Record to Report Iteration #6

This is the sixth iteration of documenting a record to report process. The objective is to flow information from the journal entries of an accounting system into a financial report. There are two approaches to achieving this objective. The first approach involves adding needed information completely external to the accounting system. The second approach involves adding needed information into the accounting system.

The first thing necessary is a chart of accounts which drives the accounting system and transaction information. Here is a typical chart of accounts of a traditional accounting system¹:

FullAccount	AccountDescription	Balance	Туре	Type2
000-1100-00	Wells Fargo General Checking Account	Debit	Real	Assets
000-1200-00	Trade Accounts Receivable	Debit	Real	Assets
000-1300-00	Inventories	Debit	Real	Assets
000-1500-00	Equipment	Debit	Real	Assets
000-2150-00	Trade Accounts Payable	Credit	Real	Liabilities
000-2160-00	Accrued interest and taxes	Credit	Real	Liabilities
000-2300-00	Long Term Debt - Net of Current Portion	Credit	Real	Liabilities
000-3100-00	Paid in capital	Credit	Real	Equity
000-3200-00	Retained Earnings	Credit	Real	Equity
000-4100-00	Revenues	Credit	Temporary	Revenue
000-5100-00	Cost of Sales	Debit	Temporary	Expense
000-5200-00	Depreciation and Amortization	Debit	Temporary	Expense
000-5400-00	Interest expense	Debit	Temporary	Expense
000-5500-00	Nonoperating income (expenses)	Credit	Temporary	Expense
000-6100-00	Income Tax Expense (Benefit)	Debit	Temporary	Expense

Here is that same traditional chart of accounts with two pieces of additional information added to supplement the information provided by the traditional chart of accounts:

FullAccount	AccountDescription	XBRLConcept (LineItem)	Balance	Туре	Type2	Type3
000-1100-00	Wells Fargo General Checking Account	mini:CashAndCashEquivalents	Debit	Real	Assets	CurrentAssets
000-1200-00	Trade Accounts Receivable	mini:Receivables	Debit	Real	Assets	CurrentAssets
000-1300-00	Inventories	mini:Inventories	Debit	Real	Assets	CurrentAssets
000-1500-00	Equipment	mini:PropertyPlantAndEquipment	Debit	Real	Assets	NoncurrentAssets
000-2150-00	Trade Accounts Payable	mini:AccountsPayable	Credit	Real	Liabilities	CurrentLiabilities
000-2160-00	Accrued interest and taxes	mini:AccruedExpenses	Credit	Real	Liabilities	CurrentLiabilities
000-2300-00	Long Term Debt - Net of Current Portion	mini:LongtermDebt	Credit	Real	Liabilities	NoncurrentLiabilities
000-3100-00	Paid in capital	mini:PaidInCapital	Credit	Real	Equity	EquityAttributableToControllingInterests
000-3200-00	Retained Earnings	mini:RetainedEarnings	Credit	Real	Equity	EquityAttributableToControllingInterests
000-4100-00	Revenues	mini:Sales	Credit	Temporary	Revenue	Revenues
000-5100-00	Cost of Sales	mini:CostsOfSales	Debit	Temporary	Expense	OperatingExpenses
000-5200-00	Depreciation and Amortization	mini:DepreciationAndAmortization	Debit	Temporary	Expense	OperatingExpenses
000-5400-00	Interest expense	mini:InterestExpense	Debit	Temporary	Expense	NonoperatingExpenses
000-5500-00	Nonoperating income (expenses)	mini:NonoperatingIncomeExpenses	Credit	Temporary	Expense	NonoperatingExpenses
000-6100-00	Income Tax Expense (Benefit)	mini:IncomeTaxExpenseBenefit	Debit	Temporary	Expense	NonoperatingExpenses

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¹ ZIP archive containing Excel file with spreadsheets of screen shots that are easier to read, http://xbrlsite.azurewebsites.net/2024/prototypes/lemonade-stand/MetadataSummary.zip

The first supplemental piece of information is the XBRL concept or line item which would contain the account within a financial report. The second is the "branch" or "subtotal" within which the report line item would be included.

Traditional accounting systems cannot generate a complete set of financial statements. They can generate a balance sheet and an income statement; but not a proper statement of cash flows or statement of changes in equity.

In order to generate all four statements, a traditional accounting system needs to be supplemented to include what I call "roll forward grouping codes" or business event codes. This information (a) helps you understand the roll forwards of real accounts and (b) provide the necessary information that enables an accounting system to generated a statement of cash flows and a statement of changes in equity.

RollForwardGroupingCode	RollForwardGroupingCodeLabel	Description
mini:ProceedsFromCollectionOfReceivables	Collection of accounts receivable	Cash is received, posted to check register as a deposit.
mini:PaymentOfAccountsPayable	Payment of accounts payable	A check is written to pay an accounts payable invoice.
mini:ProceedsFromAdditionalLongtermBorrowings	Additional long term borrowings	A loan agreement is signed with the bank.
mini:PaymentForReductionOfLongtermBorrowings	Repayment of long term borrowings	A check is written to make a payment on long-term debt.
mini:PaymentForCapitalAdditionsOfPropertyPlantEquipment	Capital purchases of property, plant, and equipment	Property, plant, and equipment is purchased.
mini:IncreaseInReceivablesFromSalesOnAccount	Sales	A sales receipt is issued and recorded in the point of sale system.
mini:CollectionOfReceivables	Collection of accounts receivable	Cash is received, posted to check register as a deposit.
mini:AdditionsToAllowanceForBadDebts	Additions to allowance for bad debts	An entry is made in the Excel spreadsheet that computes the allowance for bad debts.
mini:BadDebtsWrittenOff	Bad debts written off	An accounts receivable balance is written off.
mini:PurchasesInventoryForSaleOnAccount	Purchases of inventory for sale	Inventory is purchased per a PURCHASE ORDER and has been received per a bill of lading.
mini:DecreaseInInventoriesFromSales	Cost of sales	The direct cost of an inventory item is expensed per sale of that item and issuance of a sales receipt.
mini:InventoryWrittenOff	Inventory written off	An inventory item is written off per physical inventory count.
mini:CapitalAdditionsPropertyPlantAndEquipment	Capital purchases of property, plant, and equipment	Property, plant, and equipment is purchased.
mini:DecreaseFromDepreciationAndAmortization	Depreciation and amortization expense	Depreciation expense is recorded for an asset in the fixed assets ledger.
mini:PropertyPlantAndEquipmentWrittenOff	Property, plant, and equipment written off	An item from the fixed assets ledger is removed and written off.
mini:PurchasesInventoryForSaleOnAccount	Purchases of inventory for sale	Inventory is purchased per a PURCHASE ORDER and has been received per a bill of lading.
mini:DecreaseFromPaymentAccountsPayable	Payment of accounts payable	A check is written to pay an accounts payable invoice.
mini:AdditionalLongtermBorrowings	Additional long term borrowings	A loan agreement is signed with the bank.
mini:RepaymentLongtermBorrowings	Repayment of long term borrowings	A check is written to make a payment on long-term debt.
mini:NetIncomeLoss	Net income (loss)	Net income (loss) is closed to retained earnings.

To help use the roll forward grouping codes, the following matrix is helpful. This matrix associates a financial report line item to a set of roll forward grouping codes for that specific report line item:

SortOrder	GeneralLedgerAccountCode	RollForwardGroupingCode	Balance	AuditRisk	Comment
1	mini:CashAndCashEquivalents	mini:ProceedsFromCollectionOfReceivables	Debit	Medium	Ties to cash receipts journal.
2	mini:CashAndCashEquivalents	mini:PaymentOfAccountsPayable	Credit	Medium	Ties to check registrer.
3	mini:CashAndCashEquivalents	mini:ProceedsFromAdditionalLongtermBorrowings	Debit	Medium	Ties to bank statement.
4	mini:CashAndCashEquivalents	mini:PaymentForReductionOfLongtermBorrowings	Credit	Medium	Ties to bank statement.
5	mini:CashAndCashEquivalents	mini:PaymentForCapitalAdditionsOfPropertyPlantEquipment	Credit	Medium	Ties to fixed assets ledger.
11	mini:Receivables	mini:IncreaseInReceivablesFromSalesOnAccount	Debit	Medium	Ties to sales journal.
12	mini:Receivables	mini:CollectionOfReceivables	Credit	Medium	Ties to cash receipts journal.
13	mini:Receivables	mini:AdditionsToAllowanceForBadDebts	Credit	High	Ties to supporting spreadsheet.
14	mini:Receivables	mini:BadDebtsWrittenOff	Credit	High	Ties to supporting spreadsheet.
21	mini:Inventories	mini:PurchasesOfInventoryForSale	Debit	Medium	Ties to inventory ledger.
22	mini:Inventories	mini:DecreaseInInventoriesFromSales	Credit	Medium	Ties to sales ledger.
23	mini:Inventories	mini:InventoryWrittenOff	Credit	High	Ties to supporting spreadsheet.
31	mini:PropertyPlantAndEquipment	mini:CapitalAdditionsPropertyPlantAndEquipment	Debit	Medium	Ties to fixed assets ledger.
32	mini:PropertyPlantAndEquipment	mini:DecreaseFromDepreciationAndAmortization	Credit	Medium	Ties to fixed assets ledger.
33	mini:PropertyPlantAndEquipment	mini:PropertyPlantAndEquipmentWrittenOff	Credit	High	Ties to supporting spreadsheet.
41	mini:AccountsPayable	mini:PurchasesInventoryForSaleOnAccount	Credit	Low	Ties to purchase order system.
42	mini:AccountsPayable	mini:DecreaseFromPaymentAccountsPayable	Debit	Low	Ties to check register.
43	mini:AccruedInterest	mini:InterestAccrued	Credit	Medium	Ties to account working papers.
44	mini:AccruedInterest	mini:DecreaseFromPaymentOfInterest	Debit	Medium	Ties to account working papers.
51	mini:LongtermDebt	mini:AdditionalLongtermBorrowings	Credit	Medium	Ties to bank statement.
52	mini:LongtermDebt	mini:RepaymentLongtermBorrowings	Debit	Medium	Ties to bank statement.
71	mini:PaidInCapital	mini:InvestmentsByOwner	Credit	Medium	Ties to ledger of paid in capital
72	mini:PaidInCapital	mini:DistributionsToOwner	Debit	Medium	Ties to ledger of paid in capital
81	mini:RetainedEarnings	mini:NetIncomeLoss	Credit	Medium	Ties to income statement
91	mini:Sales	mini:NetIncomeLoss	Credit	Medium	Ties to sales journal.
92	mini:CostsOfSales	mini:NetIncomeLoss	Debit	Medium	Ties to sales journal.
93	mini:DepreciationAndAmortization	mini:NetIncomeLoss	Debit	Medium	Ties to fixed assets ledger
94	mini:SalesGeneralAndAdministrativeExpenses	mini:NetIncomeLoss	Debit	Medium	Ties to check register.
95	mini:InterestExpense	mini:NetIncomeLoss	Debit	Medium	Ties to check register.
96	mini:GainLossOnSalePropertyPlantEquipment	mini:NetIncomeLoss	Credit	Medium	Ties to fixed assets ledger.
97	mini:NonoperatingIncomeExpenses	mini:NetIncomeLoss	Credit	Medium	Ties to check register.
98	mini:IncomeTaxExpenseBenefit	mini:NetIncomeLoss	Debit	Medium	Ties to tax provision.

To understand what the XBRL concept for the report line item and the roll forward grouping code do; it is helpful to look at a set of journal entries which do not contain that information. Below is such a set of traditional journal entries and common information for those entries.

EntryID	Sequence	TransactionPeriod	Account	Amount	Balance	EffectiveValue	TransactionDescription	
JE-201	1	2024-01-01	000-1100-00	10000	D	10000	Investment by owner to open a lemonade stand.	
JE-201	2	2024-01-01	000-3100-00	10000	С	-10000	Investment by owner to open a lemonade stand.	
JE-202	1	2024-01-02	000-1100-00	2000	D	2000	Long term borrowing to purchase refrigerator.	
JE-202	2	2024-01-02	000-2300-00	2000	С	-2000	Long term borrowing to purchase refrigerator.	
JE-203	1	2024-01-05	000-1500-00	1000	D	1000	Purchase of refrigerator using cash from additional borrowings.	
JE-203	2	2024-01-05	000-1100-00	1000	С	-1000	Purchase of refrigerator using cash from additional borrowings.	
JE-204	1	2024-01-10	000-1300-00	5000	D	5000	Purchase of lemons to put intoinventory on account.	
JE-204	2	2024-01-10	000-2150-00	5000	С	-5000	Purchase of lemons to put intoinventory on account.	
JE-205	1	2024-01-15	000-5100-00	3000	D	3000	Payment for contractor to work the lemonade stand.	
JE-205	2	2024-01-15	000-2150-00	3000	С	-3000	Payment for contractor to work the lemonade stand.	
JE-206	1	2024-01-16	000-1200-00	8000	D	8000	Sales on account.	
JE-206	2	2024-01-16	000-4100-00	8000	С	-8000	Sales on account.	
JE-206	3	2024-01-16	000-5100-00	2000	D	2000	Costs related to sales on account.	
JE-206	4	2024-01-16	000-1300-00	2000	С	-2000	Costs related to sales on account.	
JE-207	1	2024-01-20	000-1100-00	8000	D	8000	Collection of accounts receivable.	
JE-207	2	2024-01-20	000-1200-00	8000	С	-8000	Collection of accounts receivable.	
JE-208	1	2024-01-21	000-2150-00	7000	D	7000	Payment of accounts payable.	
JE-208	2	2024-01-21	000-1100-00	7000	С	-7000	Payment of accounts payable.	
JE-209	1	2024-01-25	000-2300-00	1000	D	1000	Payment of long term debt including accrued interest.	
JE-209	2	2024-01-25	000-1100-00	1000	С	-1000	Payment of long term debt including accrued interest.	
JE-209	3	2024-01-25	000-1100-00	150	С	-150	Payment of long term debt including accrued interest.	
JE-209	4	2024-01-25	000-2160-00	150	D	150	Payment of long term debt including accrued interest.	
JE-210	1	2024-01-24	000-5400-00	150	D	150	Accrual of interest on debt.	
JE-210	2	2024-01-24	000-2160-00	150	С	-150	Accrual of interest on debt.	
JE-223	1	2024-01-28	000-5100-00	300	D	300	Closing entry. Inventory write offs, adjust to physical.	
JE-223	2	2024-01-28	000-1300-00	300	С	-300	Closing entry. Inventory write offs, adjust to physical.	
JE-224	1	2024-01-28	000-4100-00	100	D	100	Closing entry. Depreciation and amortization expensed.	
JE-224	2	2024-01-28	000-1500-00	100	С	-100	Closing entry. Depreciation and amortization expensed.	
JE-225	1	2024-01-28	000-1500-00	0	D	0	Closing entry. Write of of PPE.	
JE-225	2	2024-01-28	000-5500-00	0	С	0	Closing entry. Write of of PPE.	
JE-226	1	2024-01-29	000-6100-00	400	D	400	Closing entry. Book taxes.	
JE-226	2	2024-01-29	000-2160-00	400	С	-400	Closing entry. Book taxes.	
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Note from above that there is no way to understand what report line item a transaction would be included within and there is no way to group the journal entry information into the set of line items necessary to prepare a statement of cash flows or a statement of changes in equity.

Sure, a skilled and experienced accountant can group and organize the journal entry information into the proper statements; but a computer cannot because the information necessary to do so is missing.

Contrast the above to what you see in the next graphic of a set of journal entries. The following set of journal entries adds four supplemental columns of information. The first two, EconomicEntityIdentifier and Units, are not actually necessary because in this case they are all the same for every journal entry. This is the case because the journal entries we are using are all for one reporting economic entity and all transaction amounts are provided in a single currency, US Dollars. But if multiple reporting entities and multiple reporting currencies were necessary, this mechanism can support this need. The second two include a field for the XBRL concept which contains the report line item and the roll forward grouping code are provided. The information that you see below is 100% of the necessary information required from an accounting system in order to generate a complete set of primary financial statements including: balance sheet, income statement, statement of cash flows, and statement of changes in equity.

EntryID	Sequence	EconomicEntityIdentifier	TransactionPeriod	Account	GeneralLedgerAccountCode	RollForwardGroupingCode	Amount	Units	Rounding	Balance	EffectiveValue	TransactionDescription
JE-201	1	30810137d58f76b84afd	2024-01-01	000-1100-00	mini:CashAndCashEquivalents	mini:ProceedsFromInvestmentsByOwner	10000	iso4217:USD	2	D	10000	Investment by owner to open a lemonade stand.
JE-201	2	30810137d58f76b84afd	2024-01-01	000-3100-00	mini:PaidInCapital	mini:InvestmentsByOwner	10000	iso4217:USD	2	С	-10000	Investment by owner to open a lemonade stand.
JE-202	1	30810137d58f76b84afd	2024-01-02	000-1100-00	mini:CashAndCashEquivalents	mini:ProceedsFromAdditionalLongtermBorrowings	2000	iso4217:USD	2	D	2000	Long term borrowing to purchase refrigerator.
JE-202	2	30810137d58f76b84afd	2024-01-02	000-2300-00	mini:LongtermDebt	mini:AdditionalLongtermBorrowings	2000	iso4217:USD	2	С	-2000	Long term borrowing to purchase refrigerator.
JE-203	1	30810137d58f76b84afd	2024-01-05	000-1500-00	mini:PropertyPlantAndEquipment	mini:CapitalAdditionsPropertyPlantAndEquipment	1000	iso4217:USD	2	D	1000	Purchase of refrigerator using cash from additional borrowings.
JE-203	2	30810137d58f76b84afd	2024-01-05	000-1100-00	mini:CashAndCashEquivalents	mini:PaymentForCapitalAdditionsOfPropertyPlantEquipment	1000	iso4217:USD	2	С	-1000	Purchase of refrigerator using cash from additional borrowings.
JE-204	1	30810137d58f76b84afd	2024-01-10	000-1300-00	mini:Inventories	mini:PurchasesOfInventoryForSale	5000	iso4217:USD	2	D	5000	Purchase of lemons to put intoinventory on account.
JE-204	2	30810137d58f76b84afd	2024-01-10	000-2150-00	mini:AccountsPayable	mini:PurchasesInventoryForSaleOnAccount	5000	iso4217:USD	2	С	-5000	Purchase of lemons to put intoinventory on account.
JE-205	1	30810137d58f76b84afd	2024-01-15	000-5100-00	mini:CostsOfSales	mini:NetIncomeLoss	3000	iso4217:USD	2	D	3000	Payment for contractor to work the lemonade stand.
JE-205	2	30810137d58f76b84afd	2024-01-15	000-2150-00	mini:AccountsPayable	mini:PurchasesInventoryForSaleOnAccount	3000	iso4217:USD	2	С	-3000	Payment for contractor to work the lemonade stand.
JE-206	1	30810137d58f76b84afd	2024-01-16	000-1200-00	mini:Receivables	mini:IncreaseInReceivablesFromSalesOnAccount	8000	iso4217:USD	2	D	8000	Sales on account.
JE-206	2	30810137d58f76b84afd	2024-01-16	000-4100-00	mini:Sales	mini:NetIncomeLoss	8000	iso4217:USD	2	С	-8000	Sales on account.
JE-206	3	30810137d58f76b84afd	2024-01-16	000-5100-00	mini:CostsOfSales	mini:NetIncomeLoss	2000	iso4217:USD	2	D	2000	Costs related to sales on account.
JE-206	4	30810137d58f76b84afd	2024-01-16	000-1300-00	mini:Inventories	mini:DecreaseInInventoriesFromSales	2000	iso4217:USD	2	С	-2000	Costs related to sales on account.
JE-207	1	30810137d58f76b84afd	2024-01-20	000-1100-00	mini:CashAndCashEquivalents	mini:ProceedsFromCollectionOfReceivables	8000	iso4217:USD	2	D	8000	Collection of accounts receivable.
JE-207	2	30810137d58f76b84afd	2024-01-20	000-1200-00	mini:Receivables	mini:CollectionOfReceivables	8000	iso4217:USD	2	С	-8000	Collection of accounts receivable.
JE-208	1	30810137d58f76b84afd	2024-01-21	000-2150-00	mini:AccountsPayable	mini:DecreaseFromPaymentAccountsPayable	7000	iso4217:USD	2	D	7000	Payment of accounts payable.
JE-208	2	30810137d58f76b84afd	2024-01-21	000-1100-00	mini:CashAndCashEquivalents	mini:PaymentOfAccountsPayable	7000	iso4217:USD	2	С	-7000	Payment of accounts payable.
JE-209	1	30810137d58f76b84afd	2024-01-25	000-2300-00	mini:LongtermDebt	mini:RepaymentLongtermBorrowings	1000	iso4217:USD	2	D	1000	Payment of long term debt including accrued interest.
JE-209	2	30810137d58f76b84afd	2024-01-25	000-1100-00	mini:CashAndCashEquivalents	mini:PaymentForReductionOfLongtermBorrowings	1000	iso4217:USD	2	С	-1000	Payment of long term debt including accrued interest.
JE-209	3	30810137d58f76b84afd	2024-01-25	000-1100-00	mini:CashAndCashEquivalents	mini:PaymentOfinterest	150	iso4217:USD	2	С	-150	Payment of long term debt including accrued interest.
JE-209	4	30810137d58f76b84afd	2024-01-25	000-2160-00	mini:AccruedExpenses	mini:DecreaseFromPaymentOfInterest	150	iso4217:USD	2	D	150	Payment of long term debt including accrued interest.
JE-210	1	30810137d58f76b84afd	2024-01-24	000-5400-00	mini:InterestExpense	mini:NetIncomeLoss	150	iso4217:USD	2	D	150	Accrual of interest on debt.
JE-210	2	30810137d58f76b84afd	2024-01-24	000-2160-00	mini:AccruedExpenses	mini:InterestAccrued	150	iso4217:USD	2	С	-150	Accrual of interest on debt.
JE-223	1	30810137d58f76b84afd	2024-01-28	000-5100-00	mini:CostsOfSales	mini:NetIncomeLoss	300	iso4217:USD	2	D	300	Closing entry. Inventory write offs, adjust to physical.
JE-223	2	30810137d58f76b84afd	2024-01-28	000-1300-00	mini:Inventories	mini:InventoryWrittenOff	300	iso4217:USD	2	С	-300	Closing entry. Inventory write offs, adjust to physical.
JE-224	1	30810137d58f76b84afd	2024-01-28	000-4100-00	mini:DepreciationAndAmortization	mini:NetIncomeLoss	100	iso4217:USD	2	D	100	Closing entry. Depreciation and amortization expensed.
JE-224	2	30810137d58f76b84afd	2024-01-28	000-1500-00	mini:PropertyPlantAndEquipment	mini:DecreaseFromDepreciationAndAmortization	100	iso4217:USD	2	С	-100	Closing entry. Depreciation and amortization expensed.
JE-225	1	30810137d58f76b84afd	2024-01-28	000-1500-00	mini:PropertyPlantAndEquipment	mini:PropertyPlantAndEquipmentWrittenOff	C	iso4217:USD	2	D	0	Closing entry. Write of of PPE.
JE-225	2	30810137d58f76b84afd	2024-01-28	000-5500-00	mini:NonoperatingIncomeExpenses	mini:NetIncomeLoss	0	iso4217:USD	2	С	0	Closing entry. Write of of PPE.
JE-226	1	30810137d58f76b84afd	2024-01-29	000-6100-00	mini:IncomeTaxExpenseBenefit	mini:NetIncomeLoss	400	iso4217:USD	2	D	400	Closing entry. Book taxes.
JE-226	2	30810137d58f76b84afd	2024-01-29	000-2160-00	mini:AccruedExpenses	mini:InterestAccrued	400	iso4217:USD	2	С	-400	Closing entry. Book taxes.
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Further, the information in the set of journal entries above enables bidirectional navigation from a general journal entry to a financial report line item or from the financial report line item back to the general journal entry.

A query which groups all general journal entries above together into a single amount would yield a value of ZERO because, as every accountant knows, a balanced general journal always has the amount of debits which agree to the amount of credits.

Expanding the query to include the XBRL concept yields the following result:

Canada dan Assaulat Cada	2024-12-31
GeneralLedgerAccountCode	
mini:CashAndCashEquivalents	10,850
mini:Receivables	0
mini:Inventories	2,700
mini:PropertyPlantAndEquipment	900
mini:AccountsPayable	-1,000
mini:AccruedExpenses	-400
mini:LongtermDebt	-1,000
mini:PaidInCapital	-10,000
mini:Sales	-8,000
mini:CostsOfSales	5,300
mini:DepreciationAndAmortization	100
mini:InterestExpense	150
mini:NonoperatingIncomeExpenses	0
mini:IncomeTaxExpenseBenefit	400
	0

In effect, the above is similar to a pre close general ledger trial balance except that rather than being aggregated by accounts from the chart of accounts; the general journal entries are aggregated by to

XBRL concept that will report the line item. Being pre close, the income statement related line items are not closed into retained earnings as of yet.

Below is information which cannot be generated from the traditional general journal entries but can be generated from the modern general journal entries which includes my roll forward grouping codes:

RollForwardGroupingCode	SumOfAmounts
mini:AdditionalLongtermBorrowings	-2000
mini:CapitalAdditionsPropertyPlantAndEquipment	1000
mini:CollectionOfReceivables	-8000
mini:DecreaseFromDepreciationAndAmortization	-100
mini:DecreaseFromPaymentAccountsPayable	7000
mini:DecreaseFromPaymentOfInterest	150
mini:DecreaseInInventoriesFromSales	-2000
mini:IncreaseInReceivablesFromSalesOnAccount	8000
mini:InterestAccrued	-550
mini:InventoryWrittenOff	-300
mini:InvestmentsByOwner	-10000
mini:NetIncomeLoss	-2050
mini:PaymentForCapitalAdditionsOfPropertyPlantEquipment	-1000
mini:PaymentForReductionOfLongtermBorrowings	-1000
mini:PaymentOfAccountsPayable	-7000
mini:PaymentOfInterest	-150
mini:ProceedsFromAdditionalLongtermBorrowings	2000
mini:ProceedsFromCollectionOfReceivables	8000
mini:ProceedsFromInvestmentsByOwner	10000
mini:PropertyPlantAndEquipmentWrittenOff	0
mini:PurchasesInventoryForSaleOnAccount	-8000
mini:PurchasesOfInventoryForSale	5000
mini:RepaymentLongtermBorrowings	1000
	0

Note that the information above again foots to ZERO. Why? Again, because debits must equal credits. But rather than aggregating journal entry information by chart of accounts account or by XBRL concept line item; information is aggregated, the same general journal transactions, by that roll forward grouping code.

This representation of the same information as above but now leveraging the XBRL concept line item information yields the following:

GeneralLedgerAccountCode	RollForwardGroupingCode	SumOfAmounts
mini:CashAndCashEquivalents	mini:PaymentForCapitalAdditionsOfPropertyPlantEquipment	-1000
mini:CashAndCashEquivalents	mini:PaymentForReductionOfLongtermBorrowings	-1000
mini:CashAndCashEquivalents	mini:PaymentOfAccountsPayable	-7000
mini:CashAndCashEquivalents	mini:PaymentOfInterest	-150
mini:CashAndCashEquivalents	mini:ProceedsFromAdditionalLongtermBorrowings	2000
mini:CashAndCashEquivalents	mini:ProceedsFromCollectionOfReceivables	8000
mini:CashAndCashEquivalents	mini:ProceedsFromInvestmentsByOwner	10000
mini:Receivables	mini:CollectionOfReceivables	-8000
mini:Receivables	mini:IncreaseInReceivablesFromSalesOnAccount	8000
mini:Inventories	mini:DecreaseInInventoriesFromSales	-2000
mini:Inventories	mini:InventoryWrittenOff	-300
mini:Inventories	mini:PurchasesOfInventoryForSale	5000
mini:PropertyPlantAndEquipment	mini:CapitalAdditionsPropertyPlantAndEquipment	1000
mini:PropertyPlantAndEquipment	mini:DecreaseFromDepreciationAndAmortization	-100
mini:PropertyPlantAndEquipment	mini:PropertyPlantAndEquipmentWrittenOff	0
mini:AccountsPayable	mini:DecreaseFromPaymentAccountsPayable	7000
mini:AccountsPayable	mini:PurchasesInventoryForSaleOnAccount	-8000
mini:AccruedExpenses	mini:DecreaseFromPaymentOfInterest	150
mini:AccruedExpenses	mini:InterestAccrued	-550
mini:LongtermDebt	mini:AdditionalLongtermBorrowings	-2000
mini:LongtermDebt	mini:RepaymentLongtermBorrowings	1000
mini:PaidInCapital	mini:InvestmentsByOwner	-10000
mini:Sales	mini:NetIncomeLoss	-8000
mini:CostsOfSales	mini:NetIncomeLoss	5300
mini:DepreciationAndAmortization	mini:NetIncomeLoss	100
mini:InterestExpense	mini:NetIncomeLoss	150
mini:NonoperatingIncomeExpenses	mini:NetIncomeLoss	0
mini:IncomeTaxExpenseBenefit	mini:NetIncomeLoss	400
		0

Notice, yet again, that the debits and credits aggregate to ZERO. But now general journal entry information is aggregated first by the XBRL concept line item and then aggregated second by the roll forward grouping code to which the general journal transactions relate.

While this small set of transactions might look like a "toy", it is not a toy and works with any set of general journal entries. Another iteration of this record to report process experiment used the Microsoft Dynamics *The World Online* (TWO) company sample data with the same result for the 22,301 general journal entries in that database.

Organizing the information above into what a report might look like yields what you see below. Please do not be confused by what you are looking at. Yes, it is true that external financial reports do not contain roll forwards for each and every balance sheet account. Your focus should be on the fact that you are getting the information that could be used to create those roll forwards and explain the

transactions being reported. Saying this another way, this is an excellent technique which can be used by accountants creating their internal financial reports to verify the integrity and accuracy of the report information. All the information is there. How that complete set of information is organized is up to the accountant who needs the information. My point is that this is an excellent way to work with the information.

Cash and cash equivalents roll forward:

	Perio	d [Aspect]
Concept [Aspect]	2023-01	-01 2023-12- 31
Cash and Cash Equivalents [Roll Forward]		
Cash and Cash Equivalents, Beginning Balance	\$	0
Proceeds from Collection of Receivables		8,000
Payment of Accounts Payable		(7,000)
Payment of Interest		(150)
Proceeds from Additional Long-term Borrowings		2,000
Payment for Reduction of Long-term Borrowings		(1,000)
Payment for Capital Additions of Property, Plant and Equipment		(1,000)
Proceeds from Investments by Owner		10,000
Payment for Distributions to Owner		0
Cash and Cash Equivalents, Ending Balance	\$	10,850

Receivables roll forward:

	Period [Aspect]			
Concept [Aspect]	2023-01-0	01 2023-12-31		
Receivables [Roll Forward]				
Receivables, Beginning Balance	\$	0		
Increase in Receivables from Sales on Account		8,000		
Collection of Receivables		(8,000)		
Additions to Allowance for Bad Debts		0		
Bad Debts Written Off		0		
Receivables, Ending Balance	\$	0		

Inventories roll forward:

	Period [Aspect]
Concept [Aspect]	2023-01-01 2023-12-31
Inventories [Roll Forward]	
Inventories, Beginning Balance	\$ 0
Purchases of Inventory for Sale	5,000
Decrease in Inventories from Sales	(2,000)
Inventory Written Off	(300)
Inventories, Ending Balance	\$ 2,700

Again, the three roll forwards are only representative of the information available and not the full set of roll forwards. The full set or roll forwards is available here at this link².

² Lemonade stand prototype for record-to-report, https://xbrlsite.azurewebsites.net/2024/prototypes/lemonade-stand/LUCA_REPORT.html

Now, if you look at the statement of cash flow for the report generated from the general journal entries you can see the roll forward information organized differently, this time for use within that statement of cash flows:

	Period [Aspect]	
Concept [Aspect]	2023-01-01 2023-12-31	
Net Cash Flow [Roll Up]		
Net Cash Flow Operating Activities [Roll Up]		
Proceeds from Collection of Receivables	\$ 8,000	
Payment of Accounts Payable	(7,000)	
Net Cash Flow Operating Activities	1,000	
Net Cash Flow Financing Activities [Roll Up]		
Proceeds from Additional Long-term Borrowings	2,000	
Payment for Reduction of Long-term Borrowings	(1,000)	
Payment of Interest	150	
Proceeds from Investments by Owner	10,000	
Payment for Distributions to Owner	0	
Net Cash Flow Financing Activities	10,850	
Net Cash Flow Investing Activities [Roll Up]		
Payment for Capital Additions of Property, Plant and Equipment	(1,000)	
Net Cash Flow Investing Activities	(1,000)	
Net Cash Flow	\$ 10,850	
Cash Flow Statement [Roll Forward]		
Cash and Cash Equivalents, Beginning Balance	\$ 0	
Net Cash Flow	10,850	
Cash and Cash Equivalents, Ending Balance	\$ 10,850	

Similarly, a proper statement of changes in equity can be generated which you can see below:

	Period [Aspect]	
Concept [Aspect]	2023-01-01 2023-12-31	
Equity [Roll Forward]		
Equity, Beginning Balance	\$ 0	
Investments by Owner	10,000	
Distributions to Owner	0	
Net Income (Loss)	2,050	
Equity, Ending Balance	\$ 12,050	

Now, there is one final question that you should have in your mind. That question is, "How do you get the XBRL concept line items into their proper place within the actual report?" That is a good question; and there are two pieces of information you need in order to understand the answer.

First, the report generation mechanism is different that what you might be used to. This report is not a document, like Microsoft Word, the report is "model-based". The report consists of a report model that defines what the report is supposed to look like. Then the reported facts are viewed through that provided report model.

The report model is published in the global standard XBRL technical format and looks like the following in a simple rendering provided in HTML³:

Label	Object Class	Period Type	Balance	Report Element Nam
1102 - Statement - Balance Sheet	Network			http://xbrlsite.com/mini/role/level4/BalanceSheet
Balance Sheet [Hypercube]	Hypercube			mini:BalanceSheetHypercube
Balance Sheet [Line Items]	LineItems			mini:BalanceSheetLineItems
Assets [Roll Up]	Abstract			mini: AssetsRollUp
	Abstract			mini: CurrentAssetsRollUp
	Concept (Monetary)	As Of	Debit	mini:CashAndCashEquivalents
Receivables	Concept (Monetary)	As Of	Debit	mini:Receivables
Inventories	Concept (Monetary)	As Of	Debit	mini:Inventories
Current Assets	Concept (Monetary)	As Of	Debit	mini:CurrentAssets
Noncurrent Assets [Roll Up]	Abstract			mini:NoncurrentAssetsRollUp
	Concept (Monetary)	As Of	Debit	mini:PropertyPlantAndEquipment
Noncurrent Assets		As Of		mini:NoncurrentAssets
Assets				mini: Assets
Liabilities and Equity [Roll Up]				mini:LiabilitiesAndEquityRollUp
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1				mini:LiabilitiesRollUp
				mini:CurrentLiabilitiesRollUp
		As Of	Credit	mini:AccountsPayable
				mini:AccruedExpenses
				mini:CurrentLiabilities
		7.00	Cicaic	mini:NoncurrentLiabilitiesRollUp
		As Of	Credit	mini:LongtermDebt
				mini:NoncurrentLiabilities
				mini:Liabilities
		A3 01	Credit	mini: EquityRollUp
		As Of	Credit	mini: PaidInCapital
•				mini:RetainedEarnings
-				mini: Equity
-4				mini:LiabilitiesAndEquity
		AS OI	Credit	http://xbrlsite.com/mini/role/level4/IncomeStatement
- **	**			mini:IncomeStatementHypercube
				mini:IncomeStatementLineItems
				mini:NetIncomeLossRollUp
				mini:IncomeLossFromContinuingOperationsBeforeTaxRollUp
				mini: Operating Income Loss Roll Up
,,			- "	mini:GrossProfitRollUp
				mini:Sales
				mini:CostsOfSales
		For Period	Credit	mini:GrossProfitLoss
				mini:OperatingExpensesRollUp
				mini: SalesGeneralAndAdministrativeExpenses
•				mini: Depreciation And Amortization
				mini:OperatingExpenses
		For Period	Credit	mini:OperatingIncomeLoss
				mini:NonoperatingIncomeExpensesRollUp
·				mini:InterestExpense
Gain (Loss) on Sale of Property, Plant and Equipment	Concept (Monetary)	For Period	Credit	mini:GainLossOnSalePropertyPlantEquipment
Nonoperating Income (Expenses)	Concept (Monetary)	For Period	Credit	mini:NonoperatingIncomeExpenses
Income (Loss) from Continuing Operations Before Tax	Concept (Monetary)	For Period	Credit	mini:IncomeLossFromContinuingOperationsBeforeTax
	Assets [Roll Up] Current Assets [Roll Up] Cash and Cash Equivalents Receivables Inventories Current Assets Noncurrent Assets [Roll Up] Property, Plant and Equipment Noncurrent Assets Liabilities and Equity [Roll Up] Liabilities [Roll Up] Current Liabilities [Roll Up] Accounts Payable Accrued Expenses Current Liabilities Noncurrent Liabilities [Roll Up] Long-term Debt Noncurrent Liabilities Liabilities Equity [Roll Up] Paid In Capital Retained Earnings Equity Liabilities and Equity 1102 - Statement Income Statement Income Statement [Hypercube] Income (Loss) [Roll Up] Gross Profit [Roll Up] Sales Costs of Sales Gross Profit (Loss) Operating Expenses [Roll Up] Sales, General, and Administrative Expenses Depreciation and Amortization Operating Expenses Operating Income (Loss) Nonoperating Income (Loss)	Balance Sheet [Line Items LineItems LineItems Asets [Roll Up] Abstract Correct Assets [Roll Up] Abstract Concept (Monetary) Cash and Cash Equivalents Concept (Monetary) Abstract Concept (Monetary) Abstract Concept (Monetary) Abstract Concept (Monetary) Concept (Monetary) Abstract Concept (Monetary) Abstract Concept (Monetary) Abstract Liabilities and Equity [Roll Up] Abstract Liabilities [Roll Up] Abstract Concept (Monetary) Accrued Expenses Concept (Monetary) Accrued Expenses Concept (Monetary) Accrued Expenses Concept (Monetary) Abstract Liabilities Concept (Monetary) Abstract Concept (Monetary) Liabilities Concept (Mon	102 - Statement - Balance Sheet Hypercube Balance Sheet [Line Items] LineItems LineItems Assets [Roll Up] Abstract Abstract Cornent Assets [Roll Up] Abstract Concept (Monetary) As Of Receivables Concept (Monetary) As Of Concept (Monetary) As Of Cornent Assets [Roll Up] Abstract As Of Cornent Assets Concept (Monetary) As Of Assets Concept (Monetary) As Of Assets Concept (Monetary) As Of Cornent Liabilities [Roll Up] Abstract Abstract Abstract Accounts Payable Concept (Monetary) As Of Cornent Liabilities [Roll Up] Abstract Accounts Payable Concept (Monetary) As Of Cornent Liabilities Concept (Monetary) As Of Cornent Liabilities Concept (Monetary) As Of Cornent Liabilities Concept (Monetary) As Of Concept (Monetary) As Of Cornent Liabilities Concept (Monetary) As Of	Balance Sheet [Hypercube]

That report model is used as a template to create a financial report using this model-based reporting approach. The issue here is not whether this modern model-based approach is better or worse than traditional reporting approaches where a document is created using Microsoft Word as one example.

The points that I am trying to get across are:

- 1. It is literally impossible for a machine to generate a full set of financial statements which includes a balance sheet, income statement, statement of cash flows, and statement of changes in equity without the supplemental information that I have added to the accounting system information.
- 2. Likewise, it is literally impossible for a traditional accounting software application to generated the same set of financial statement information.

³ Published report model shown in human readable HTML, https://xbrlsite.azurewebsites.net/2023/reporting-scheme/mini/base-taxonomy/mini ModelStructure2.html

- 3. It is only possible to provide bidirectional navigation from general journal entries to financial statement line items or from financial statement line items to general journal entries if these missing pieces of information are provided. That said, if that information is provided; then that bidirectional navigation is possible and frankly quite useful for a number of reasons.
- 4. While this specific demonstration is for a very small report, I call it a "lemonade stand"; this same technique works for any general journal for any company. For example, in another iteration of this experiment I, as mentioned, use The World Online sample data which included 22,301 general journal entries.
- 5. While this and my other experiments all tended to focus on the general journal entries; this same approach is very doable for any subsidiary ledger. I am only using the general journal to make my point and perform my experiments.

For the full set of technical artifacts used in this experimentation, please see: (for best result please use "http" and not "https")

http://xbrlsite.azurewebsites.net/2024/prototypes/lemonade-stand/index.html

