


# Crystal Reports for LANSA/Client: Running Total



Country	City	Product	YTD Sales	Cumulative Total
Argentina				
	Buenos Aires	Cryptograph Procesor	1,271,100	1,271,100
		Optical Data Server	1,772,600	3,043,700
		LAN Connector	1,778,700	4,822,400
		Colour Ink Jet Print	1,015,200	5,837,600
		Printer	2,067,240	7,904,840
	Total Buenos Aires		7,904,840	
	Cordoba	Cryptograph Procesor	3,018,730	10,923,570
		Controller		

**Formula text:**  
**NumberVar RunTot;**  
**BeforeReadingRecords;**  
**RunTot := 0**

**Formula text:**  
**NumberVar RunTot;**  
**WhilePrintingRecords;**  
**RunTot := RunTot + {sls9510.YTD\_SALES}**

A Running Total or Cumulative Total is a total that gets initialized at the start of your report and then updated with a line amount or quantity for each detail line.

A Running Total is different from a group subtotal. Group subtotals are 'automatically' calculated and printed for each group in your report, once you have clicked the Summarize (Sigma) button. A Running Total is 'programmed' in your report, by using formula fields and variables. A **variable** is like a container that can hold one value at a time. You assign a value to a variable and the variable maintains that value until you assign a new value. Then the variable maintains the new value until you assign a newer value, etc.

**Formula fields and variables give you total control of when and how a field gets initialized, updated and printed. Variables and formulas give you the power of a programming language.** Non technical end users may want to stay away from variables, it is a feature they will hardly ever need.

This is how you get a running total of a sales value (x.sales) in your report:

1. Create a formula to initialize the running total. Call it for instance 'Initialize-RunTot':  
**NumberVar RunTot;**                      Declare a numeric Variable called 'RunTot'  
**Before Reading Records;**              'Evaluation Time' is explained in the Private Tutor.  
**RunTot:= 0**                                Assign it the value 0

Drop this formula into the report title. The title is executed only once per report. To avoid printing you can either suppress the printing of zeroes for this field or 'hide' the field.

2. Create a formula to calculate the running total. Call it for instance 'Calculate-RunTot':  
**NumberVar RunTot;**                      Use variable with the same name 'RunTot'.  
**While Printing Records;**              'Evaluation Time' is explained in the Private Tutor.  
**RunTot:= RunTot +{x.sales}**              Add this line's sales to the Running Total

Drop this formula into the detail line. The detail line is executed for every selected record of your database file.

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When using a variable, it is important to understand the Evaluation Time concept in the Report Writer:

The Report Writer is a 2 pass report writer. Because it is a 2 pass report writer you can, for instance, print a page total in a page heading (instead of footer) or print a sales amount as a percentage of a (sub) total. When you use a (sub)total in a formula, the report writer will automatically evaluate that formula at the appropriate time. It is only when you use variables that you indicate the evaluation time (all other calculations are automatically executed at the right time).

See the Private Tutor for more details about 'Evaluation Time'.