Exercise 4 – Basic Formulas

**Exercise Objectives**

At the conclusion of this exercise, you will be able to:

1. Understand the basic usage and types of Formulas you can use in your Crystal reports
2. Create one report that contains these kinds of basic formulas
3. Boolean
4. IF .. THEN .. ELSE
5. Date Formulas
6. Arithmetic
7. String Manipulation

**Exercise Introductions**

Stan, the inventory Manager wants a simple listing of all INs and OUTs of his inventory items from the beginning of Business One. We will create a simple list report that uses the Warehouse Journal (OINM) as it main table. In addition to OINM we will also need data from the OITB (Item Group) table because we need information on the report about the Items Group. But to create the linkage between the OINM and OITB we will need to use the OITM (Item Master) table to “bridge the gap” between the 2 tables. The ItmsGrpCod field in the OITM is the bridge. With these 3 tables we will add multiple formulas to get Stan the report he wants.

**Exercise Steps**

1. Select New Blank Report from the File menu. (No wizard this time. Do it the old fashion way, manually)
2. In the Database Expert window choose your data source that you already created and should be open.
3. Expand the Database file tree
4. Expand “system” tree and then the “Views” tree
5. Select the OINM view by double clicking it in the list
6. Expand the “Tables” file tree.
7. Select the OITM and OITB table by double clicking on them in the list
8. Click OK. What field are the 3 tables Joined on? \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
9. Click OK and you will be taken back to the Design tab which should be blank with just the core sections, Report Header, Page Header, Details, etc.
10. From the Field Explorer expand the Database fields and the OINM table. Drag the following fields from the OINM table to the Details Section
	1. TransType
	2. Doc.Date
	3. ItemCode
	4. Dscription
	5. InQty
	6. OutQty
	7. Price
11. Drag the ItmsGrpNam field from the OITB table to the Details Section. The fields selected should look like this after I changed the field header names

12. Preview your report (F5) Admire your work. But you’re not done yet.
13. Add a Boolean formula to suppress the 0.00 in the InQty or OutQty fields when they are zero. Note: One transaction will not have an In and a Out quantity. To do this define the following formulas.
14. Select the InQty data field in the Details section. Right click and use the “Format Field” menu option. From the Common tab click on the X-2 button across from the “Suppress” check box
15. In the formula editor expand the Report Fields Tree and double click on the OINM.InQty field in the list. This will place this field name in the Formula box below. Add the following string ‘= 0’ Your formula should look like this {OINM.InQty} = 0. Hit the Save and Close button
16. Click OK to close the Format Editor window
17. Select the OutQty data field in the Details section. Right click and use the “Format Field” menu option. From the Common tab click on the X-2 button across from the “Suppress” check box
18. In the formula editor expand the Report Fields Tree and double click on the OINM.OutQty field in the list. This will place this field name in the Formula box below. Add the following string ‘= 0’ your formula should look like this {OINM.InQty} = 0. Hit the Save and Close button
19. Click OK to close the Format Editor window
20. Preview your report. Notice that the In or Out QTY fields DO NOT display when they equal 0.
21. The TransType field contains a numeric value rather than a description of the Transaction. Create a IF THEN ELSE Formula called DocTypeName that will show the following description instead of the numeric transaction codes
	1. -2 OPEN BAL
	2. 13 AR INV
	3. 14 AR CM
	4. 15 AR DN
	5. 16 AR RTN
	6. 18 AP INV
	7. 19 AP CM
	8. 20 GRPO
	9. 59 IN REC
	10. 60 IN ISS
22. Replace the OINM.TransType field with your new Formula field in the Details section of your report.
23. Preview your report. Do you have transaction types that are not in this list? Add those values to your IF THEN ELSE formula. Where would you find all the Valid TransTypes? Hint SDK Help file??? *Find OINM and see TransType Constraints*
24. The Inventory Manager wants to see the day of the week that the transaction took place. Replace the OINM.DocDate field with a formula that shows the day of the week instead of the date. Hint IF THEN ELSE or CASE with Dayofweek Function. He also wants to SUBTRACT the Item Lead Time (OITM.LeadTime) from DocDate and call it Purchase Date.
25. Are any of your new Purchase Date fields BLANK? Stan wants to know why? How can you correct this in your report? (Hint – Check to see if any Lead Times are null?)
26. The Inventory Manager, Stan also wants to see an extended price on this report. He wants the “right” QTY field multiplied by the Price field on the report. He wants this added to the end of each row. The math is easy (Multiply); the key is not to multiply by zero…. The new layout looks like this;

27. Stan like what he sees, but just needs one last thing. He asks you is there a way to add a Logo to the Header and “somehow combine the Group Name with the Item Description something like this” “Group: *Groupname*, Item: *Item* *Description*” where the text not italicized is a literal . You’ve been to class so you say “no problem”.
28. Add a new Formula to concatenate these literals and fields and show that field in the Detail section instead of the OINM.Dscription and OITB.ItmsGrpNam fields.
29. “OH” one last thing says Stan; can you SORT it by the new combined description field?

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