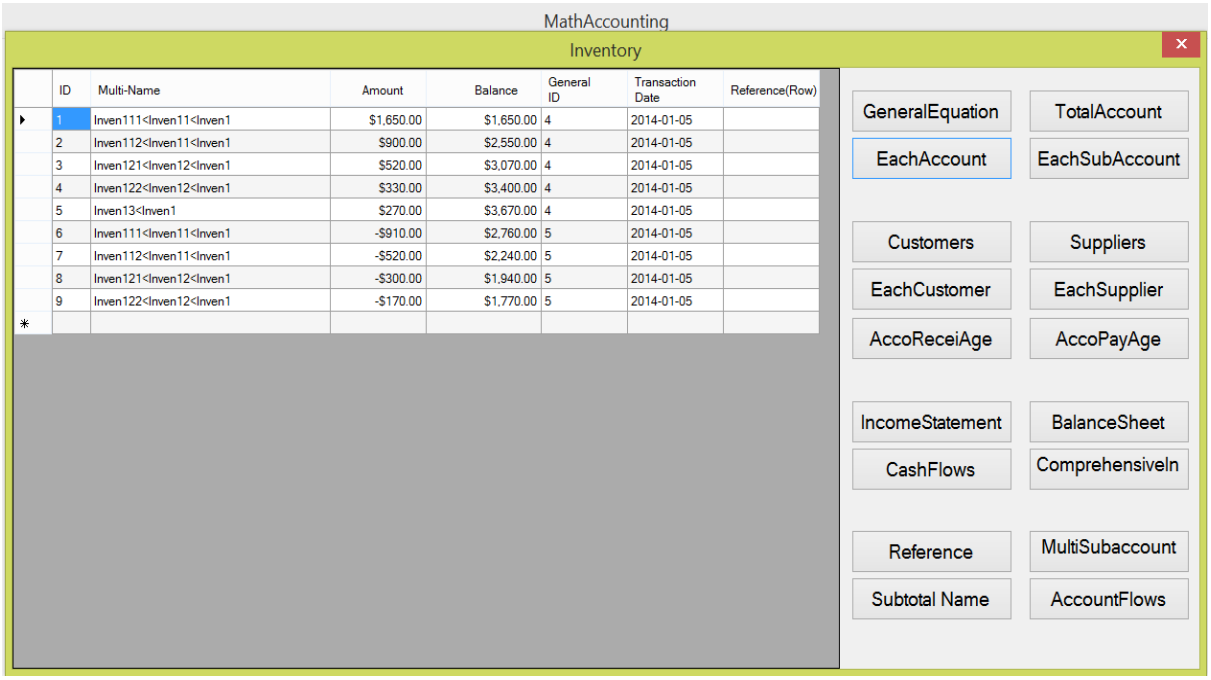


Figure 20 Inventory Table

After clicking the EachSubAccount box and entering the “Inven122”, I click the OK box and get the Figure 21.

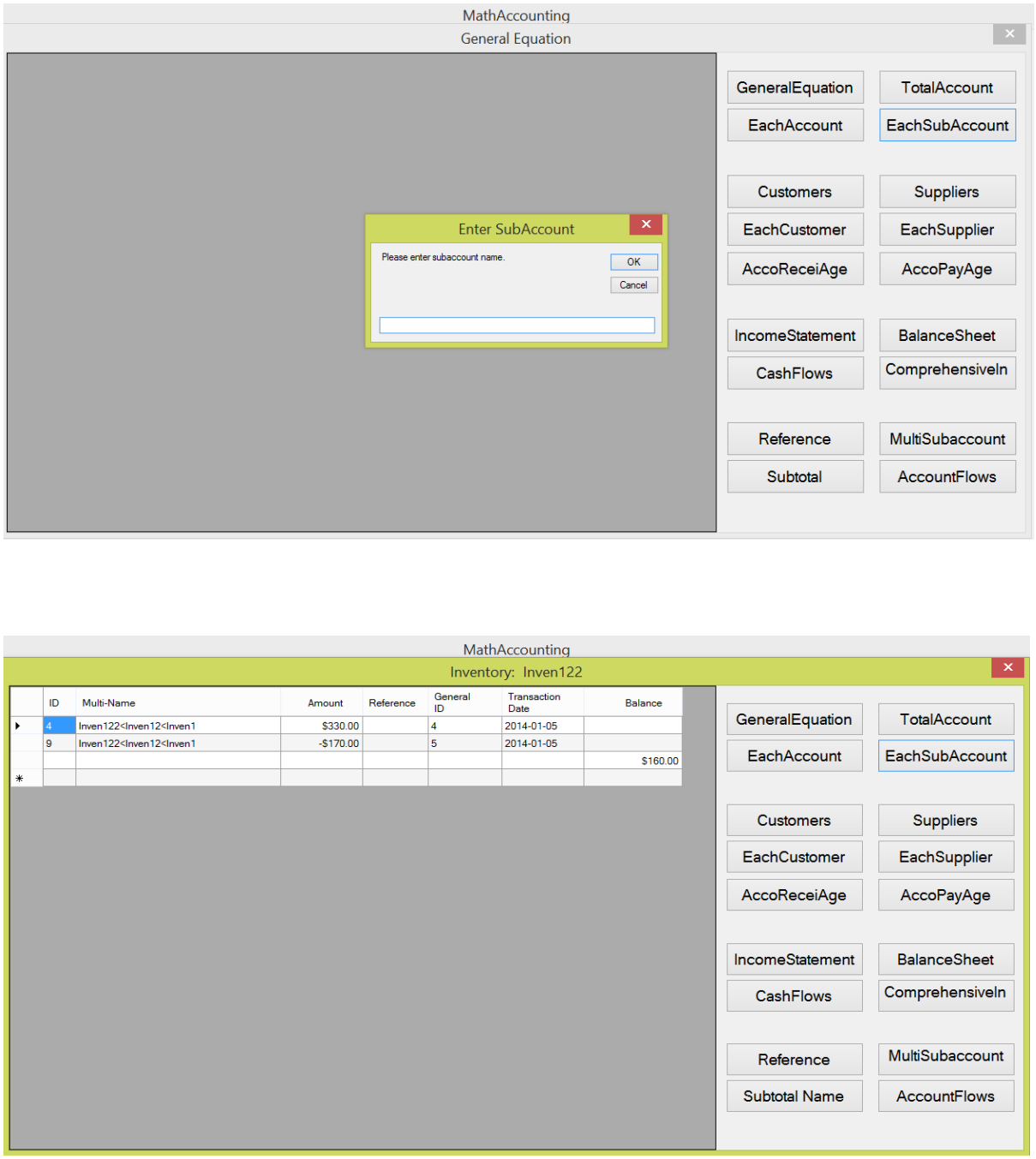


Figure 21 Three-Level Subaccount Inven122 Table

Now, take a look at the three boxes about the customers' information: Customers box, EachCustomer box, and AccoReceiAge box. Clicking the Customers box gets all customers' information. After clicking the EachCustomer box, you are required to enter this customer's telephone number, and then click the OK box. The Figure 22 shows the results after correctly completed the procedures.

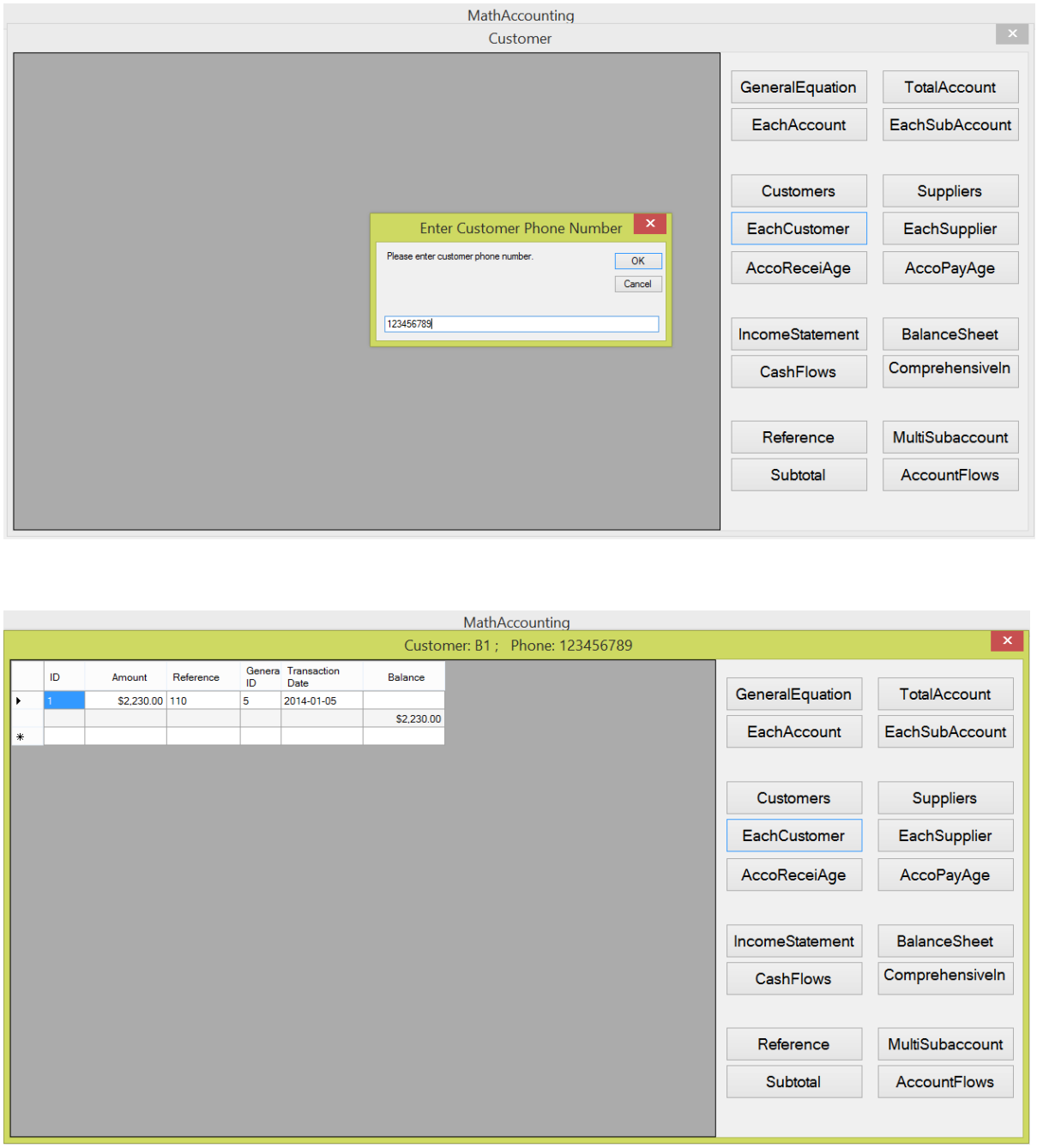


Figure 22 Account receivable for Customer B1

The AccoReceiAge box will show you how many customers and their balance there are in a special period, such as 30 days (here is account receivable age). After clicking the AccoReceiAge box, you are required to enter a period of days. If you enter a period of 0-30, you get the Figure 23 which shows you that there are not any number in the second table. Why? In fact, I have only entered one customer, and its account receivable age is greater than the 30 days now.

Trying to enter a period of 800-900, you get the Figure 24 which tells you that there is one customer, its ages of day are 804 days, and its balance is $2,230.

Similar for the suppliers, you can get the information for every supplier.

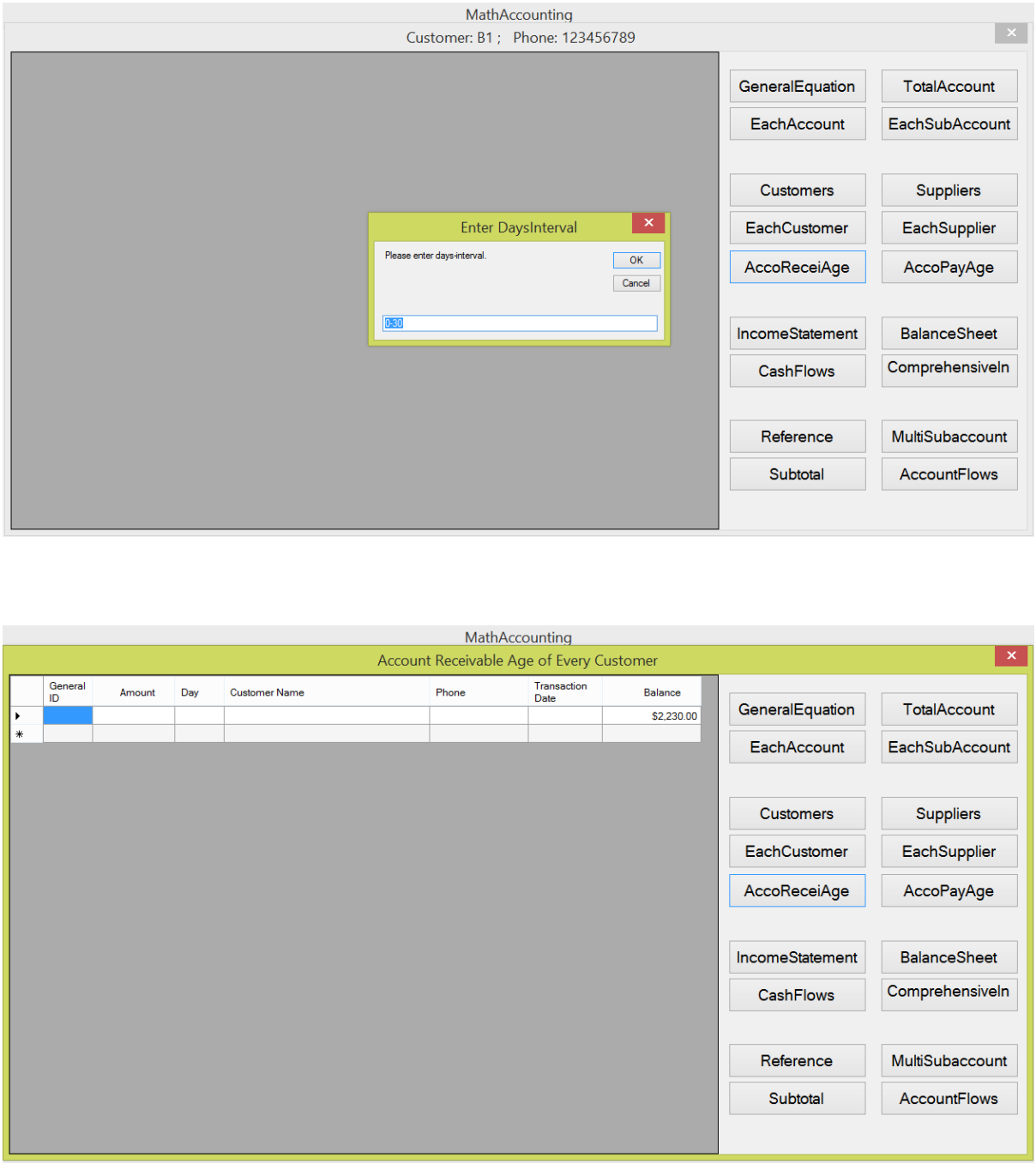


Figure 23 Every Customer's Account Receivable Age in period 0-30 days

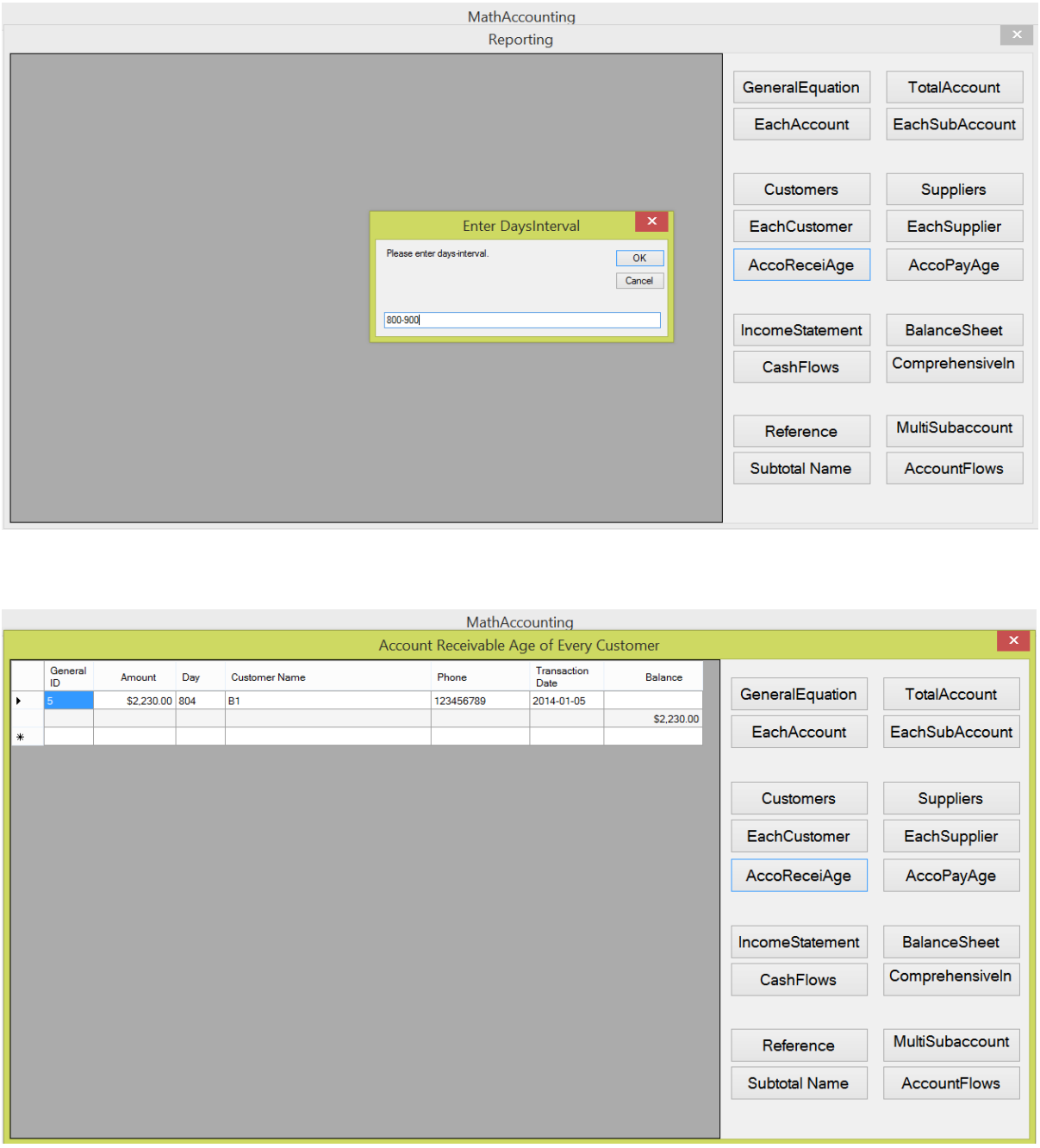


Figure 24 Every Customer's Account Receivable Age in period 800-900 days

The IncomeStatement, BalanceSheet, CashFlows, and ComprehensiveIncomeStatement boxes will be introduced later after entering more transactions. However, you can try to click them now.

The Reference, MultiSubaccount, and Subtotal Name boxes are the copies of the tables in the database which you entered the data into. You can try to click them to get the information. I am interested in the AcountFlows box. After clicking this box, you get a table which is similar as the cash flows statement. When an account has more than three one-level subaccounts, the table only shows the top three one-level subaccounts by their sum of amounts. Clicking the AccountFlows box and entering the “inventory”, you get the Figure 25 which tells you that there is only one one-level subaccount: Inven1. The beginning balance of the inventory is 0 because the company is a new company. The net change in the inventory account is $1,770 due to the change of the one-level subaccount of the Inven1. So, the ending balance of the inventory is also $1,770.

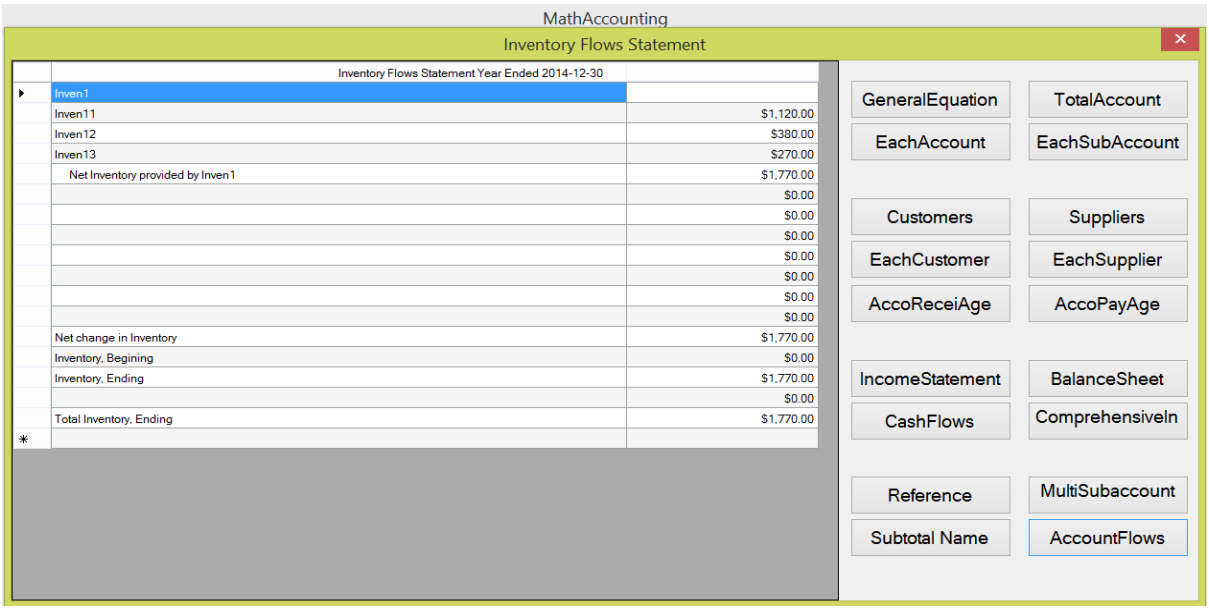


Figure 25 Inventory Flow Statement

2.3 Backup/Restore Function Model

The reliability and correctness of recording data in the accounting are very important, so I pay more attention to this subject in designing the MathAccounting software. There are three steps to guarantee the recording data reliable and correct.

- Check whether the dynamic accounting equation is equal.
- Check whether the sum of all assets accounts' balances is equal to the sum of all liabilities accounts, all equity accounts, all incomes accounts, and all expenses accounts' balances.
- After the previous two steps are correct, I check whether the left (or right) amount of the dynamic accounting equation is equal to the sum of all assets accounts' balances (or the sum of all liabilities, all equity accounts, all incomes accounts, and all expenses accounts' balances).

After the above three conditions are all satisfied, the MathAccounting software can continue the next transaction's entries.

When you turn on computer to readily enter the new transactions, the computer automatically checks the three steps, which guarantees that the new transactions are entered into the reliable and correct database. If one of them is wrong, the computer will tell you that you must restore the previous day's database backup.

After you enter one day's transactions (or every transaction) and begin to do the backup of the database, the computer automatically also checks the three steps, which guarantees the backup of the database is reliable and correct. If one of them is wrong, you cannot do the backup of the just renewed database. You must find the mistakes during today's entries and correct the mistakes or you should restore the previous day's backup and begin today's transactions (or every transaction) again. Do not worry about that. The situation seldom appears because every entry of the transactions is required to check the sub-equation. Maybe, the breakdown of the computer can cause the trouble during you entering a transaction.

Clicking the Backup/Restore box, you get the Figure 26 which has six boxes. The three boxes of the first row are every day backup, every month backup, and one year backup before beginning the new fiscal year.

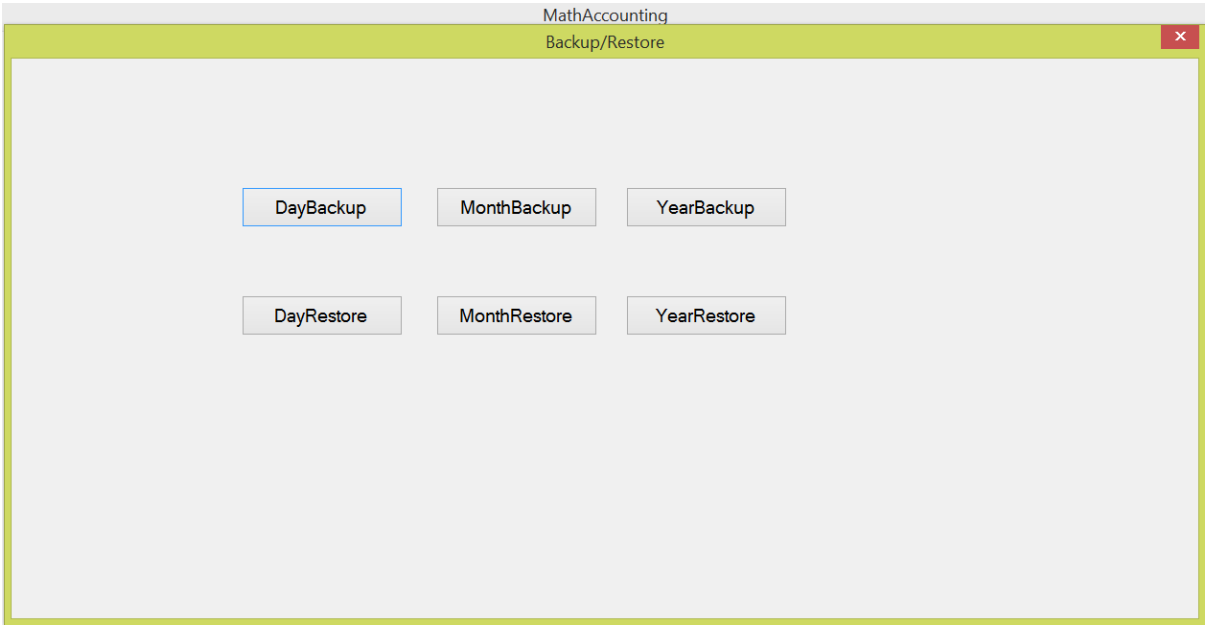


Figure 26 Backup/Restore Interface

The DayBackup means that the today's entries of all transactions are added up to the existing backup database. Of course, you can also use the DayBackup box to do every transaction's backup. After clicking the DayBackup box and the OK box, you get the Figure 27. Clicking the OK box again, you have completed the DayBackup.

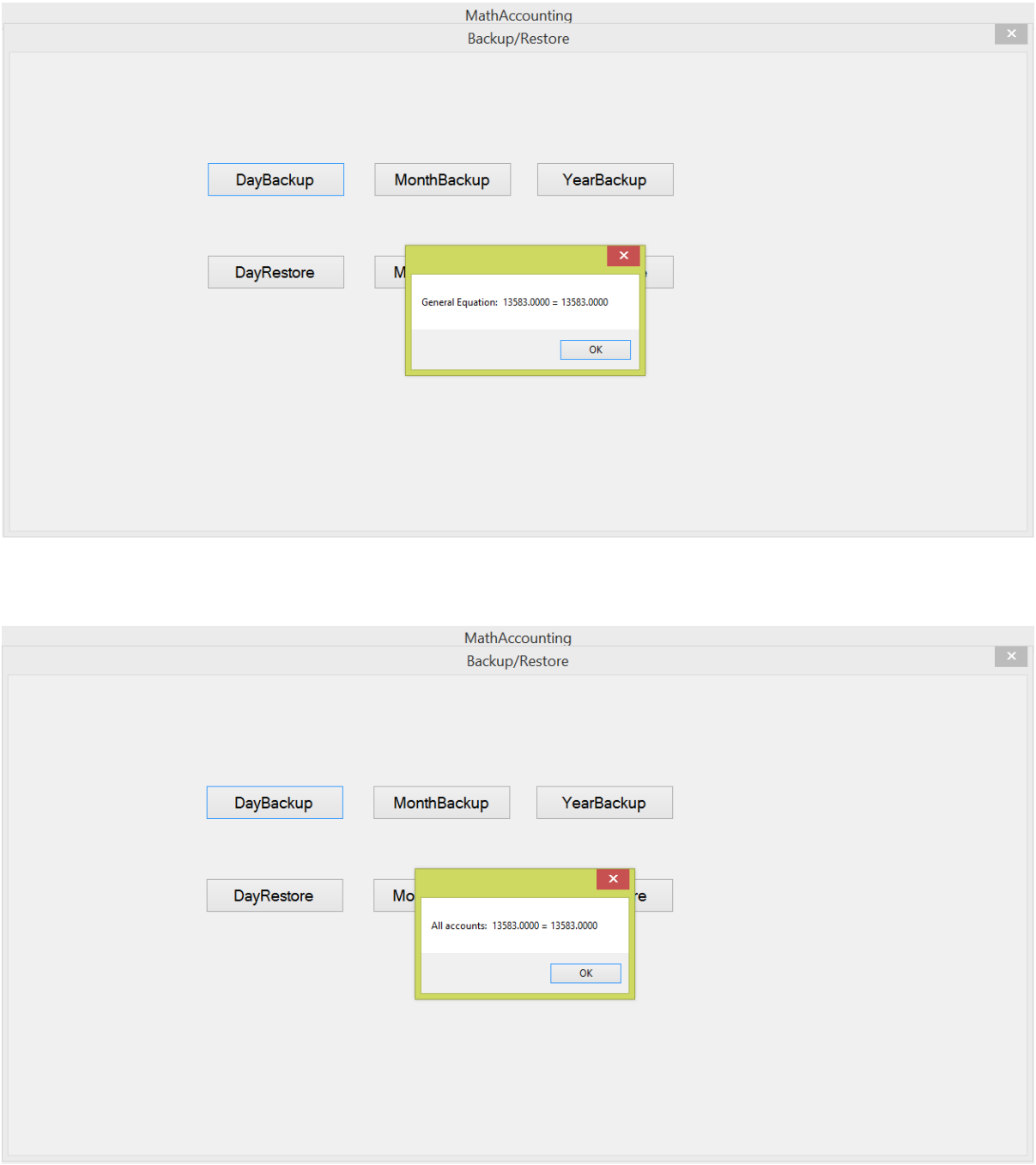


Figure 27 Day Backup Process

The MonthBackup is same as the DayBack.

The YearBackup is different. You can do the YearBackup only after you complete the income statement.

The three boxes of the second row in the Figure 26 are every day restore, every month restore, and every year restore respectively. Clicking the DayRestore box, you get the Figure 28 which tells you some information about the last transaction. After clicking the OK box, you complete the restore of the database and can continue to enter the new transactions since the last transaction.

The MonthRestore and the YearRestore are same as the DayBackup.

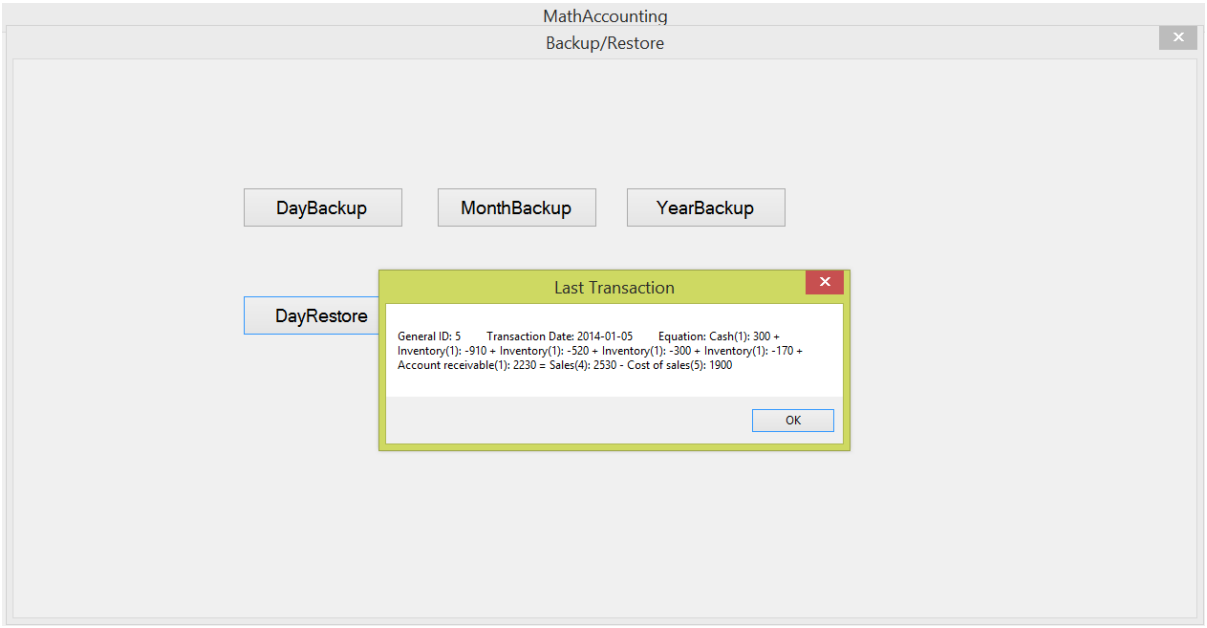


Figure 28 Day Restore Process

2.4 Maintenances Function Model

After clicking the Maintenances box, you get the Figure 29. The maintenances function model is mainly used to altering account names, multisubaccount name, and subtotal name, and deleting the useless account names.

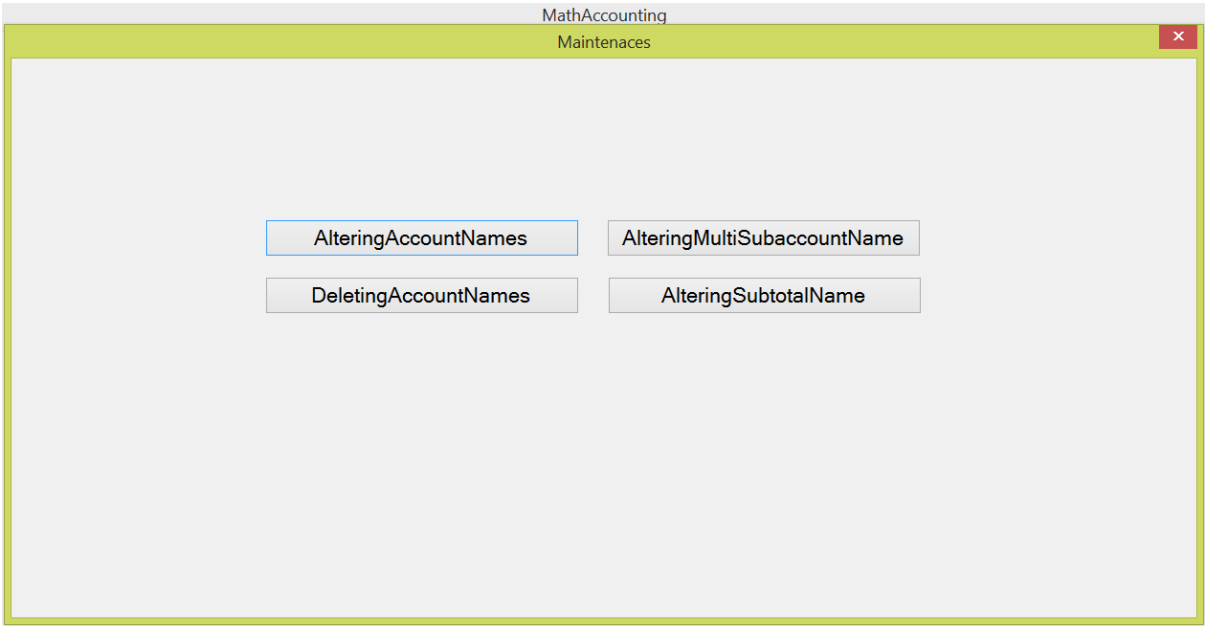


Figure 29 Maintenances Function Model Interface

If you want to change the “Supplies” account to the “Office supplies” account, then you can click the AlteringAccountName box to do that. However, if you want to put the new account of the “Office supplies” under the account of the “Inventory” at same time (now the supplies account is above the inventory account), then you can only do that by use of clicking the DeletingAccountName box. First, you delete the account of the “Supplies”, and then you can build a new account of “Office supplies” which is under the account of the “Inventory” by entering correct row number.

After clicking the AlteringAccountName box, entering old account name, pressing the OK box, and entering the new account name, you get the Figure 30. Simply pressing the OK box again, you have changed the “Supplies” account to the “Office supplies” account.

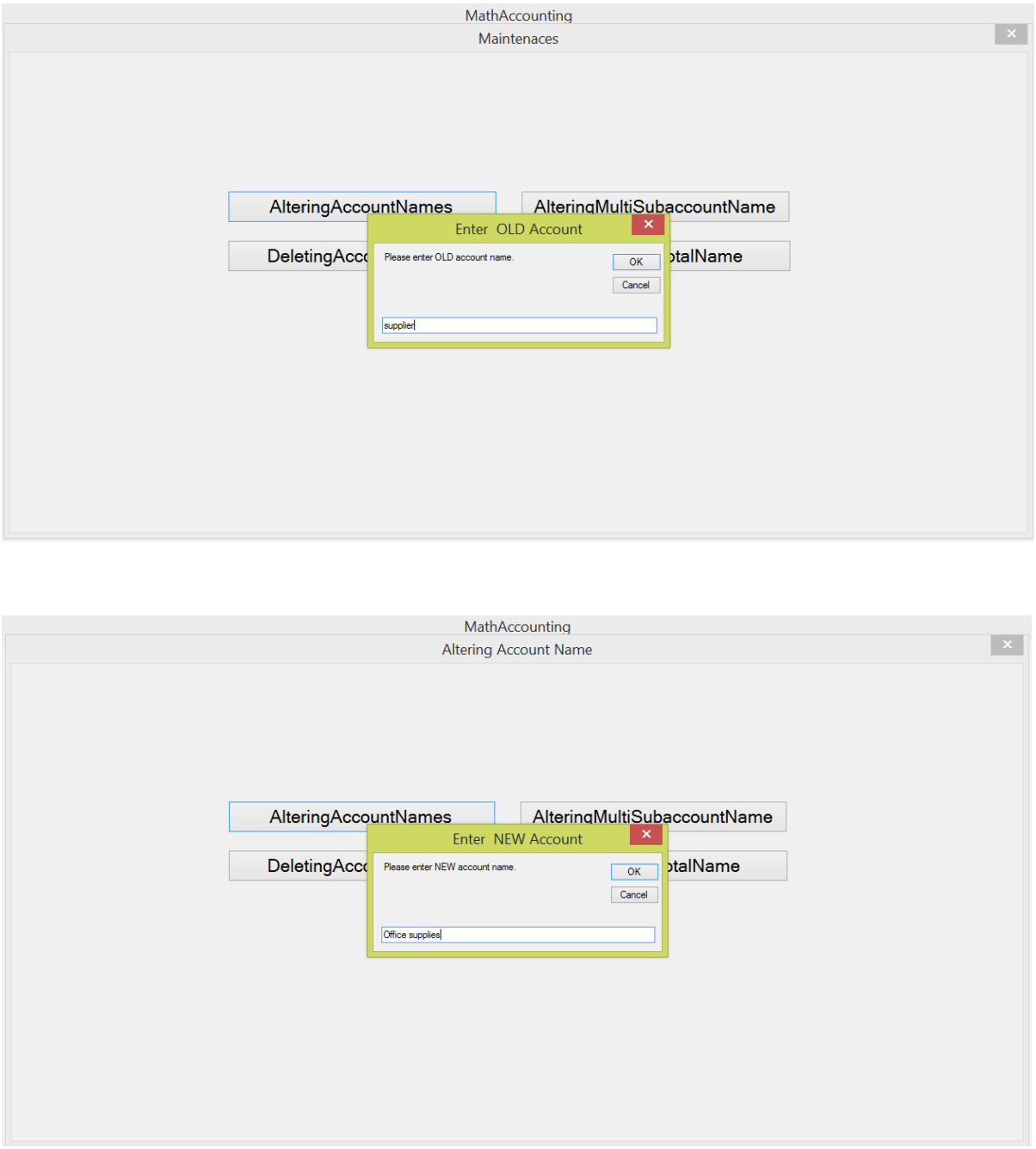


Figure 30 Altering Account Name

If there is a mistake in the previous entries, the Inven13 does not belong to the Inven1 and belongs to the Inven2. So I must replace the multisubaccount name of the “Inven13<Inven1” with the multisubaccount name of the “Inven21<Inven2”. Clicking the AlteringMultiSubaccountName box, entering old multisubaccount name, pressing OK box, and entering the new multisubaccount name, you get the Figure 31. Simply pressing the OK box again, you have changed the “Inven13<Inven1” to the “Inven21<Inven2”.

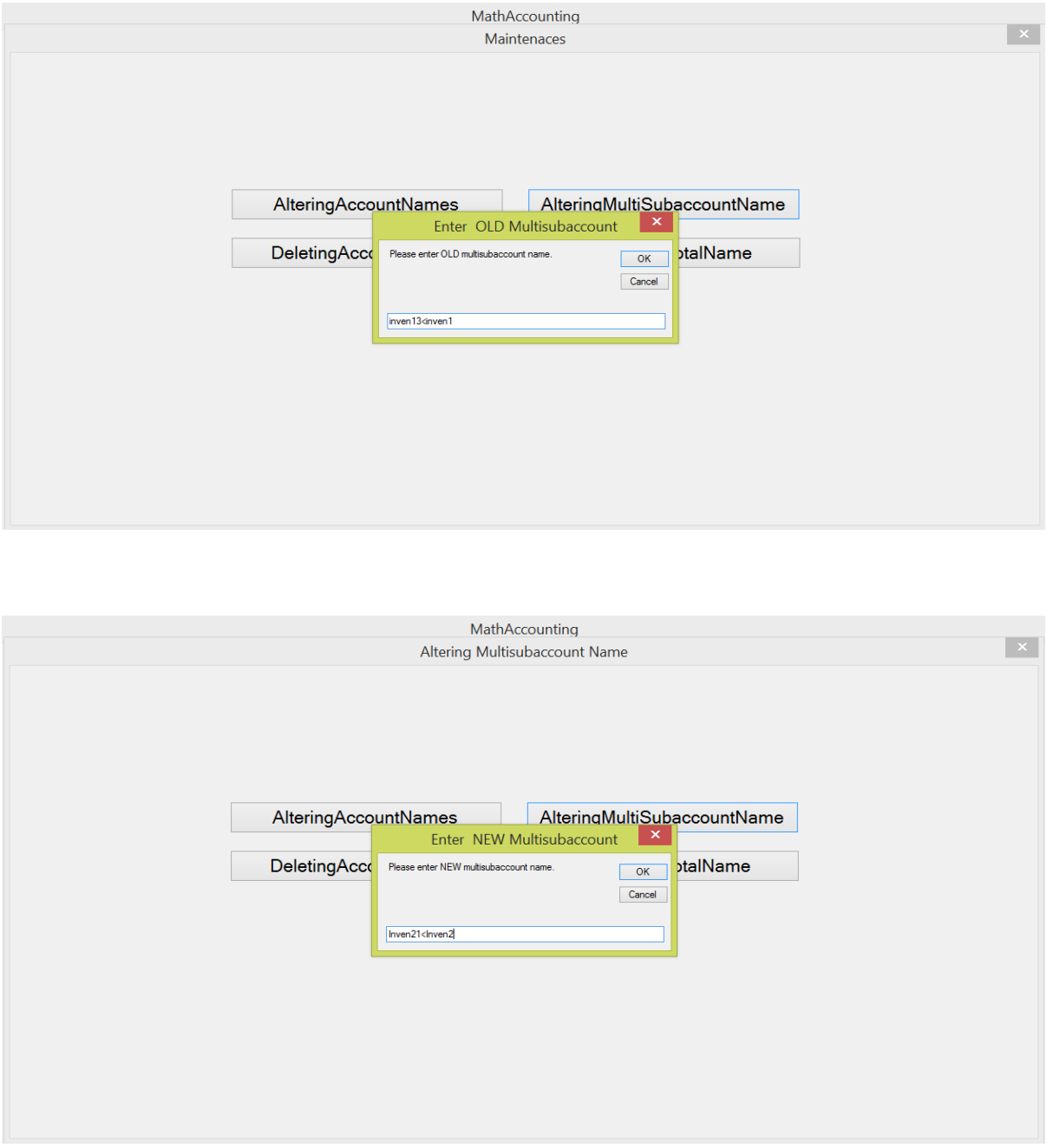


Figure 31 Altering a Multisubaccount Name

Similar as the MultiSubaccount name, you can change the subtotal name by clicking the Subtotal Name box. However, I must emphasize that the row number of the subtotal name is not allowed to change because there may be many accounts under this subtotal name.

If the account of the Office supplies is useless, I can delete the account by clicking the DeletingAccountName. When I enter the account name and press the OK box, I get warning information, seeing the Figure 32.

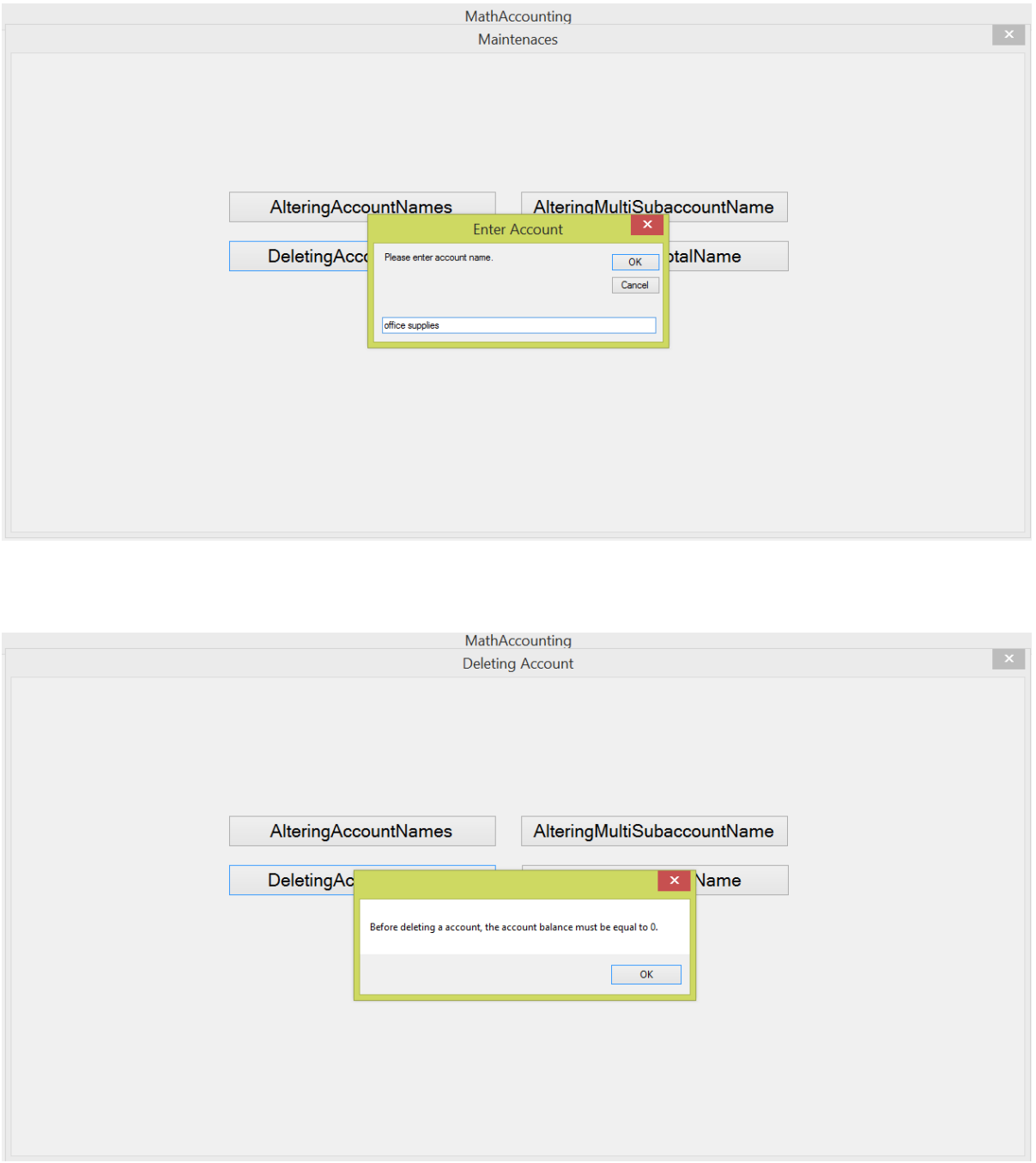


Figure 32 Warning before Deleting an Account

The account balance I want to delete must be 0, so I enter the following transaction before deleting the Office supplies account.

Office supplies (1) -193 = - Office expenses (5) 193

Clicking the DeletingAccountName box again and press the OK box, you have deleted the account of the “Office supplies”.

Now you can check these changes. Closing the Maintenances function model and opening the Reports function model. After respectively clicking the TotalAccount box for assets and expenses, and the Multisubaccount Name box, you can get the Figure 33. From the Figure 33, these changes have been done. The account of the “Office supplies” disappears from the asset table, and the account of the “Office expenses” appears in expenses table. The “Inven21<Inven2” has replaced the “Inven13<Inven1”.

That is all of the MathAccounting software. It is easy?

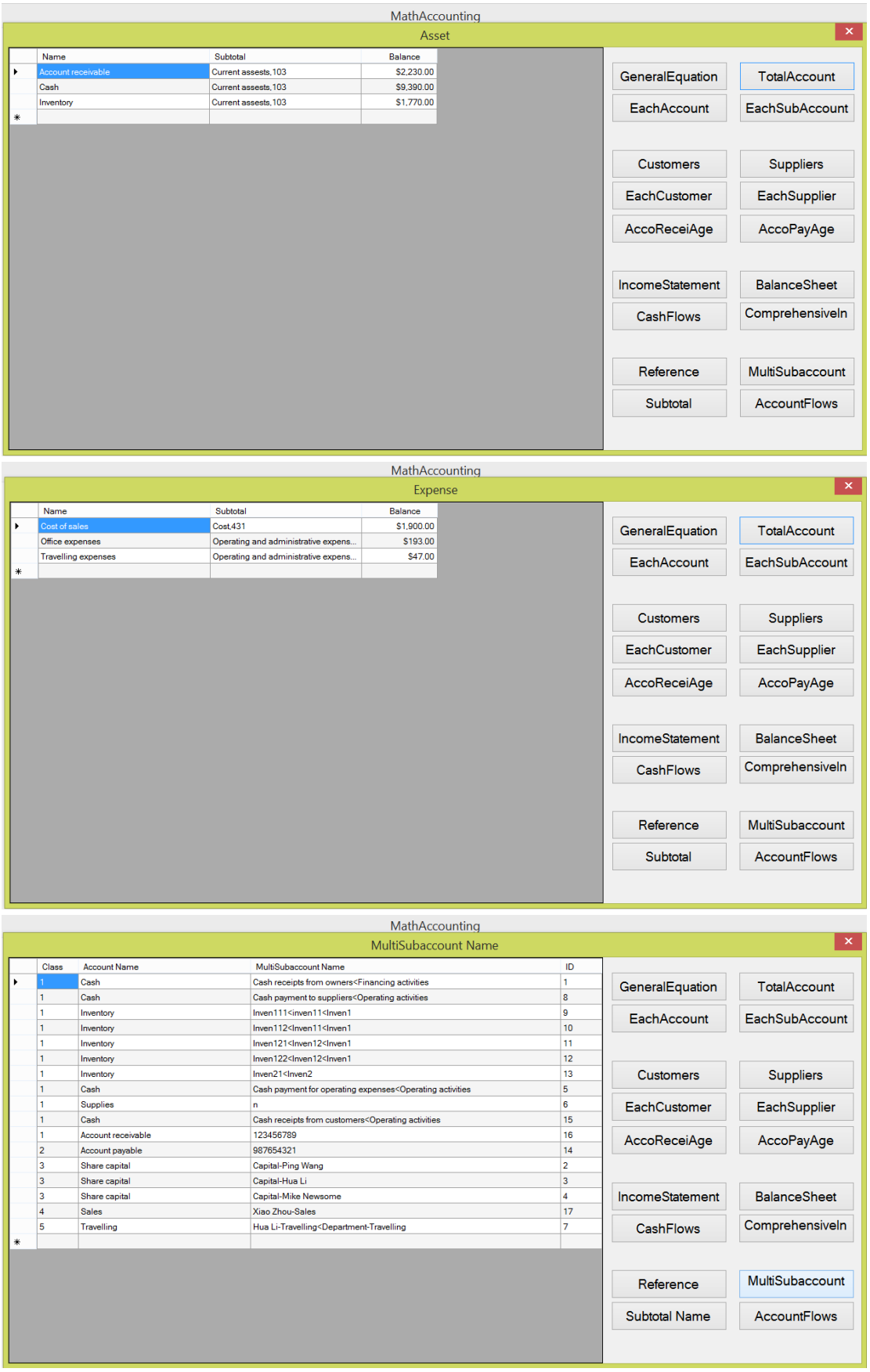


Figure 33 Check These Changes

3. Sample of an accounting fiscal year

Last thing is to enter more transactions to complete an accounting fiscal year. During entering these transactions, I will introduce some new contents. Finally, I will build the five tables: Income Statement, Balance Sheet, Cash Flows Statement, Comprehensive Income Statement, and Account Flows Statement.

First, I restoring the backup of the database data just with the previous five transactions, and change the multisubaccount of the "Inven13<Inven1" to the "Inven21<Inven2" again. Later I will build the "Inven13<Inven1" if purchasing them.

- Raise funds of $500,000 cash with interest rate 8% (paying interest at the end of each year) and two years from TD bank on January 7, 2014.

  For first entry of the cash account, the Multisubaccount Name box is the "Cash receipts from banks< Financing activities". For second entry of the note payable, the Subtotal Name box is the "Long term liabilities, 251"; the Multisubaccount Name box is "n" because it has not any subaccounts.

- On same day, purchase two lands (Land1, Downtown $270,000; Land2, North York $180,000) for $450,000 cash as available for sale.

  For first entry of the cash account, the Multisubaccount Name box is the "Cash payments for investment<Investing activities". In previous version, it is the "Cash payments to suppliers<Investing activities. The two-level subaccount "Cash payments to suppliers" is also used in the one-level subaccount "Operating activities", so the two-level subaccount "Cash payments to suppliers" must be changed to the two-level subaccount "Cash payments for investment.

  In this version, the MathAccounting software has resolved the problem. The every lowest subaccount must be sole.

For the entry of the land account with two one-level subaccounts, the Subtotal Name box is the "Long term investments,141" and the Multisubaccount Name box are the "Land1, Downtown" and "Land2, North York".

- On January 8, 2014, purchase a truck for $45,000 cash.

  For first entry of the cash account, the Multisubaccount Name box is the "Cash payments to suppliers<Operating activities". For second entry of the truck account, the Multisubaccount Name box is "n" because it has not any subaccount, and the Subtotal Name box is the "Equipments, 171".

- On the same day, pay $367 cash to Ping Wang (Office department) for opening company expenses.

  Here, I put the expenses into the "Other expenses" account which has the two-level subaccounts divided by the different departments and the different persons. The "Other expenses" account is under the "Travelling expenses" account, so it may have the row number of the "456".

  Please pay attention here. Due to the "Travelling expenses" account being also divided by the different departments, I must give a different multisubaccount name to distinguish them. Its multiSubaccount form is the "Ping Wang-other<Office department-other". Of course, you can give your distinguishing signal.

- On January 9, 2014, purchase $25,000 inventory for $2,000 cash and $23,000 on credit from C1 Company (phone number: 987654322).

  The inventory's multisubaccounts are:

  "Inven221<Inven22<Inven2" for $10*320,

  "Inven222<Inven22< Inven2" for $5*1000,

“PPUK parts <ASD parts< Inven2” for $4*1200,

“PPGH parts <ASD parts< Inven2” for $2*1900,

“Inven31<Inven3” for$ 10*530,

“Inven32<Inven3” for $5*580.

- On same day, purchase $12,000 inventory on credit from D1 Company (phone number: 987654323).

  The inventory’s multisubaccounts are:

  “Inven331<Inven33<Inven3” for $2*1350,

  “Inven332<Inven33< Inven3” for $5*620,

  “HGFCVB parts<QASXC parts<Inven3” for $10*490,

  “PPGHUP parts<ASDUP parts<Inven3” for $10*130.

  In previous version, here is the “PPGH parts<ASDUP parts<Inven3”. However, the three-level subaccount “PPGH parts” belongs to the two-level subaccount “ASD parts”, so the three-level subaccount “PPGH parts” must be changed to the three-level subaccount “PPGHUP parts”.

  In this version, the MathAccounting software has resolved the problem.

- On January 11, 2014, Xiao zhou sales $17,700 inventory for $3,500 cash and $26,000 on credit to E1 Company (phone number: 123456788).

  The inventory’s multisubaccounts are:

  “Inven221<Inven22<Inven2” of cost $-10*290,

  “Inven222<Inven22<Inven2” of cost $-5*940,

  “PPUK parts<ASD parts< Inven2” of cost $-4*650,

  “Inven32<Inven3” of cost $-5*380,

“HGFCVB parts<QASXC parts<Inven3” of cost $-10*480,

“PPGHUP parts<ASDUP parts<Inven3” of cost -$10*80.

Because the entries number of this transaction are greater than eight, I must divide the transaction into two transactions: one transaction for Inven2 sales and another transaction for Inven3 sales, or one transaction for cash, account receivable, and sales, and another for inventory and cost of sales. Here, I use the second method to divide this transaction. The two sub-equations are:

Cash (1): 3500 + Account receivable (1): 26000 = Sales (4): 29,500

Inventory (1): -17700 = -Cost of sales (5): 17,700

- On January 15, 2014, ZhenDao Yuan sales $13,200 inventory for $21,700 on credit to F1 Company (phone number: 123456787).

The inventory’s multisubaccounts are:

“PPGH parts<ASD parts<Inven2” of cost $-2*1550,

“Inven31<Inven3” of cost $-10*500,

“Inven331<Inven33<Inven3” of cost $-2*1100,

“Inven332<Inven33< Inven3” of cost $-5*580.

- On January 17, 2014, purchase $12,500 inventory on credit from G1 Company (phone number: 987654324).

The inventory’s multisubaccounts are:

“Inven411<Inven41<Inven4” for $5*1020,

“Inven412<Inven41<Inven4” for $2*1850,

“TTTCU parts<TTT parts<Inven4” for $2*1150,

“RRRHJK parts< Inven4” for$ 2*700.

- On the same day, receive $21,000 cash from E1 Company (phone number: 123456788) with the General ID 12.

  Please pay attention, the General ID 12 must be the General ID of the transaction including the "Account receivable" account because the previous transaction is divided into two transactions.

  Entering an existed customer's phone number gets the Figure 34.

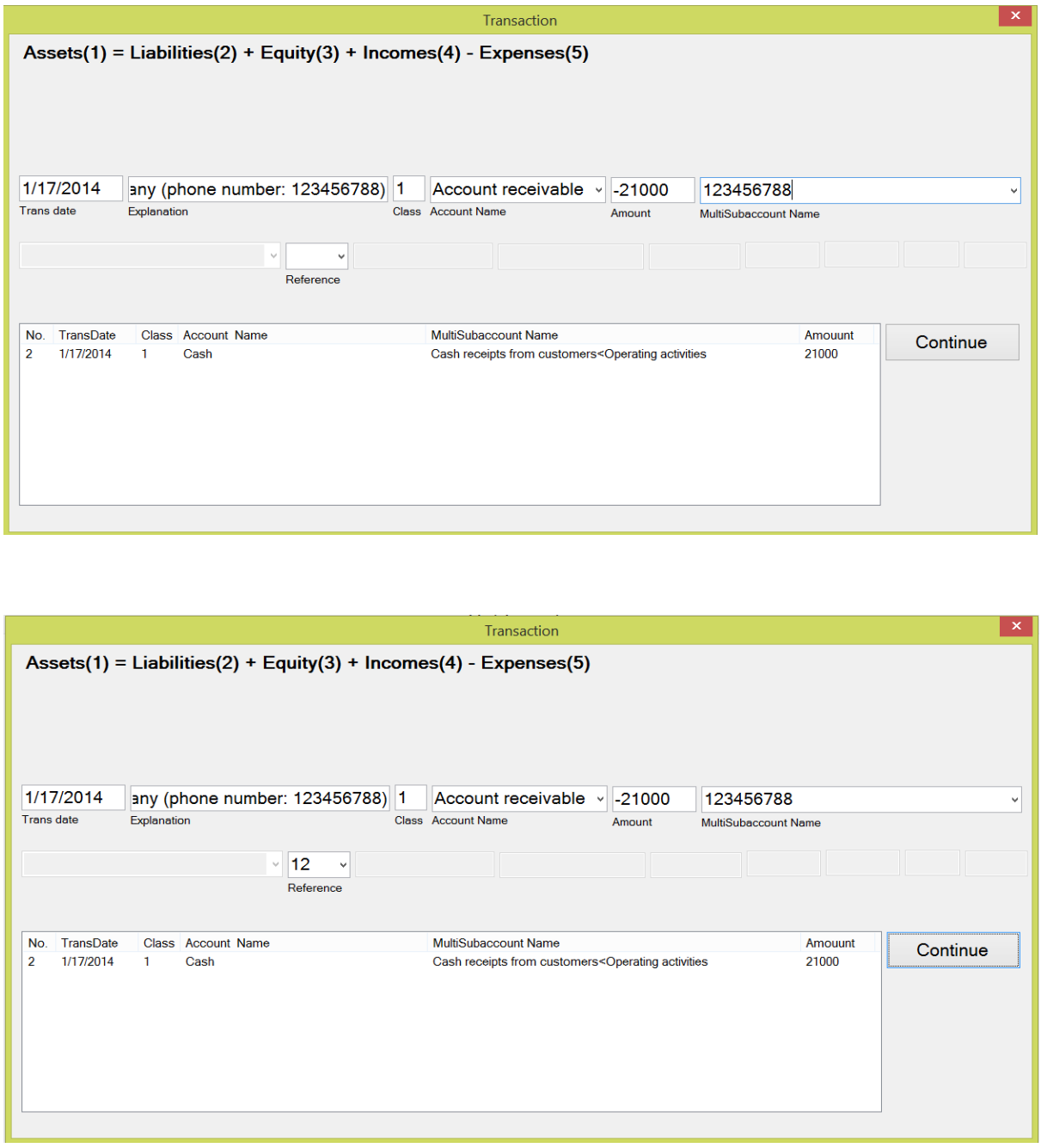


Figure 34 Reference Box's other use

You should notice that the Reference box is enabled (seeing the Figure 34) while entering the phone number. The account receivable is not a new account, so I do not need to enter a row number. Why? Here, you must pay an attention for that. In fact, when you receive the $21000 cash, you know that E1 Company pays the cash. However, the computer does not know that, so you must tell the computer which customer pays the cash. I borrow the Reference box to enter the General ID of the previous related transaction, which can be gotten from the general equation table or each customer's table or account receivable table and is 12.

Maybe you ask why I do not use the customer' phone number as the judging signal. Because I may sale the inventory to this customer for a few of times and the General ID of a transaction is sole, I must choose the General ID as the judging signal. The Figure 35 shows the relationship between the ID 2 transaction with the General ID 12 and the ID 4 transaction with the Reference 12 in the account receivable table and the customer table.

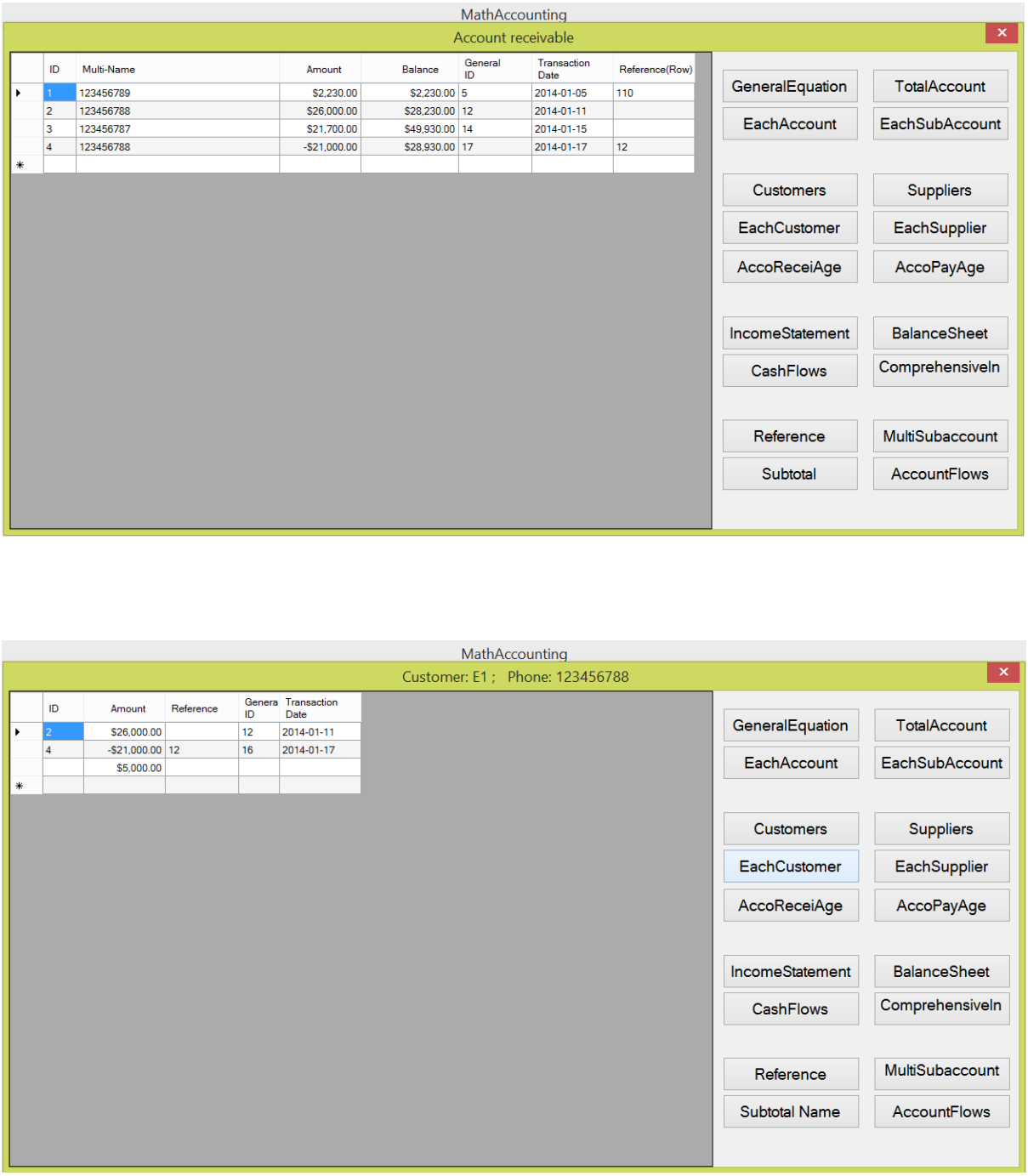


Figure 35 Relationships between General ID 12 and General ID 17

- On January 21, 2014, pay $14,000 cash to C1 Company (phone number: 987654322) with the General ID 10.

  The Same thing is for the suppliers about the Reference box.

- On same day, pay $6,000 cash to D1 Company (phone number: 987654323) with the General ID 11.

- On January 22, 2014, purchase $21500 inventory on credit from C1 Company (phone number: 987654322).

  The inventory's multisubaccounts are:

  "PPUK parts<ASD parts<Inven2" for $4*1625,

  "PPGH parts<ASD parts<Inven2" for $2*3000,

  "Inven31<Inven3" for$ 10*530,

  "Inven32<Inven3" for $5*740.

- On January 23, 2014, Yi Liu sales $12,000 inventory for $19,900 on credit to F1 Company (phone number: 123456787).

  The inventory's multisubaccounts are:

  "PPUK parts<ASD parts<Inven2" of cost $-4*825,

  "PPGH parts<ASD parts<Inven2" of cost $-2*1950,

  "Inven31<Inven3" of cost $-10*250,

  "Inven32<Inven3" of cost $-5*460.

- On January 25, 2014, ZhenDao Yuan sales $7,500 inventory for $13,700 on credit to H1 Company (phone number: 123456786).

  The inventory's multisubaccounts are:

"PPUK parts<ASD parts<Inven2" of cost $-4*750,

"PPGH parts<ASD parts<Inven2" of cost $-2*900,

"Inven31<Inven3" of cost $-10*270.

- On January 28, 2014, purchase $5,600 computers equipment for $5,600 cash.

  The computer account has three one-level subaccounts: computer1 ($1,600), computer server ($1,800), and POS system ($2,200). It belongs to the Subtotal of the "Equipments".

- On January 29, 2014, Jun Wang sales $3,500 inventory for $6,200 on credit to B1 Company (phone number: 123456789).

  The inventory's multisubaccounts are:

  "PPUK parts<ASD parts<Inven2" of cost $-4*550,

  "Inven32<Inven3" of cost $-5*260.

- On January 30, 2014, receive $2,000 cash from B1 Company (phone number: 123456789) with the General ID 5.
- On the same day, receive $15,000 cash from F1Company (phone number: 123456787) with the General ID 14.
- On the same day, receive $8,000 cash from H1Company (phone number: 123456786) with the General ID 23.
- On the same day, pay $7,000 cash to C1Company (phone number: 987654322) with the General ID 10.
- On the same day, pay $232.76 cash to Dan Zhu (Purchase department) for travelling expenses $178 and the other expenses $54.76.
- On the same day, pay $221.30 cash to Hua Li (Purchase department) for travelling expenses

$135.12 and the other expenses $86.18.

- On the same day, pay $339.52 cash to Xiao Zhou (Sales department) for travelling expenses $243 and the other expenses $96.52.
- On the same day, pay $132.26 cash to Jun Wang (Sales department) for the other expenses.
- On the same day, pay $82.33 cash to Zhendao Yuan (Sales department) for the other expenses.
- On January 31, 2014, receive $13,000 cash from F1Company (phone number: 123456787) with the General ID 22.
- On the same day, pay $8,000 cash to G1Company (phone number: 987654324) with the General ID 15.
- On the same day, pay $419.55 cash to Yi Liu (Sales department) for travelling expenses $347.7 and the other expenses $71.85.
- On the same day, record the office supplies expenses $88.
- On the same day, pay $18,756 cash for all salary of January, 2014.

  Here, I just consider the total salary and have no detail of the payments. I will develop the function later.
- On the same day, record the truck's amortization expenses $750 one month (5 years, straight line, and full first month).

  The amortization expenses account is a parent account which will appear in the income statement. It has a one-level subaccount "Truck-amortization" now.

  The accumulated amortization is a contra account of the truck account, so I should reverse the amount of the contra account while putting the contra account into the class 1 accounts. The reversing amount means that increasing amount is the "-" and decreasing amount is the "+". It

should be under the parent “Truck” whose row number is the “172”, so its row number should be the “173”. The parent account of the “Accumulated amortization: truck” has a one-level subaccount “Truck-accumulated amortization” now.

There are other contra accounts too, such as the allowance for doubtful account for the account receivable account and the discount on bonds payable for the bonds payable account. The same method can be used for them.

- On the same day, record the computers’ amortization expenses $101.39.

  The amortization expenses account has the two one-level subaccounts of the “Truck-amortization and Computer-amortization” now. The computers account has the three one-level subaccounts: computer1 (two years, straight line, and half first month of $33.33), computer server (two years, straight line, and half first month of $37.5), and POS system (three years, straight line, and half first month of $30.56). So, for the computers account, its amortization expenses account should have three two-level subaccounts:

  “Computer1- amortization< Computer - amortization”,

  “Computer server - amortization<Computer - amortization”,

  “POS system - amortization< Computer - amortization”.

  The parent account of the “Accumulated amortization: Computer” should be under the parent account “Computer” whose row number is the “174”, so its row number is the “175”. It has the three one-level subaccounts which are:

  “Computer1- accumulated amortization”,

  “Computer server- accumulated amortization”,

  “POS system- accumulated amortization”.

- On the same day, pay $376.47 cash to Mike Newsome (Office department) for travelling expenses $298.69 and the other expenses $77.78.
- On the same day, pay $280.70 cash for the utility expenses.
- On the same day, pay $1500 cash for the office rent expenses.
- On the same day, record the note payable's interest expenses $3,000 and the accrued interest payable (500,000*8%/12*27/30).

I have completed the first month transactions so far. The same things basically are repeated in the following months. Now I can take a glance of the income statement, balance sheet, cash flows statement, and account flows statement. After clicking the IncomeStatement box and entering the ended date of the "1/31/2014" and the tax rate of the "0.3", I get the Figure 36 which shows that the net earnings is $7,725.

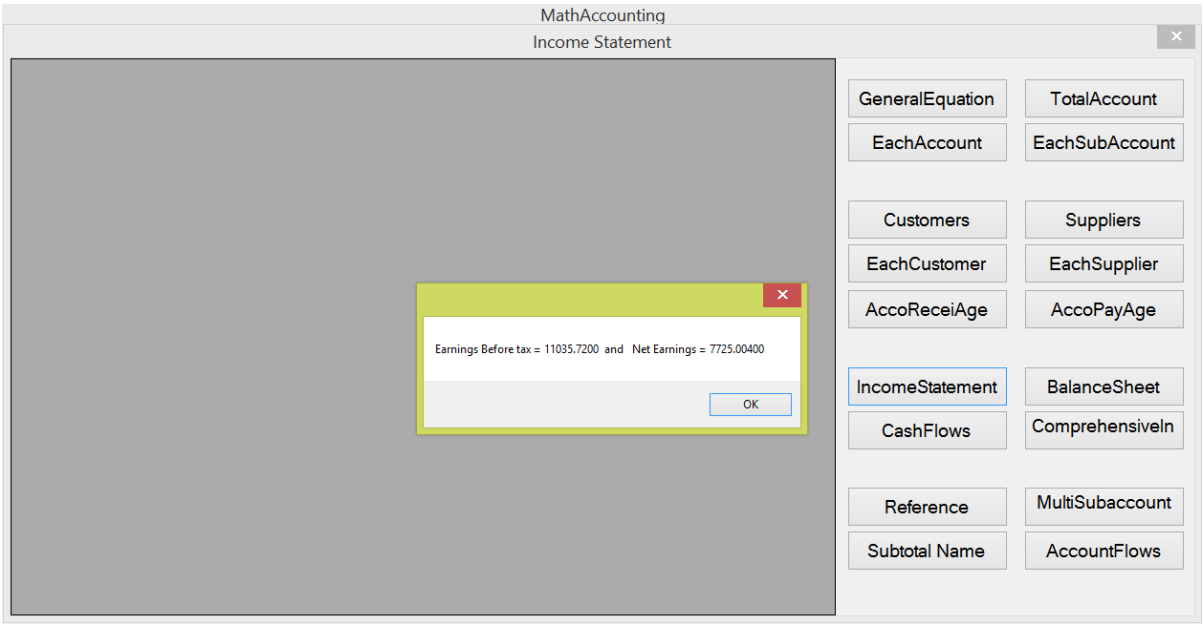


Figure 36 Getting Net Income

Pressing OK box in the Figure 36 and answering the “No” for the question of the “Would you like to begin new fiscal year?” in the appearing information box, I get the income statement table, as shown in the Figure 37. You notice that the row under the “Earnings before Income Taxes” are empty and the net earnings are $11,035.72. Because I do not enter the tax expenses which is $3,310.72 ($11,035.72-$7,725 = $3,310.72) into database and begin a new fiscal year, and the Reports function model does not check anything just as said before, there is not the tax expenses row under the “Earnings Before Income Taxes” and the net earnings is $11,035.72.

Clicking the BalanceSheet box gets the Figure 38 which shows the balance sheet table. The total assets are $561,035.72, and the total liabilities and shareholders’ equity are $550,000. Their difference is $11,035.72. The reason is as same as the income statement’s.

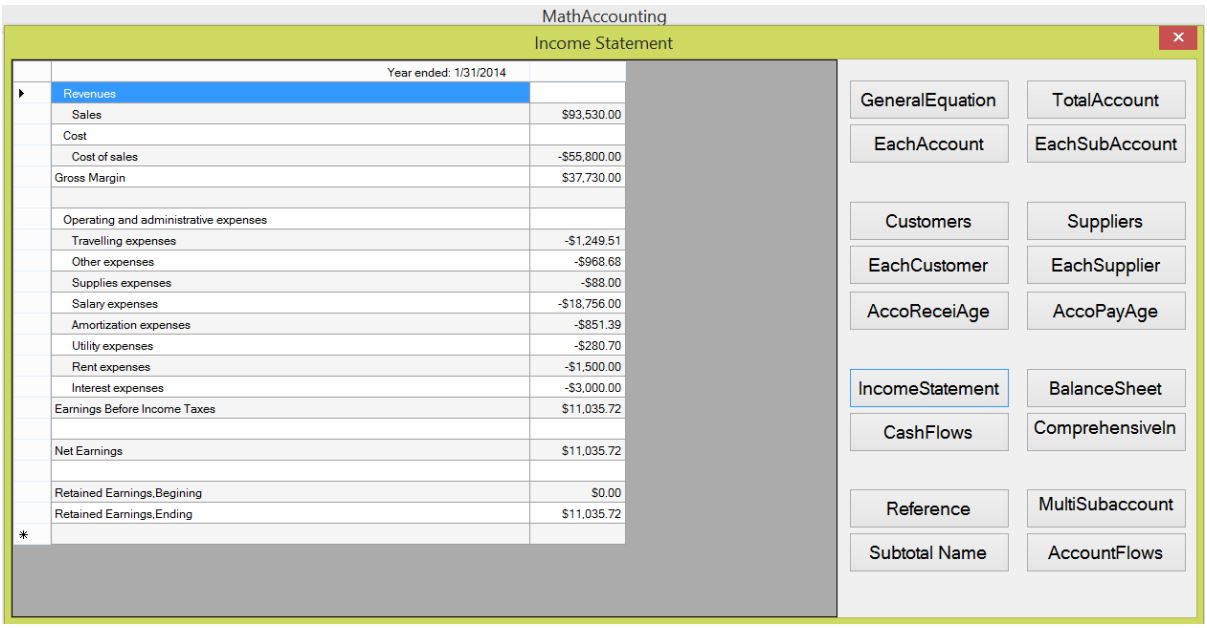


Figure 37 Income Statement without Including Tax expenses

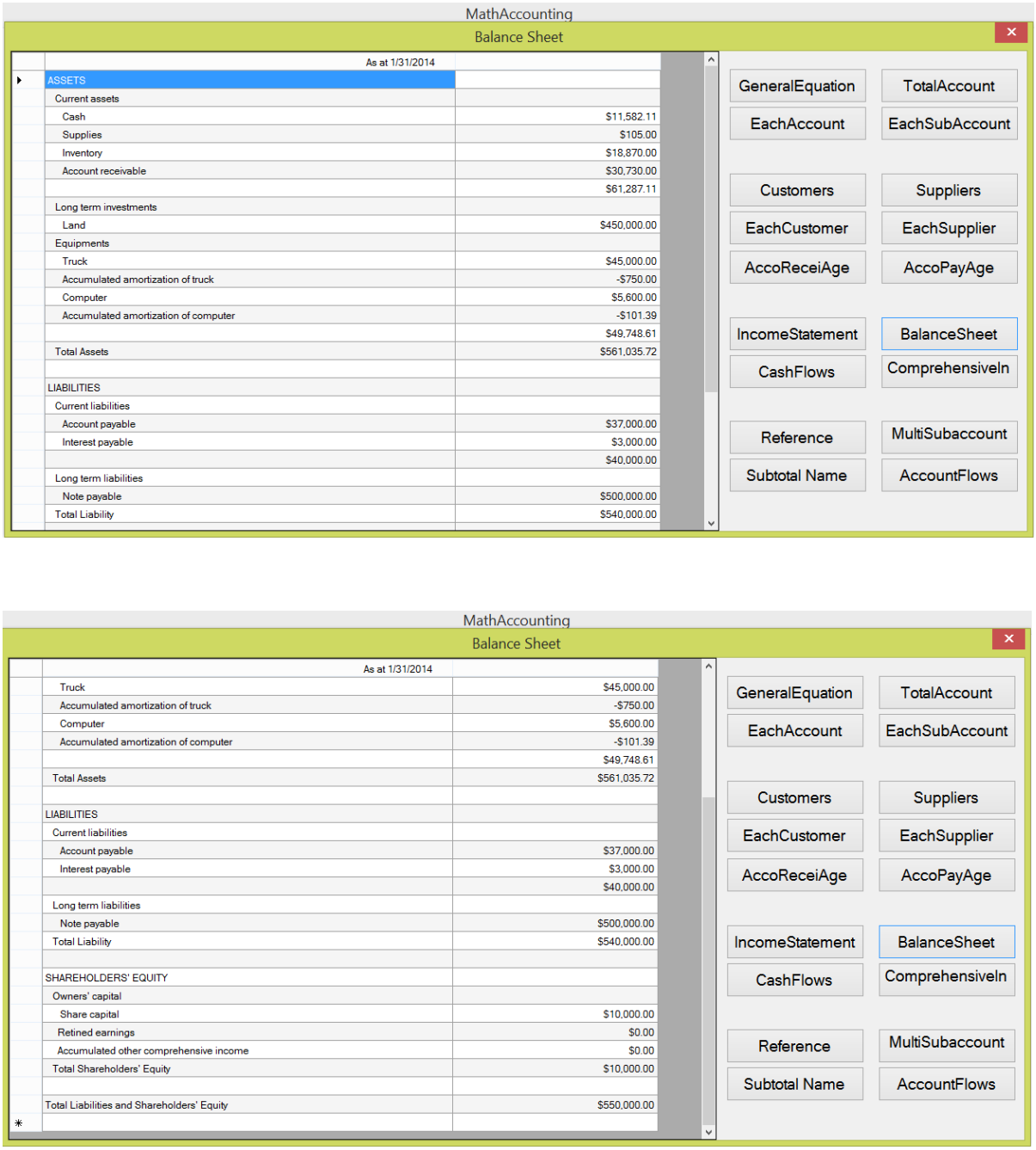


Figure 38 Balance Sheet without Including Net Income

Clicking the CashFlows box gets the cash flows statement. It tells me how the cash amounts changes during a period. From the idea, I can get a new concept: account flows statement if an account has the two-level subaccounts.

Clicking the AccountFlows box and entering the inventory account get the Figure 39 which shows the inventory flows. Because the inventory has four one-level subaccounts, the inventory flows statement only shows the top three the amounts of the one-level subaccounts. The ending inventory for the top three one-level subaccounts is $17,370 while total ending inventory is $18,870. The difference between them is $1,500 which is the balance of the one-level subaccount Inven1.

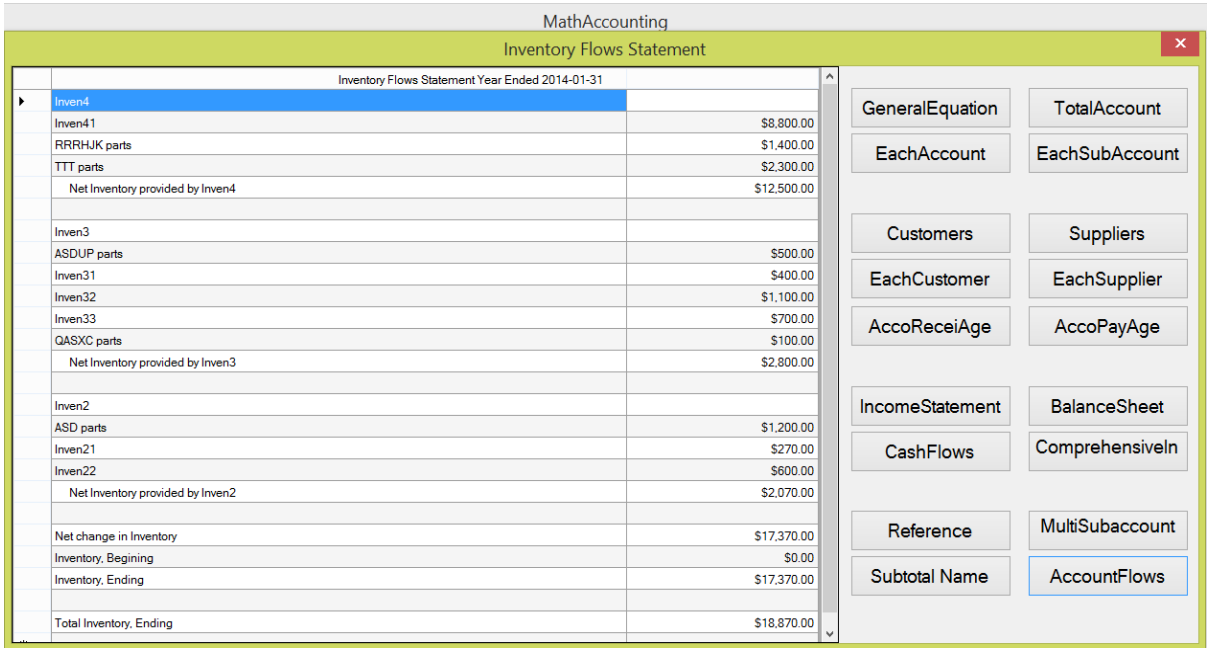


Figure 39 Inventory Flows Statement

Following is the transaction for the second month:

- On February 1, 2014, purchase the supplies for cash $103.3.
- On February 3, 2014, purchase $91,000 inventory on credit from D1 Company (phone number: 987654323).

  The inventory's multisubaccounts are:

  "HGFCVB parts<QASXC parts<Inven3" for $10*5960,

  "PPGHUP parts<ASDUPparts<Inven3" for $10*3140.
- On February 4, 2014, Jun Wang sales $91,200 inventory to E1 Company (phone number: 123456788) on credit $177,600.

  The inventory's multisubaccounts are:

  "HGFCVB parts<QASXC parts<Inven3" of cost -$10*5960,

  "PPGHUP parts<ASDUPparts<Inven3" of cost -$10*3160.
- On February 8, 2014, receive $5,000 cash from B1 Company (phone number: 123456789) with the General ID 25.
- On February 9, 2014, receive $10,000 cash from F1Company (phone number: 123456787) with the General ID 14 ($6700) and the General ID 22 ($3300).
- On February 11, 2014, receive $3,500 cash from H1Company (phone number: 123456786) with the General ID 23.
- On February 13, 2014, pay $2,500 cash to A1Company (phone number: 987654321) with the General ID 4.
- On February 15, 2014, pay $15,000 cash to C1Company (phone number: 987654322) with the General ID 21.

- On February 17, 2014, pay $4,000 cash to D1Company (phone number: 987654323) with the General ID 11.
- On February 18, 2014, sell land1 (downtown) for $360,000 cash.

  The sub-equation should be:

  Cash (1): 360000 + Land (1): -270000 = Investment income (4): 90000

  The “Subtotal name” should be the “Other income, 475”, so the “Investment Income” row is the “476”.
- On the same day, purchase 10,000 the MicroQQ Company shares for $35.67 each share.
- On February 25, 2014, receive $120,000 cash from E1 Company (phone number: 123456788) with the General ID 48.
- On February 26, 2014, pay $55,000 cash to D1Company (phone number: 987654323) with the General ID 47.
- On February 28, 2014, pay $55.32 cash to Dan Zhu (Purchase department) for the other expenses.
- On the same day, pay $458.39 cash to Hua Li (Purchase department) for travelling expenses $336.41 and the other expenses $121.98.
- On the same day, pay $33.72 cash to Xiao Zhou (Sales department) the other expenses.
- On the same day, pay $152.31 cash to Jun Wang (Sales department) for the travelling expenses.
- On the same day, pay $1,015.98 cash to Zhendao Yuan (Sales department) for the other expenses.
- On the same day, pay $117.95 cash to Yi Liu (Sales department) for travelling expenses $99.8 and the other expenses $18.15.
- On the same day, record office supplies expenses $101.28.
- On the same day, pay $18,756 cash for all salary of February, 2014.

- On the same day, record the truck's amortization expenses $750 one month (5 years, straight line, and second month).
- On the same day, record second month computers' amortization expenses ($202.78).

  The computer account has three one-level subaccounts: computer1 $66.67, computer server $75, and POS system $61.11.

  The sub-equation is:

  Accumulated amortization: computer (1) -66.67 + Accumulated amortization: computer (1) -75 + Accumulated amortization: computer (1) -61.11 = -Amortization expenses (5) 66.67 - Amortization expenses (5) 75- amortization expenses (5) 61.11.

  The left three items of the equation have respectively their multiSubaccounts which are the "Computer1-accumulated amortization", the "Computer server-accumulated amortization", and the "POS system-accumulated amortization". The right three items of the equation have respectively their multiSubaccounts which are the "Computer1-amortization<Computer-amortization", the "Computer server-amortization<Computer-amortization", and the "POS system - amortization Computer- amortization". The Figure 40 shows the detail information of the subaccount of the "POS system- accumulated amortization".

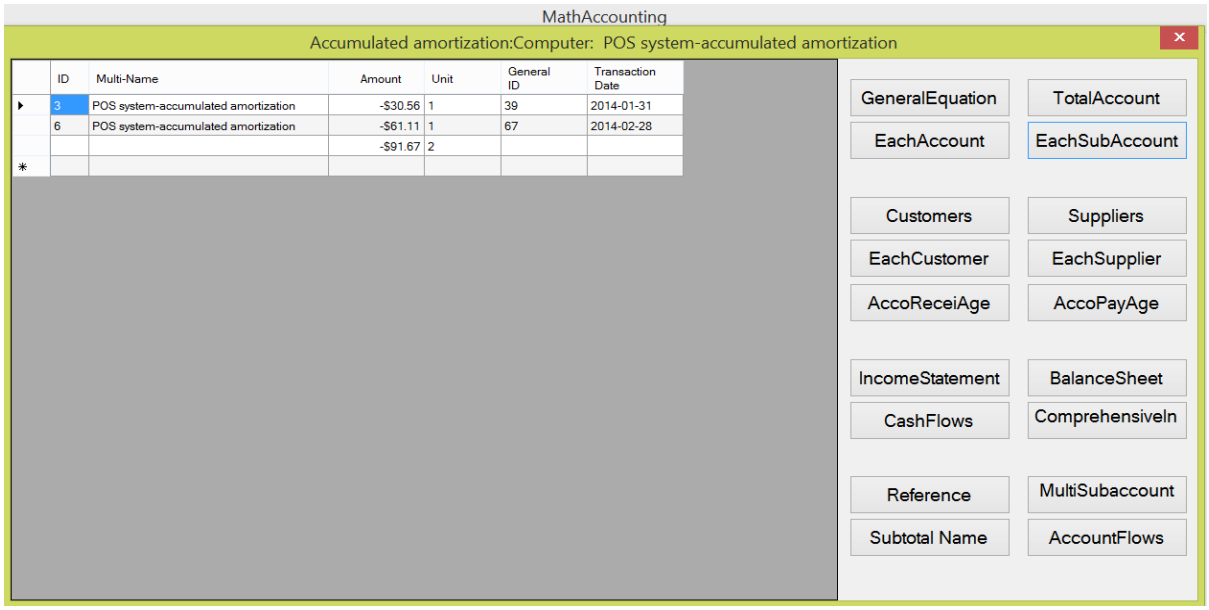
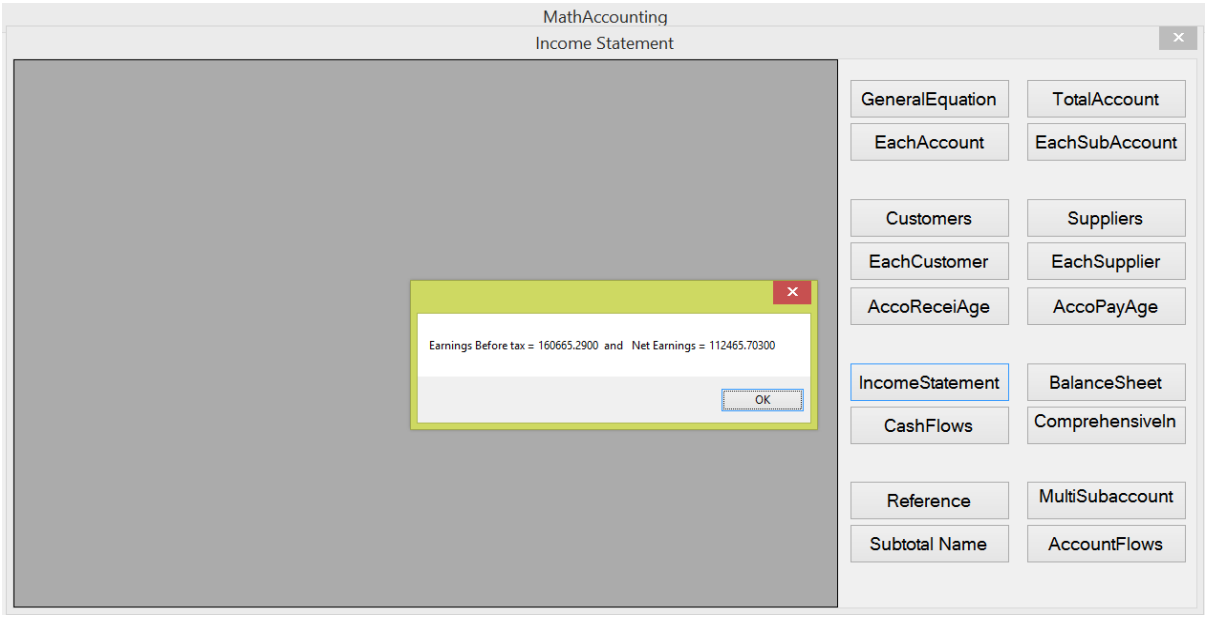


Figure 40 Subaccount of the POS System- accumulated Amortization

- On the same day, pay $293.37 cash for the utility expenses.
- On the same day, pay $1,500 cash for the office rent expenses.
- On the same day, record the note payable's interest expenses $3,333.33 and the accrued interest payable (500,000*8%/12).

If RR Company ends its first fiscal year on February 28, 2014, I can get the Figure 41 by clicking the IncomeStatement box. The Figure 41 shows the earnings before income taxes: $160,665.29. If the income tax rate is 0.3, then the tax payable is: $160,665.29*0.3 = 48,199.59 and the net earnings is: $160,665.29 - $48,199.59 = $112,465.70.



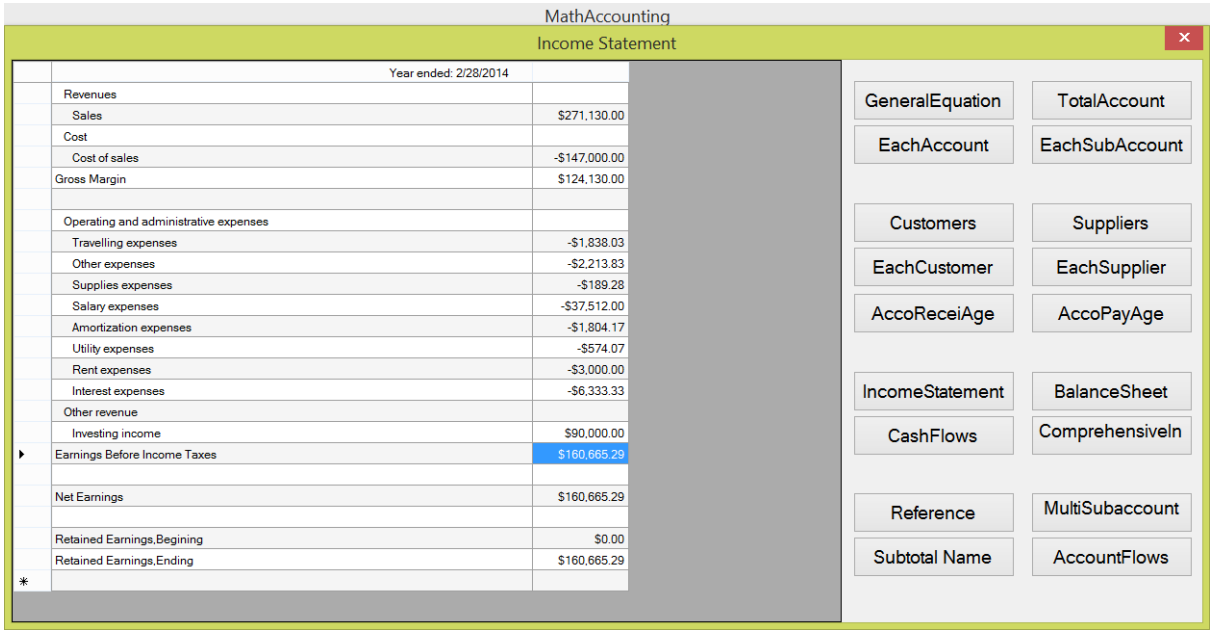


Figure 41 Getting Earnings before Income Tax

To get the income statement, balance sheet, cash flows, and comprehensive income statement and begin a new fiscal year, I need enter the following transactions.

- On February 28, 2014, record the tax expenses $48,199.59 and tax payable $48,199.59.

  After entering the transaction, the net earnings will transfer into the end retained earnings.

- On the same day, record the land's unrealized holding gain or loss. The land (land2, North York) has fair price of $210,000.

  Due to the land being the AFS investment, I must calculate the unrealized holding gain or loss (OCI) and the accumulated other comprehensive income (AOCI). A similar method of dealing with the accumulated amortization account can be used for dealing with the accumulated other comprehensive income (AOCI) account. So the accumulated other comprehensive income (AOCI) account is also a contra account of the land account.

  The Unrealized holding gain or loss account, which is the difference between the fair price and the cost price, will be put into the fourth class accounts. If the amount of this account is negative, it means the unrealized holding loss. The fair price is $210,000 and the cost is $180,000, so the sub-equation is:

  Accumulated other comprehensive income of land (1): 30000 = Unrealized holding gain or loss (4): 30000

  Here, you must pay attention that the increase of the "Accumulated other comprehensive income (AOCI)" means the "+" because I put the "Unrealized holding gain or loss" into the fourth class accounts.

  If you wish put the "Unrealized holding gain or loss" into the fifth class accounts, then the meaning of the "Accumulated other comprehensive income (AOCI)" account's increasing or

decreasing is as same as the “Accumulated amortization” account’s.

The “Accumulated other comprehensive income: land” and the “Unrealized holding gain or loss” accounts all have the one-level subaccounts, and their respective Subtotal names are the Long term investments, 141 and Other comprehensive income, 713.

- On the same day, record the share’s unrealized holding gain or loss. The share’s market price is $35.21 each.

  The transaction is same as the previous transaction. The unrealized holding gain or loss of MicroQQ share is -$4,600. The sub-equation is:

  Accumulated other comprehensive income: share (1): -4600 = Unrealized holding gain or loss (4): -4600

The Figure 42, Figure 43 (after beginning new fiscal year), Figure 44, and Figure 45 respectively show the RR Company’s four tables: Income statement, Balance sheet, Cash flows, and Comprehensive income statement.

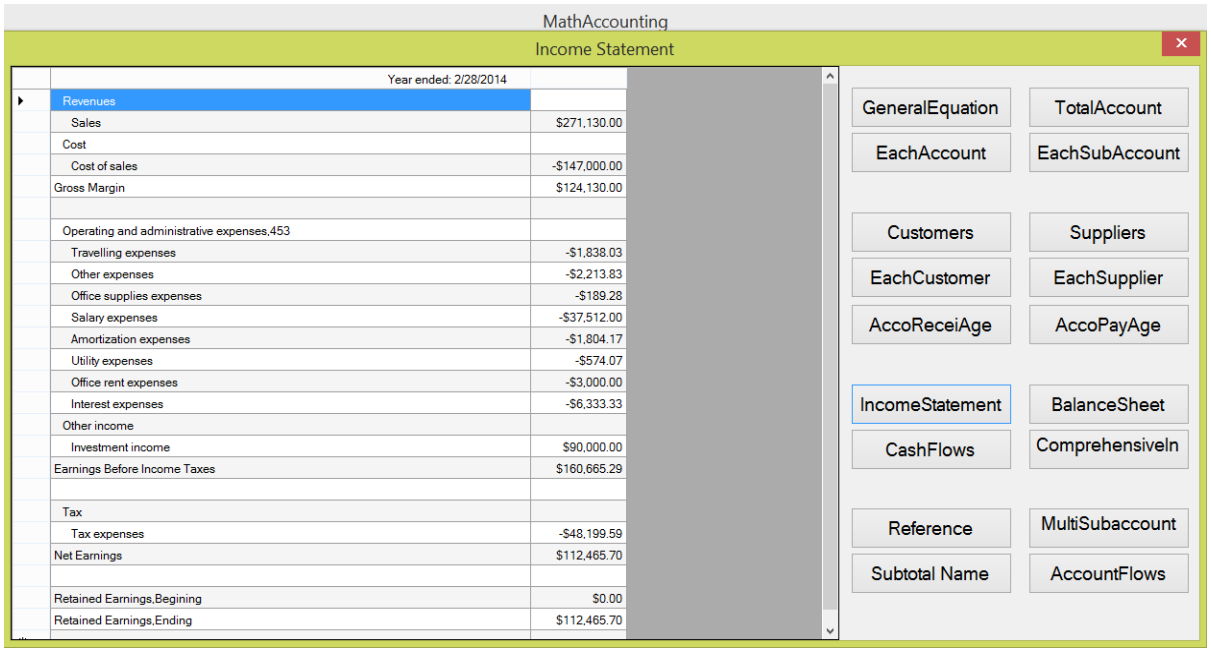
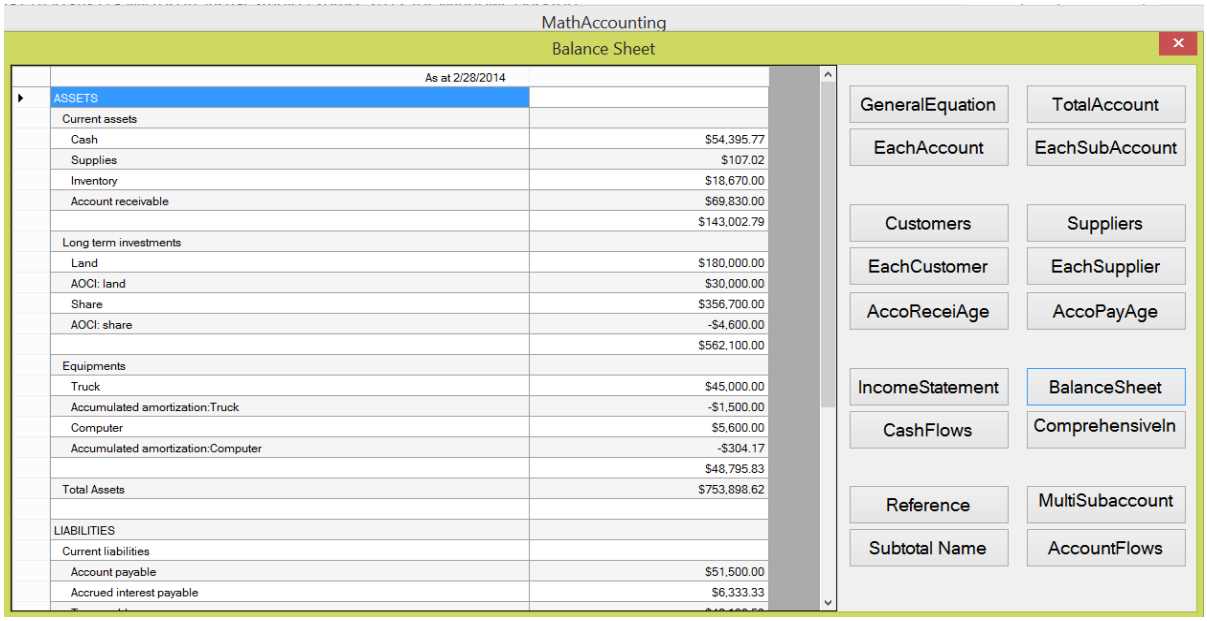


Figure 42 Income Statement



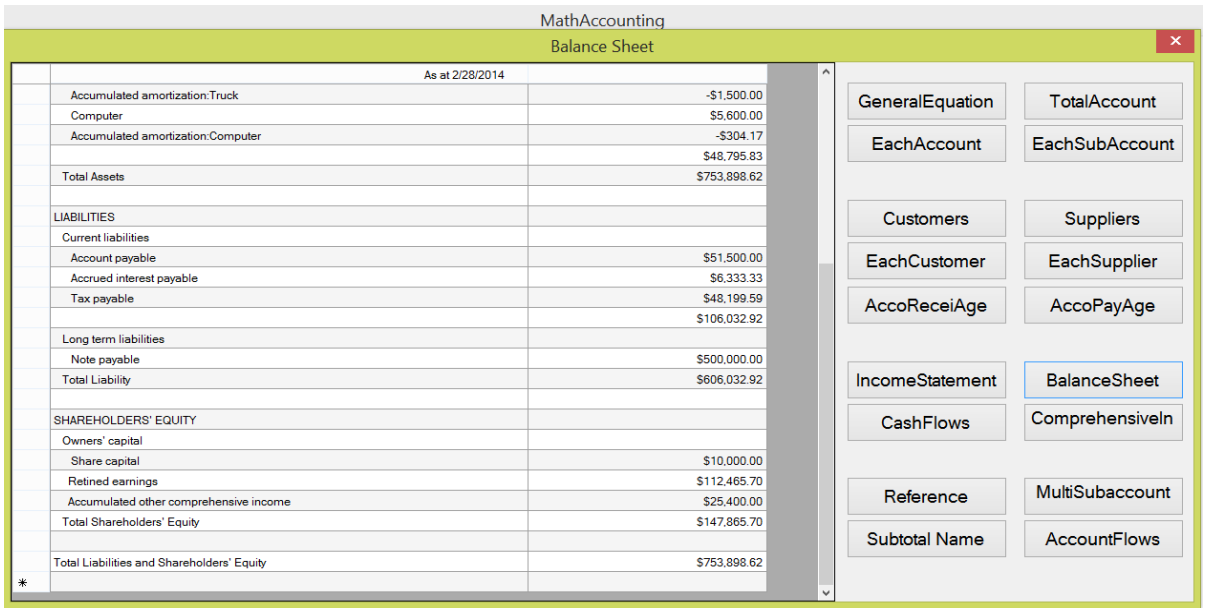


Figure 43 Balance Sheet

RR Company has gotten the long term investment for sale. The Figure 43 shows the cost of the investments and their accumulated other comprehensive incomes respectively under the subtotal of the “Long term investment”, and the total accumulated other comprehensive income under the subtotal of the “Owners’ capital”.

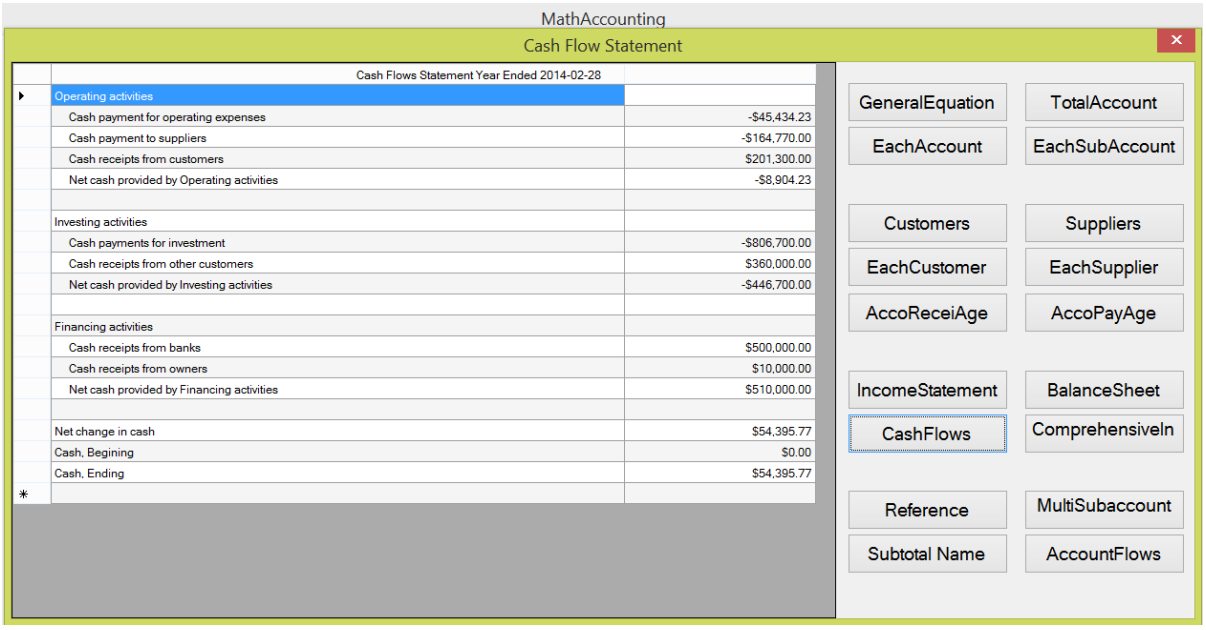


Figure 44 Cash Flows Statement

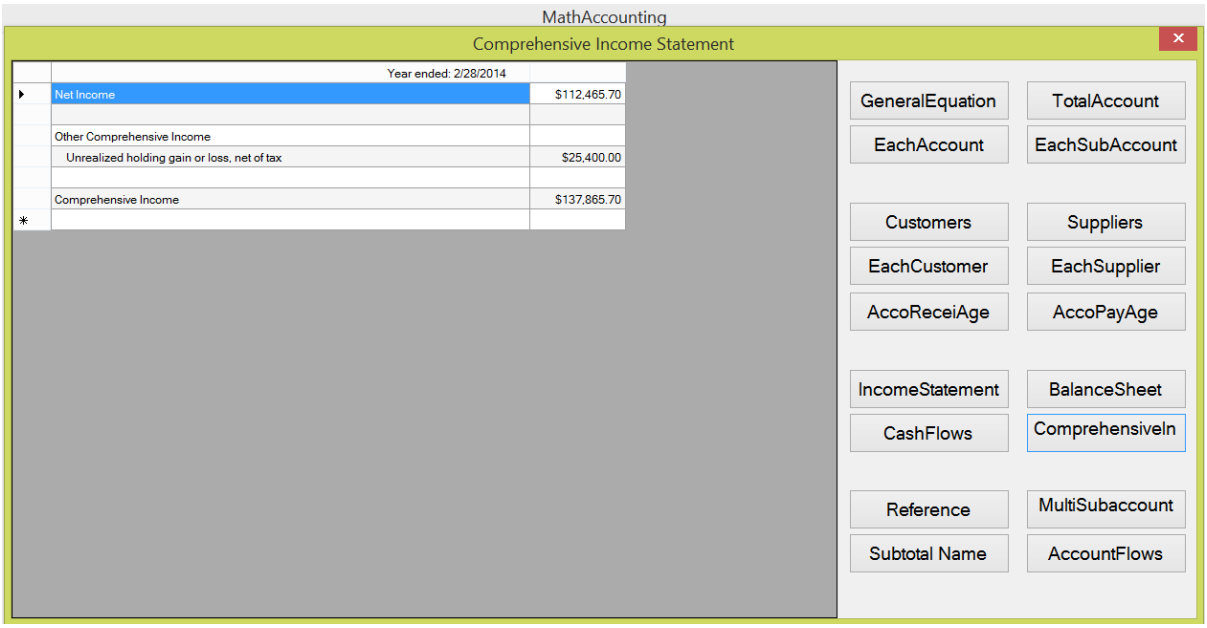


Figure 45 Comprehensive Income Statements

The Figure 45 shows the total unrealized holding gain or loss $25,400 which is consisted of the land's unrealized holding gain or loss $30,000 and the MicroQQ share's unrealized holding gain or loss -$4,600.

For beginning the new fiscal year, you only click the IncomeStatement box and answer the "Yes" in the Figure 46 for the question of the "Would you like to begin new fiscal year?". Of course, you must do the YearBackup before doing this.

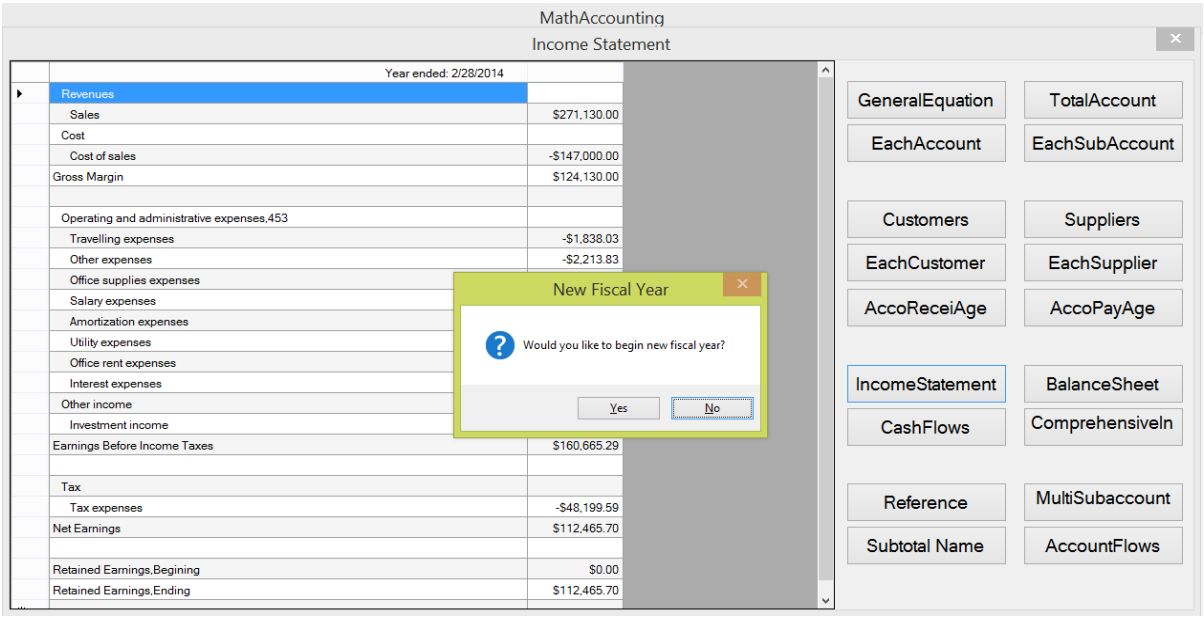


Figure 46 Income Statement interface

In the new fiscal year, I will enter following transactions.

- On March 2, 2014, purchase the supplies for cash $123.87.
- On March 3, 2014, purchase the $85,360 inventory on credit from G1 Company (phone number: 987654324).

  The inventory's multiSubaccounts are:

  "TTTCU parts<TTT parts<Inven4" for $2*33105,

  "RRRHJK parts<Inven4" for $ 2*9575.
- On March 4, 2014, Yi Liu sales $85,200 inventory to F1 Company (phone number: 123456787) on credit $154,800.

  The inventory's multiSubaccounts are:

  "TTTCU parts<TTT parts<Inven4" of cost -$2*33035,

  "RRRHJK parts<Inven4" of cost -$2*9565.
- On March 10, 2014, receive $52,000 cash from E1 Company (phone number: 123456788) with the General ID 48.
- On March 12, 2014, receive $1,430 cash from B1Company (phone number: 123456789) with the General ID 5 ($230) and the General ID 25 ($1200).
- On March 13, 2014, receive $2,200 cash from H1Company (phone number: 123456786) with the General ID 23.
- On March 14, 2014, pay $500 cash to A1Company (phone number: 987654321) with the General ID 4.
- On March 15, 2014, pay $4,500 cash to C1Company (phone number: 987654322) with the General ID 21.

- On March 17, 2014, pay $30,000 cash to D1Company (phone number: 987654323) with the General ID 47.
- On March 28, 2014, pay $153.72 cash to Mike Newsome (Office department) for the other expenses.
- On March 29, 2014, receive $120,000 cash from F1Company (phone number: 123456787) with the General ID 78.
- On same day, pay $82,360 cash to G1Company (phone number: 987654324) with the General ID 77.
- On the same day, pay $171.63 cash to Hua Li (Purchase department) for travelling expenses $101.33 and the other expenses $70.30.
- On the same day, pay $52.17 cash to Xiao Zhou (Sales department) the other expenses.
- On the same day, pay $129.34 cash to Jun Wang (Sales department) for the travelling expenses.
- On the same day, pay $111.93 cash to Zhendao Yuan (Sales department) for the other expenses.
- On March 30, 2014, pay $1,210.91 cash to Yi Liu (Sales department) for travelling expenses $1132.56 and the other expenses $78.35.
- On the same day, pay $201.99 cash to Ping Wang (Office department) for the other expenses.
- On March 31, 2014, record office supplies expenses $101.28.
- On the same day, pay $23,790 cash for all salary of March, 2014.
- On the same day, record the truck's amortization expenses $750 one month (5 years, straight line, and third month).
- On the same day, record the computers' amortization expenses ($202.78). The computer account has three one-level subaccounts: computer1 $66.67, computer server $75, and POS system $61.11.

- On the same day, pay $323.14 cash for the utility expenses.
- On the same day, pay $1,500 cash for the office rent expenses.
- On the same day, record the note payable's interest expenses $3,333.33 and the accrued interest payable (500,000*8%/12).

The Figure 47 shows the income statement without entering the tax expenses and beginning a new fiscal year. The earnings before income taxes is equal to the net earnings $37,567.78 in the Figure 47. The difference between the total assets ($762,799.73) and the total liabilities and shareholders' equity ($725,231.95) is just equal to the earnings before income taxes $37,567.78 in the Figure 48.

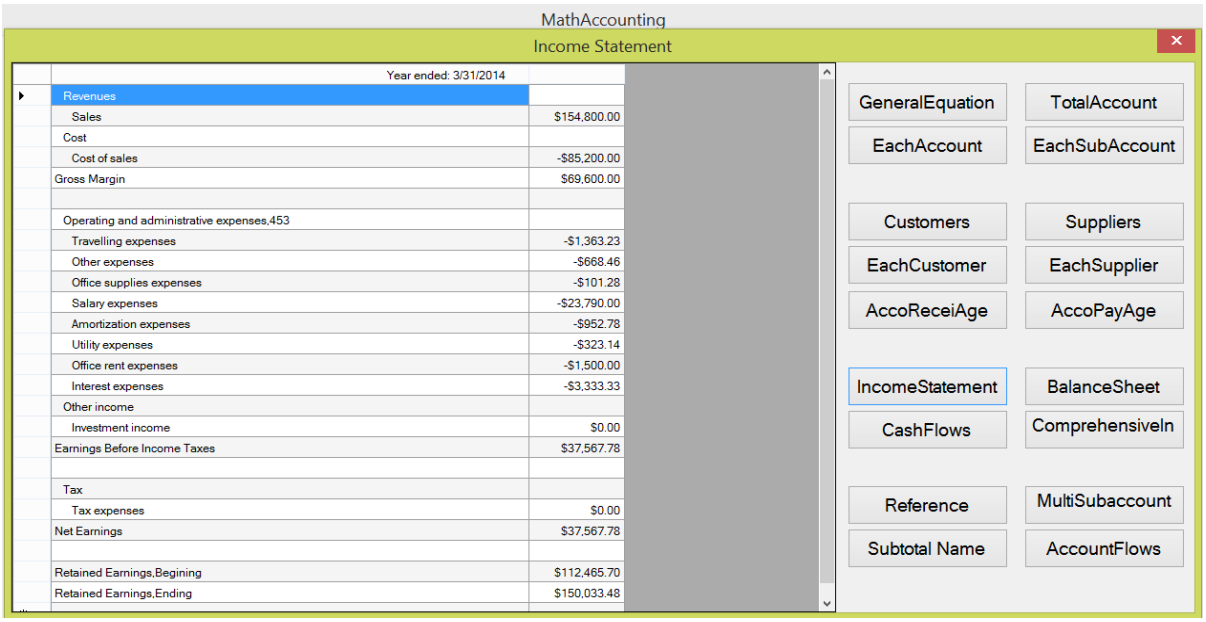


Figure 47 Income Statements without Entering Tax Expenses

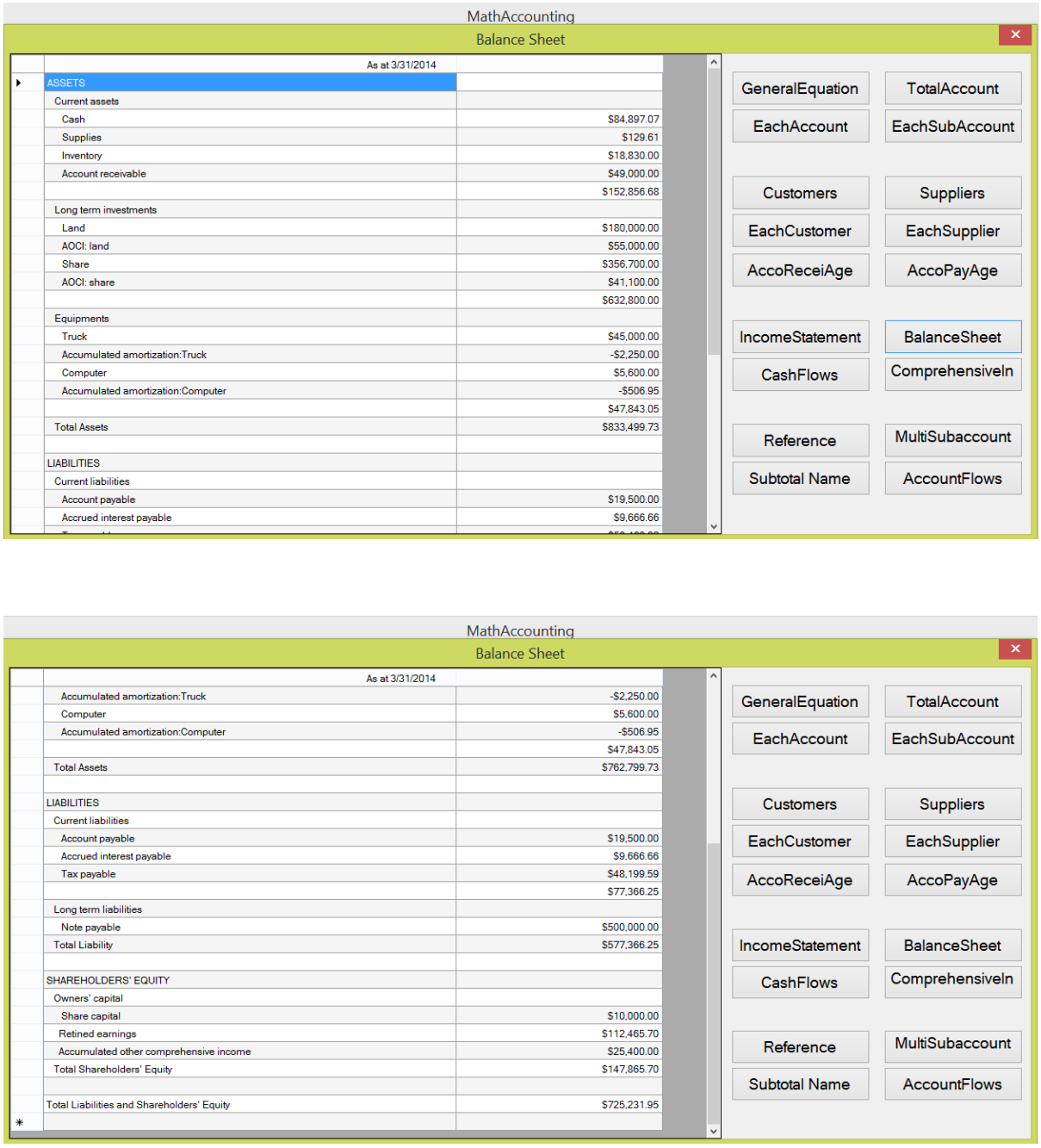


Figure 48 Balance Sheets without Beginning New Fiscal Year

If I will begin a new fiscal year on April 1, 2014 to check whether the income statement and the balance sheet are correct, I must enter following transactions.

- On March 31, 2014, record the tax expenses $11,270.33 and tax payable $11,270.33, and the net earnings will transfer into the ending retained earnings.
- On the same day, record the land's unrealized holding gain or loss. The land (land2, North York) has fair price of $235,000.

  The Unrealized holding gain or loss account is now the difference between the fair price and the carrying value. The fair price is $235,000 and the carrying value is $210,000, so the sub-equation is:

  Accumulated other comprehensive income: land (1): 25000 = Unrealized holding gain or loss (4): 25000

  The "Accumulated other comprehensive income: Land" and the "Unrealized holding gain or loss" accounts all have the one-level subaccounts.
- On the same day, record the share's market price is $39.78 each.

  The transaction is same as the previous transaction. The unrealized holding gain or loss of MicroQQ is $45,700, and the sub-equation is:

  Accumulated other comprehensive income:share (1): 45700 = Unrealized holding gain or loss (4): 45700

After answering the "Yes" for the question "Would you like to begin new fiscal year?", I get the income statement, balance sheet, cash flows (including the cash account table), and comprehensive income statement in the Figure 50-53. Please notice the changes of the AOCI, Accumulated amortization, the Cash (Beginning) and the Cash (Ending).

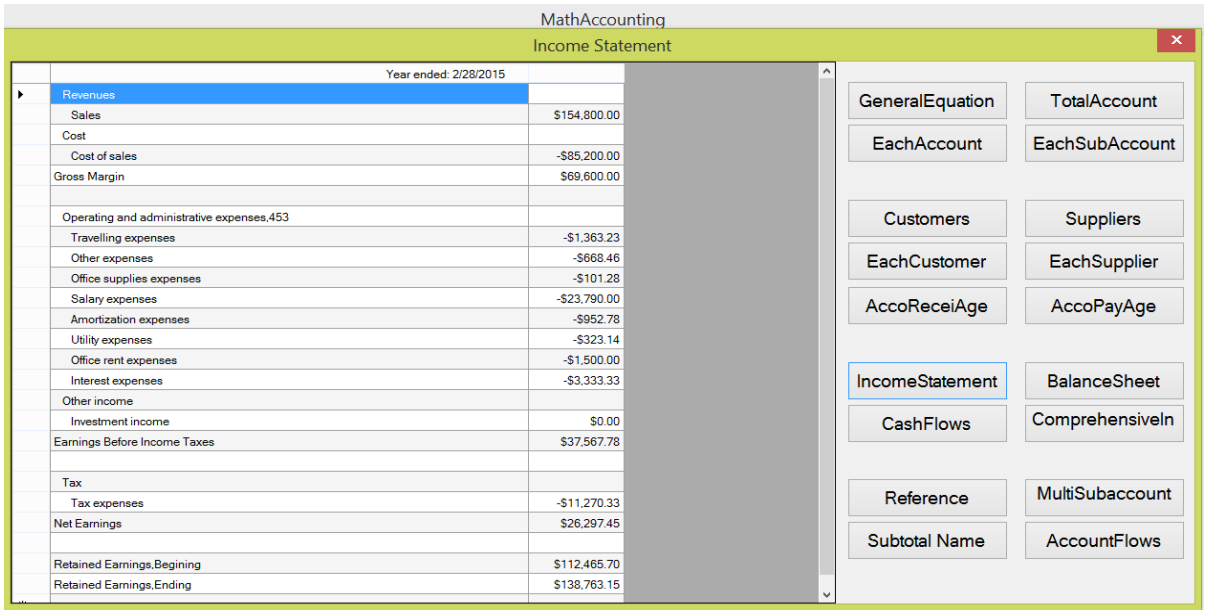


Figure 49 Income Statement

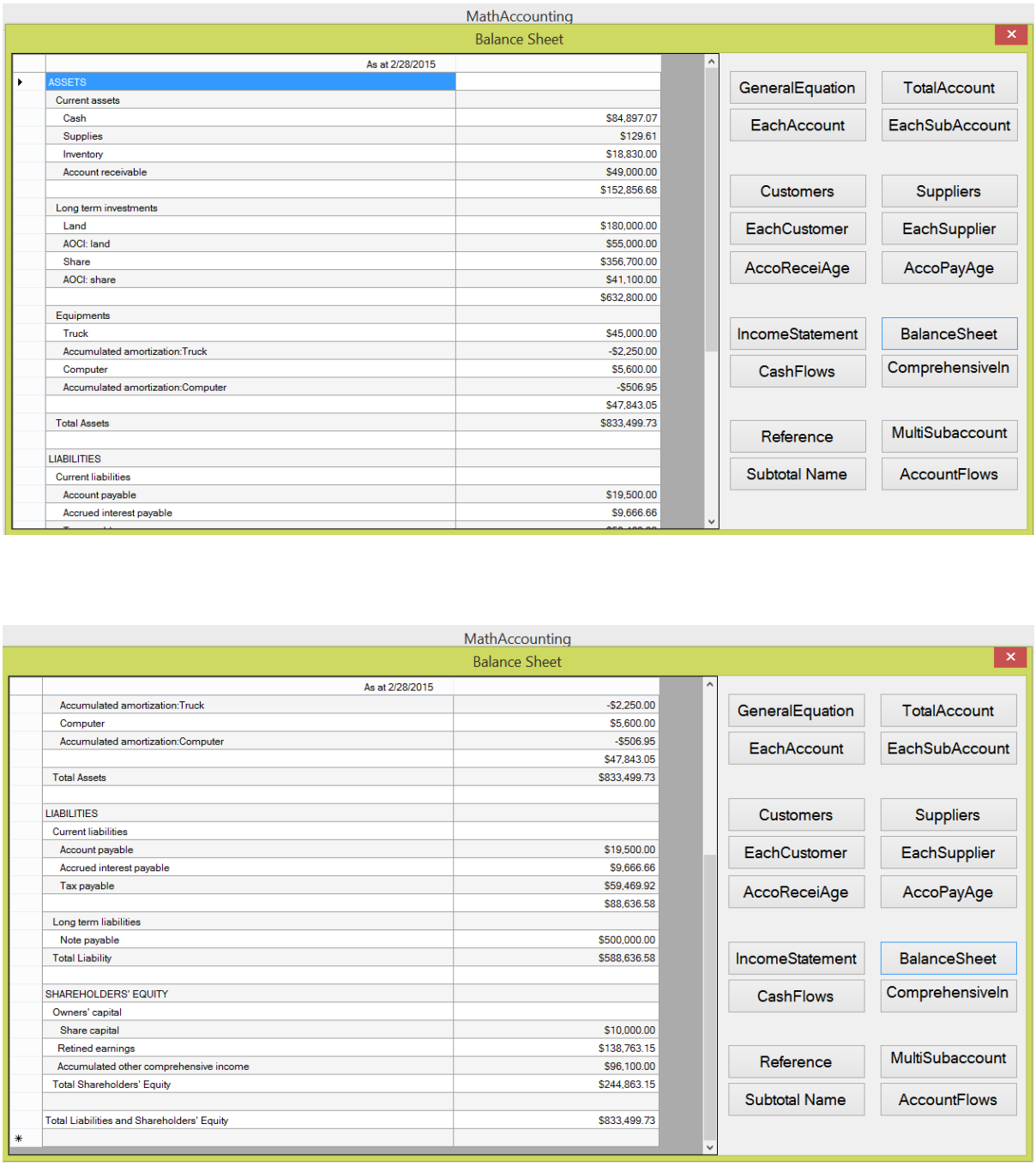


Figure 50 Balance Sheets with Beginning New Fiscal Year

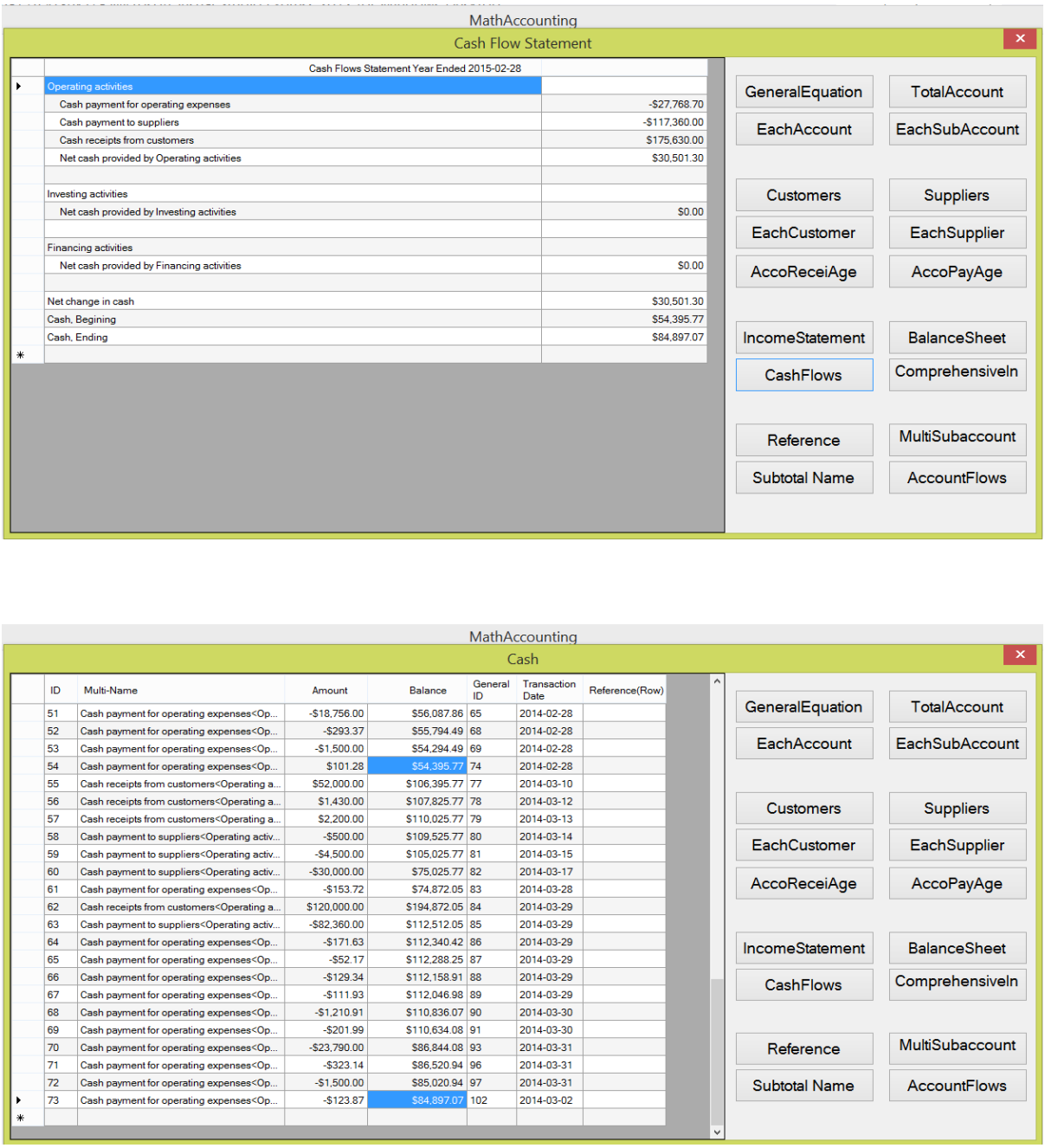


Figure 51 Cash Flows Statement and Cash Account

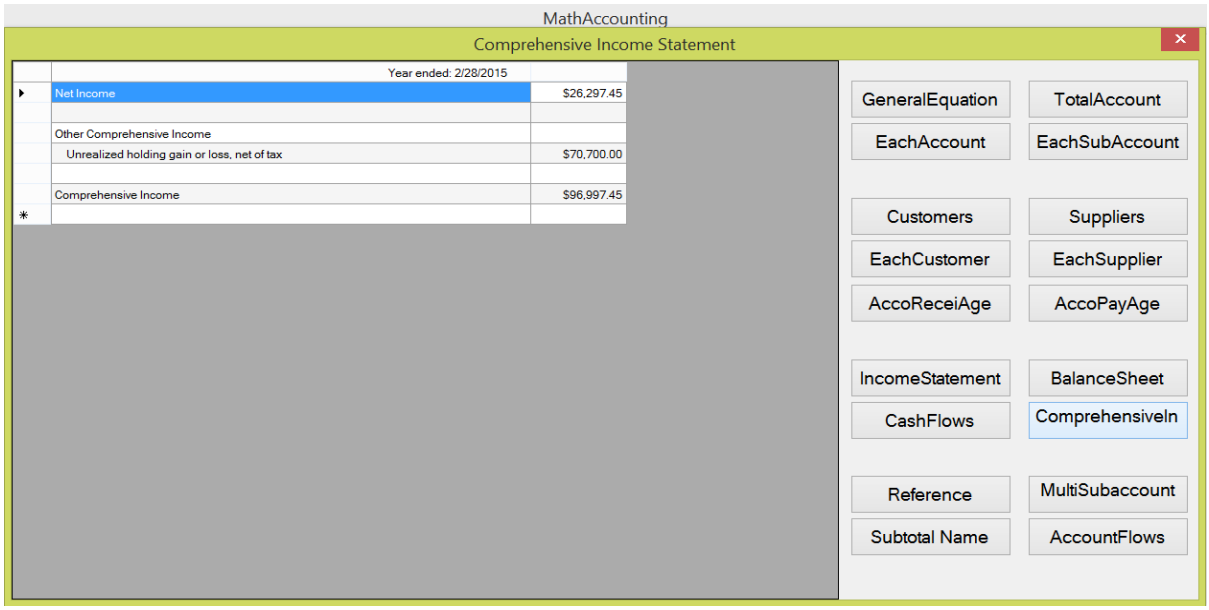


Figure 52 Comprehensive Income Statements

If a company will like to use the MathAccounting software during its current fiscal year, it is easy to begin the mathematical accounting. For any company, the balances of all accounts are satisfied the dynamic accounting equation, so you can enter a transaction which includes all the accounts and their related information to complete the transference in theory. However, because of the limtion of maximum eight entries in a transaction (I will increase the entries' number in a transaction later), you must divide the dynamic accounting equation into the N subequations. No matter how you combine the accounts in a transaction, the only requirement is that each subequation must be balance exception of the account receivable and account payable.

Because the MathAccounting needs the transaction dates of the two accounts: account receivable and account payable, the only same transaction date of account receivable and account payable can be combined into a new transaction in the MathAccounting software. The following is a example.

For a customer (phone: 567891234), the detail of its account receivable balance is:

Trancaction date: Janurary 3, 2014, balance: $980,

Trancaction date: Janurary 19, 2014, balance: $1,230,

Trancaction date Feruary 27, 2014, balance: $5,500.

For a supplier (phone: 123498765), the detail of its account payable balance is:

Trancaction date: Janurary 8, 2014, balance: $1,400,

Trancaction date: Janurary 19, 2014, balance: $1,860,

Trancaction date Feruary 28, 2014, balance: $6,900.

Then, the account receivable and account payable with same transaction date can be combined into a new transaction in the MathAccounting software. The new transaction may be:

Account receivable (1): 1230 + Cash (1): 630 = Account payable (2): 1860

Here, cash $630 is only the part of this Company's cash account balance. Of course, you can add more items to the sub-equation until the maximum number of eight items to make the sub-equation balance.

4. Introduction of SQL Server

Finally, I will simply introduce SQL Server and look at how the SQL Server works and what the SQL Server do for us behind the screen.

SQL Server 2012 is a powerful database and its security is guaranteed by three levels of principles: Windows, SQL server, and Database.

The "behind the screen" means that you can use the MathAccounting software even without understanding the SQL Server. Executing the SQL Server and pressing password. Clicking the small box with the "+" beside the databases at the left of the screen, and then clicking the small box with the "+" beside the jgp1 again. For database jgp1, I am interested in the tables, so I click the small box beside the tables and get the Figure 53.

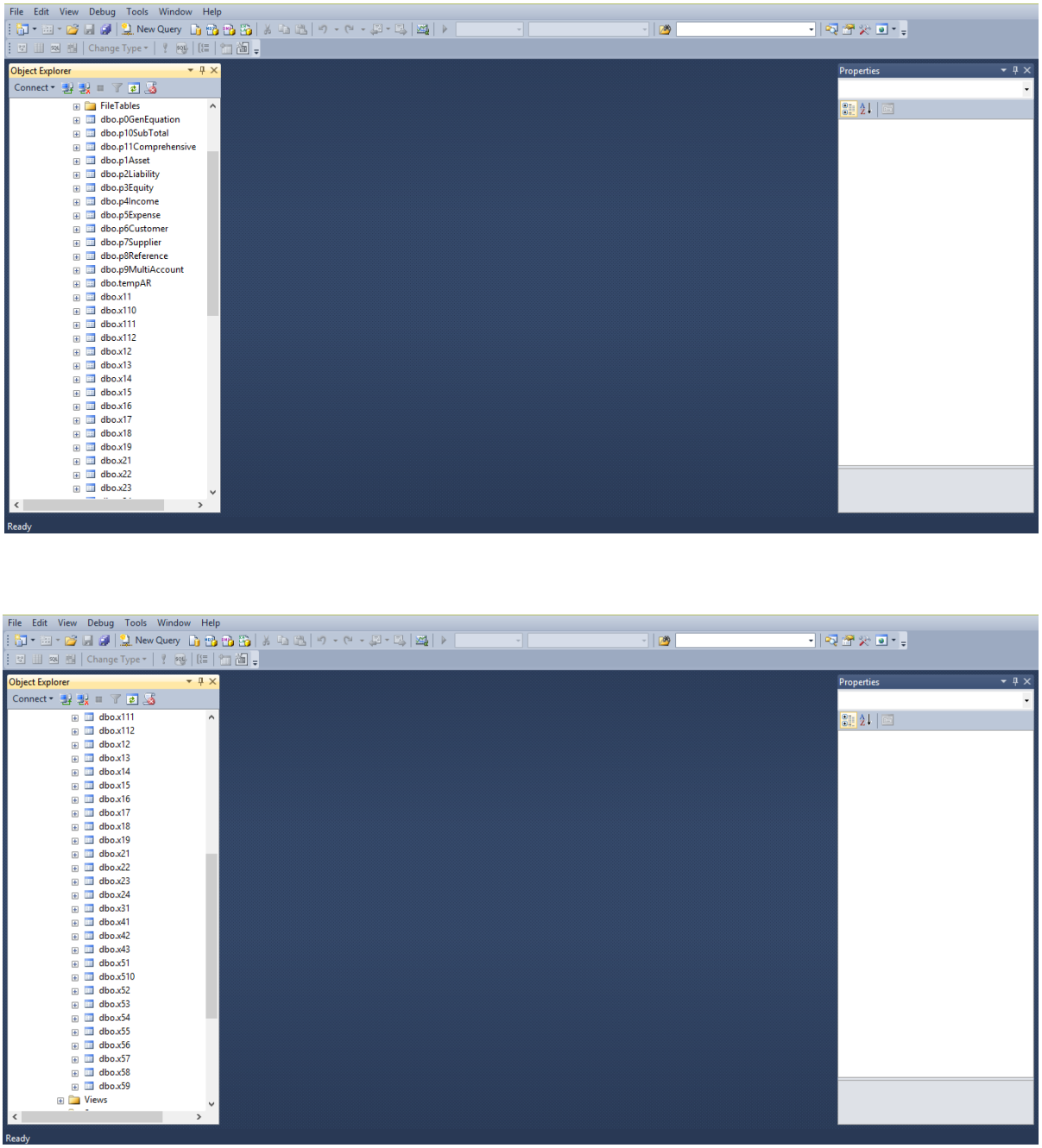


Figure 54 All Tables

The SQL Server has built many tables for the company. You should understand what the top twelve tables mean from their names. The first table should be the General equation table. However, what are the tables of x11, x12, and x21…? In fact, I use a similar method of the coordinate exchange in the numerical calculation in programming the MathAccounting software. By using of this method, I exchange the real names of all accounts, which I enter into the database in the transaction function model, into the mathematical names according to the entering order to categorize and calculate. I use the “New Query” to show the p0GenEquation and x13tables in the Figure 54. The table p0GenEquation is indeed the General equation and the table x13 is the inventory account which I entered third.

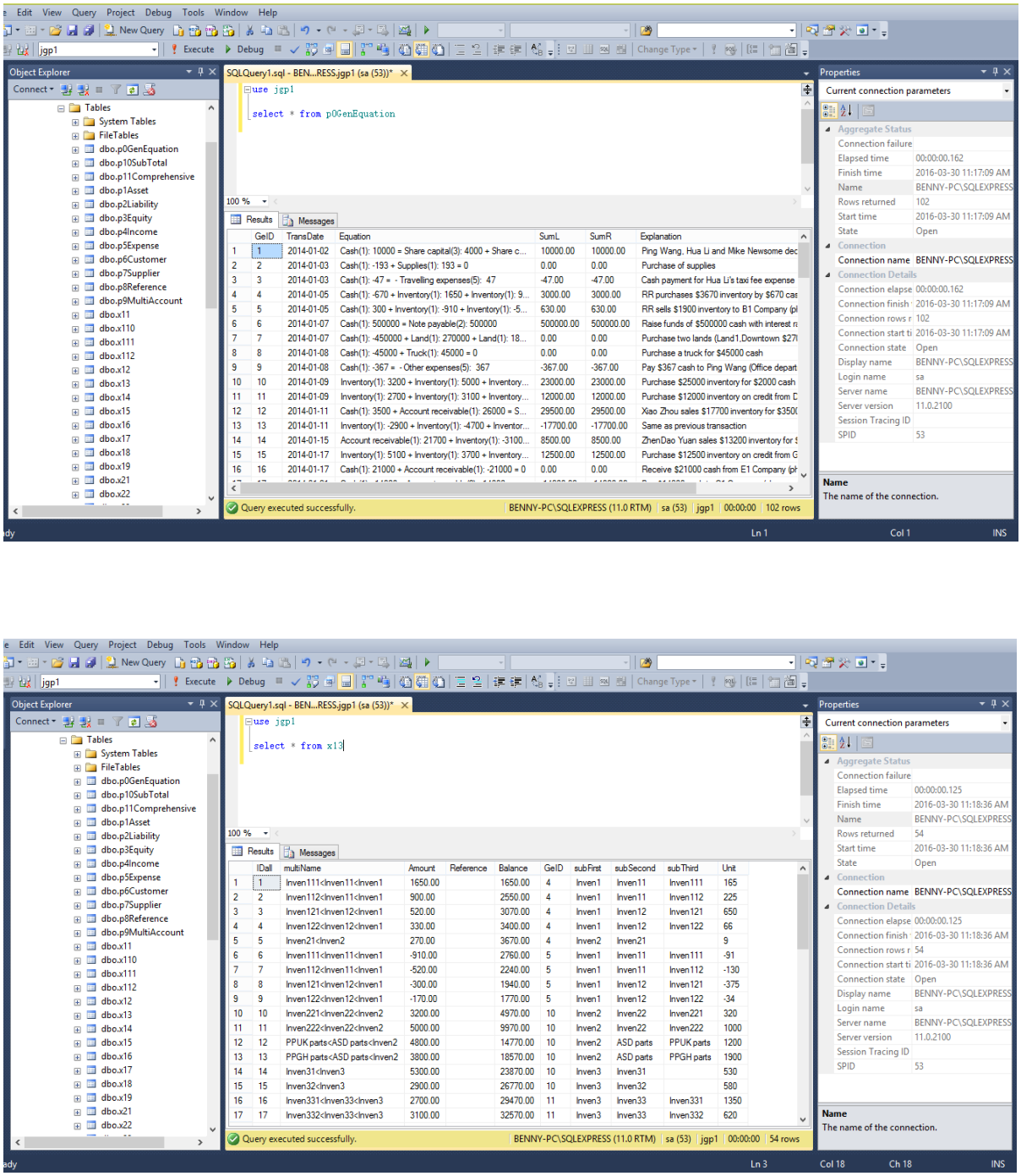


Figure 55 General Equations and Inventory Account Table

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