

# How to Use Cell Definition to Calculate Incentive of Salesmen



## Applies to:

SAP BW 3.5 & BI 7.0. For more information, visit the [Business Intelligence homepage](#).

## Summary

In this Article we will try to understand the function “**Define Cells**” in BEx Query designer and use it for calculating the incentive of salesmen depending on sales. This can be done in many other ways, but here we will calculate this by using the function “**Define Cells**”. By this we can understand the use of “**Cell Definition**”.

The article assumes prior knowledge on structures in reports and provides an exhaustive solution replete with screenshots for clear understanding.

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**Created on:** 17<sup>nd</sup> September 2010

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## Table of Contents

Introduction .....	3
Business Scenario .....	3
The Result.....	3
Solution .....	3
Use the function “Define Cells” in the BEx Query Designer. ....	3
Step By Step Procedure .....	4
1: Create a Sales Data Target: .....	4
2: Create a Query based on the sales data target:.....	5
3: Go with the Function “Define Cells”. ....	5
Prerequisites .....	5
Information .....	5
Help Cells.....	7
Use ‘NODIM Function’ .....	9
How to use characteristic in the Formula. ....	10
The cell definition always takes effect at the intersection between the characteristic value and the key figure. ....	12
Result of the Query: .....	15
Related Content.....	16
Disclaimer and Liability Notice.....	17

## Introduction

In this Article we will discuss on how to calculate the incentive of salesmen using the function “Define Cells” in BEx Query Designer. This can be done in many other ways, but here we will calculate this by using the function “**Define Cells**”. By this we can understand the use of “**Cell Definition**”.

Here we will discuss this using a simple scenario.

## Business Scenario

Let’s take the scenario of sales report, in this sales report we want to show the incentive earned by a salesman. Whenever a salesman sells any product he will get some incentive, the incentive will depend on the product sold by him and the incentive will change for each product sold by the salesman.

Let’s take some products Product A and Product B. When the salesman sells Product A, he should get an incentive of 4% on the sale of that product and when he sells Product B then the salesman should get an incentive of 8% on the sale of that product. That means depending on the Products sold by the salesman the % of the incentive is going to change.

Let’s consider that the salesman sells Product A which is of cost 100 INR, then the incentive for the salesman is 4% i.e. he should get 4 INR as incentive. If the salesman sells Product B which is of cost 100 INR, then the incentive for the salesman is 8% i.e. he should get 8 INR as incentive.

## The Result

When the Incentive Report is executed, the Incentive report will also contain the column “salesman incentive” showing the incentive earned by the salesman based on the products sold by him. The incentive of the salesman will change based on the products sold by him.

## Solution

### Use the function “Define Cells” in the BEx Query Designer.

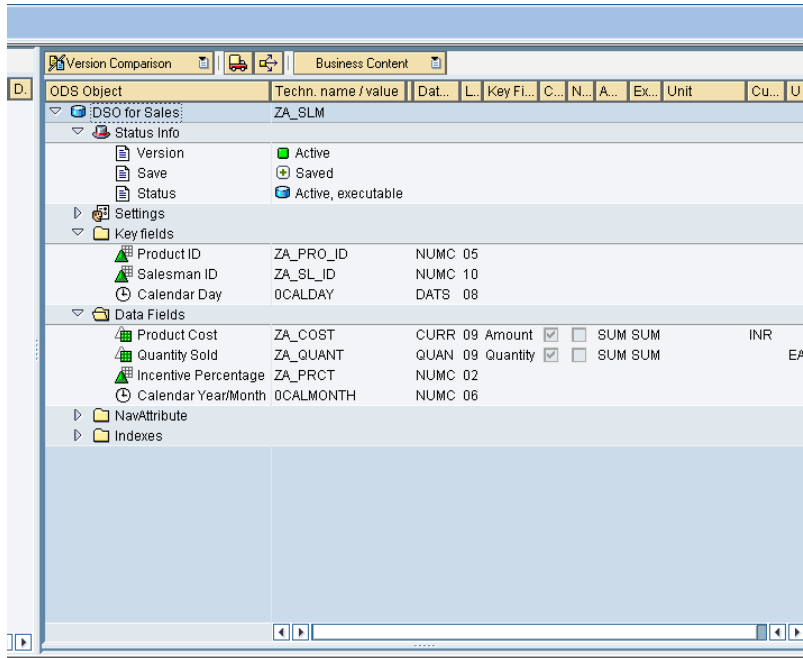
To achieve the above required result, we are going to use the function “Define Cells” in the BEx Query Designer. By using the function “Define Cells” in BEx Query Designer we will calculate the incentive earned by a salesman. Here we will calculate the incentive earned by the salesman depending on the cost of the Product and the % of incentive on that Product.

## Step By Step Procedure

### 1. Create a Sales Data Target

Create a data target with Product ID, Salesman ID and Calendar Day as key fields and Product Cost, Quantity Sold, Incentive Percentage and Calendar Year/Month in the data fields.

We have taken Calendar Year/Month to get the monthly salesman incentive details. Below is the screen shot of the data target.



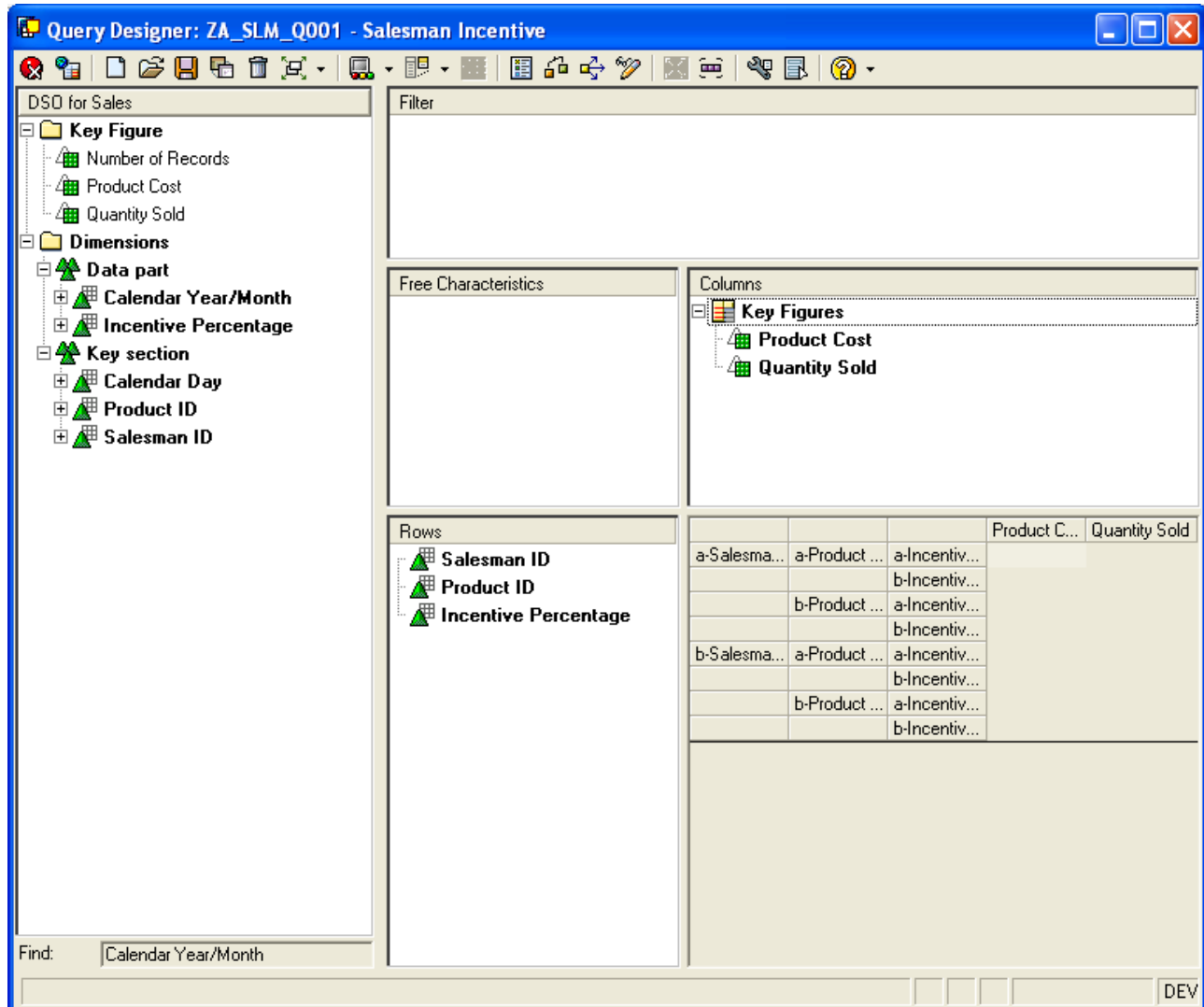
Load data into the sales data target, this data can be viewed in the active data table of the DSO. Here we can see that the Incentive Percentage changes for each Product. Now based on this data we need to calculate the Incentive earned by the salesman.

Browser: Table /BIC/AZA\_SLM00 Select Entries 44

/ZA_PRO_ID	/BIC/AZA_SL_ID	CALDAY	/BIC/AZA_COST	/BIC/AZA_QUANT	/BIC/AZA_PRCT	CALMONTH
1002	44619	16.09.2010	40,000.00	25.000	10	09.2010
1002	44619	16.10.2010	40,000.00	2.000	10	10.2010
1002	58240	16.09.2010	40,000.00	10.000	10	09.2010
1002	58240	16.10.2010	40,000.00	4.000	10	10.2010
1003	44619	16.09.2010	35,000.00	20.000	15	09.2010
1003	44619	16.10.2010	35,000.00	4.000	15	10.2010
1003	58240	16.09.2010	35,000.00	15.000	15	09.2010
1003	58240	16.10.2010	35,000.00	6.000	15	10.2010
1004	44619	16.09.2010	30,000.00	15.000	20	09.2010
1004	44619	16.10.2010	30,000.00	6.000	20	10.2010
1004	58240	16.09.2010	30,000.00	20.000	20	09.2010
1004	58240	16.10.2010	30,000.00	8.000	20	10.2010
1005	44619	16.09.2010	25,000.00	10.000	25	09.2010
1005	44619	16.10.2010	25,000.00	8.000	25	10.2010
1005	58240	16.09.2010	25,000.00	25.000	25	09.2010
1005	58240	16.10.2010	25,000.00	10.000	25	10.2010
1006	44619	16.09.2010	45,000.00	5.000	5	09.2010
1006	44619	16.10.2010	45,000.00	10.000	5	10.2010
1006	58240	16.09.2010	45,000.00	30.000	5	09.2010
1006	58240	16.10.2010	45,000.00	12.000	5	10.2010
1007	44619	16.09.2010	40,000.00	5.000	10	09.2010
1007	44619	16.10.2010	40,000.00	2.000	10	10.2010
1007	58240	16.09.2010	40,000.00	30.000	10	09.2010
1007	58240	16.10.2010	40,000.00	2.000	10	10.2010
1008	44619	16.09.2010	35,000.00	10.000	15	09.2010
1008	44619	16.10.2010	35,000.00	4.000	15	10.2010
1008	58240	16.09.2010	35,000.00	25.000	15	09.2010
1008	58240	16.10.2010	35,000.00	2.000	15	10.2010

## 2. Create a Query based on the sales data target

Go to the Query designer and create a Query based on the DSO created. Based on our scenario lets take the Salesman ID, Product ID and the Incentive Percentage in the Rows and Product Cost and Quantity sold in the Columns as below.



## 3. Go with the Function “Define Cells”

Based on our Scenario, we will now go with the function “Define Cells” and calculate the Incentive earned by a salesman.

Before going with “Define Cells”, we need to take care of some prerequisites:

### Prerequisites

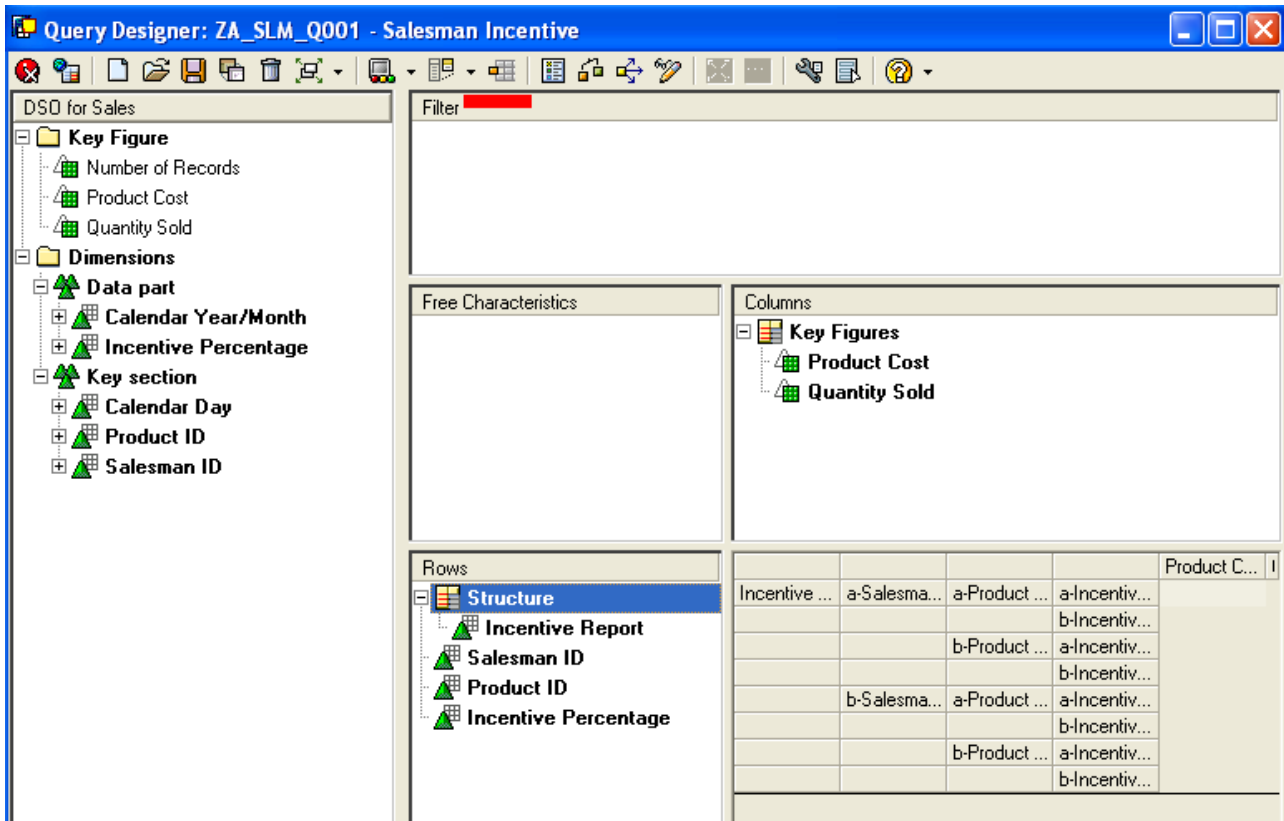
**The query contains two structures.** You can define exception cells only for queries which have two structures. You can use one structure for characteristic values and key figures for the other. You can then define cells if these prerequisites have been met.

### Information

**A cell is the intersection between two structural components.** The term *Cell* for the function *Defining Exception Cells* should not be confused with the term *Cell* in MS Excel. The formulas or selection

conditions that you define for a cell always take effect at the intersection between two structural components. If a drilldown characteristic has two different characteristic values, the cell definition always takes effect at the intersection between the characteristic value and the key figure.

Now we need to maintain a structure in the Rows as shown below. Once the structure is maintained in both Rows and Columns we get the option “Define Cells” enabled.

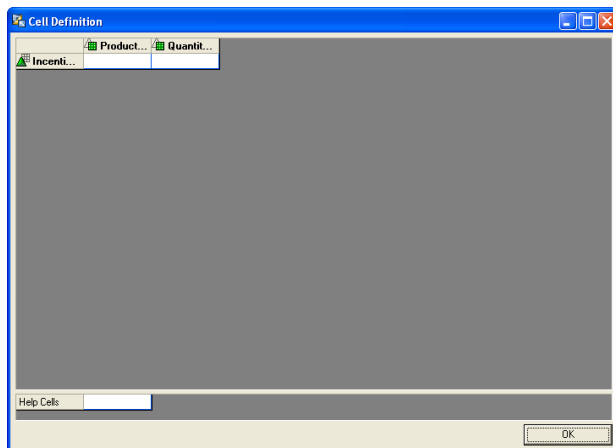


Below we can see the initial screen of the function “Define Cells”.

To calculate the incentive earned by the salesman we are going to use the formula:

$$\{(Product\ Cost * Quantity\ Sold) * (Incentive\ Percentage / 100)\}.$$

If we directly try to create a formula in the cell definition then we will not be able to use all the required fields for the calculation. So here we will go with the option “Help Cells”

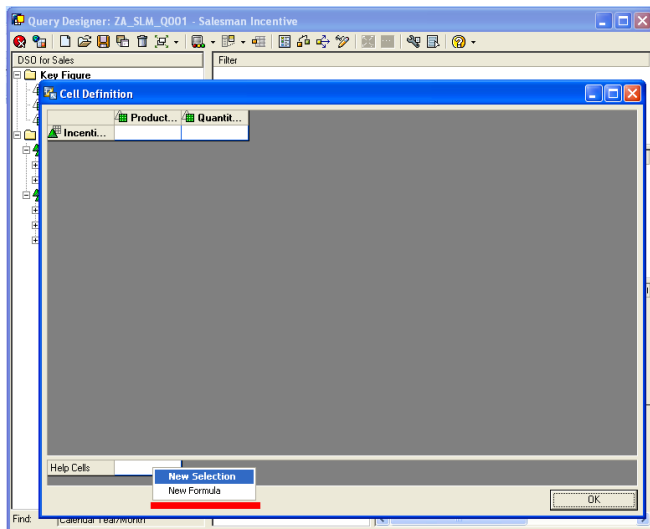


## Help Cells

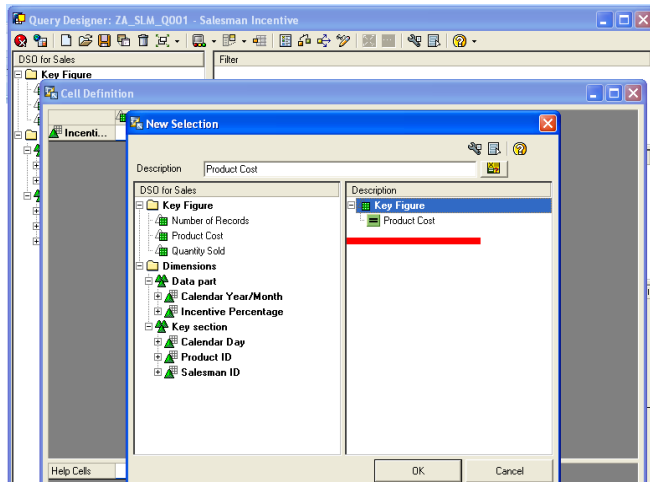
Choose *Help Cells*, if you require additional cells for help selections or help formulas. You can use the functions *New Selection* and *New Formula* in the context menu to define help cells that are not displayed in the query to serve only as objects for help selections and help formulas.

Here we will use both *New Selection* and *New Formula* in our case. This can be seen in the below screen shot.

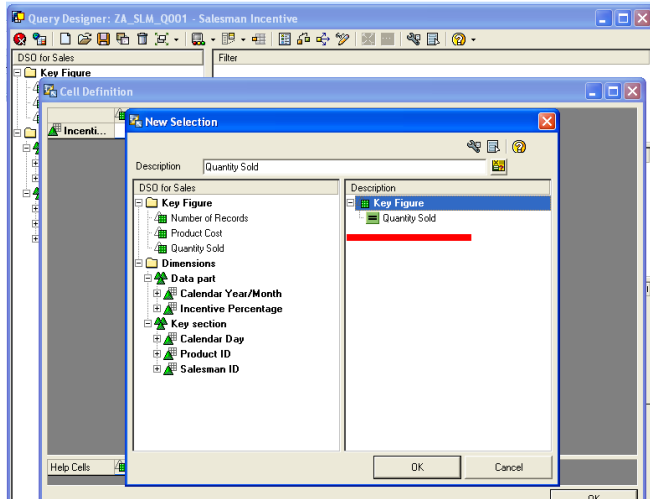
First we will use the option *New Selection* in the Help Cells. Here we will select the *Product Cost* and the *Quantity Sold*, as these are required for further calculations.



Drag and Drop *Product Cost* and maintain description.

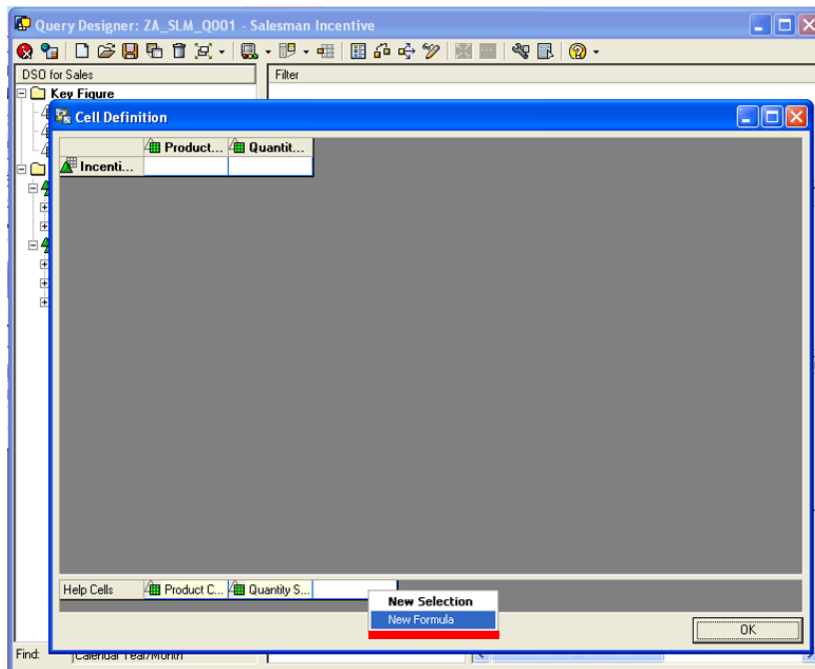


Drag and Drop Quantity Sold and maintain description.



Now we will use the option New Formula in the Help Cells. Here we will calculate the “Total sale”.

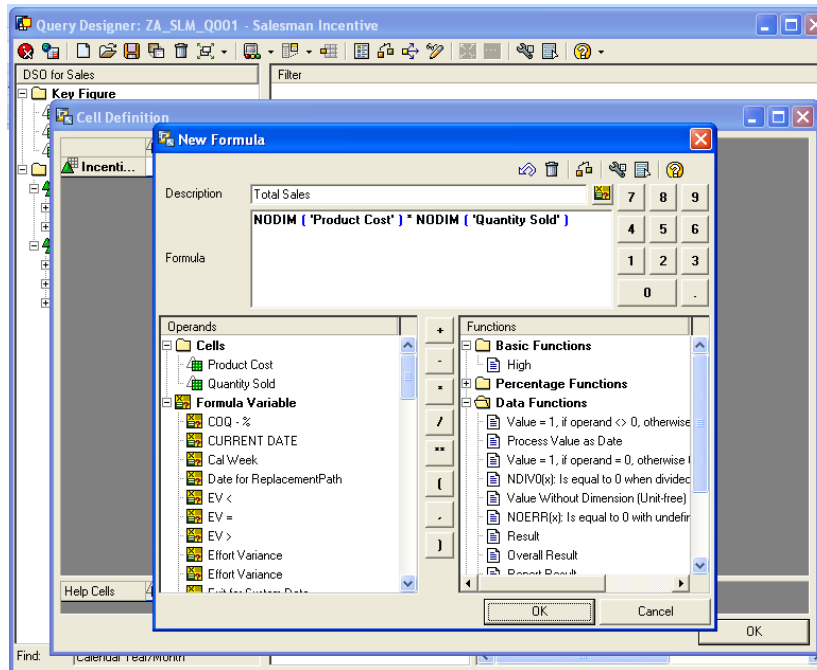
**Formula: Total Sale = (Product Cost \* Quantity Sold)**





## Use 'NODIM Function'

While using “Product Cost” and “Quantity Sold” in formula we are going to use the Data Function ‘NODIM’, as the units of “Product Cost” and “Quantity Sold” are different we will not be able to use them in a formula with out this function.



Now we got the “Total Sale”. We need to calculate the Incentive Percentage now. As Incentive Percentage is maintained as Characteristic we will not be able to use this in the formula.

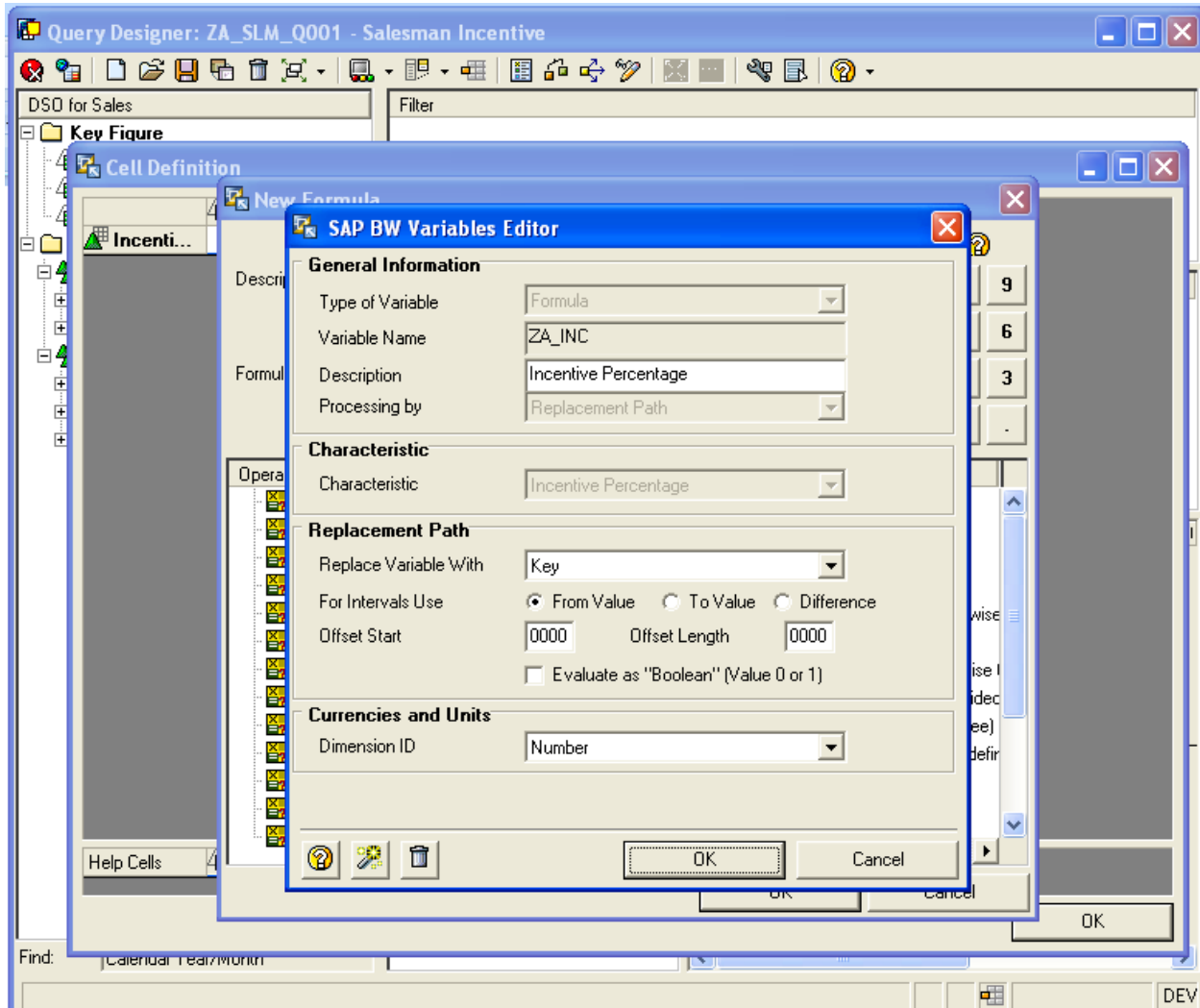
How to use characteristic in the Formula.

To use the characteristic in the formula create Variable based on that characteristic.

**Type of Variable: Formula.**

**Processing Type: Replacement Path.**

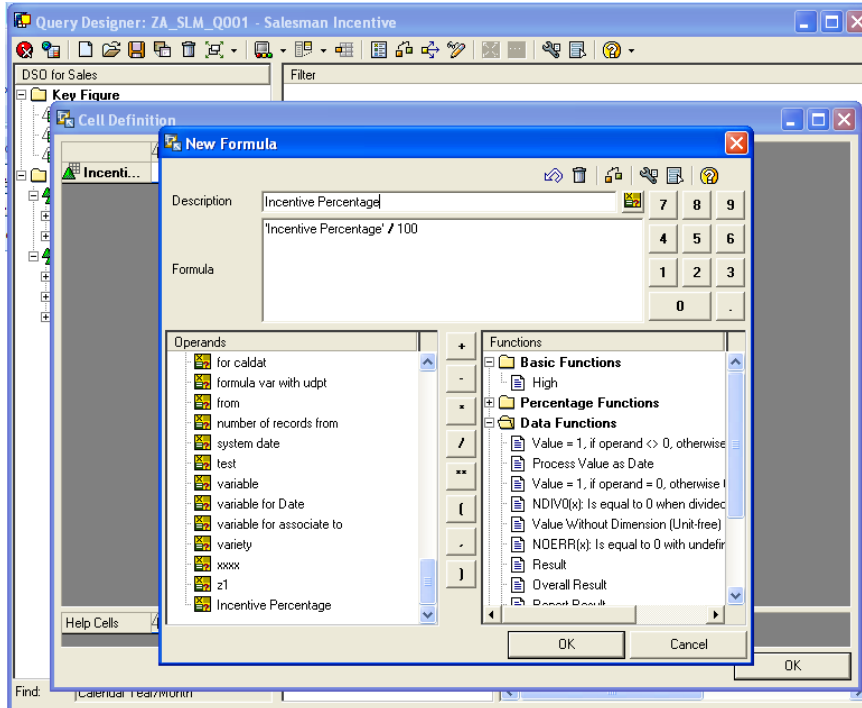
As shown in the below screen shot.



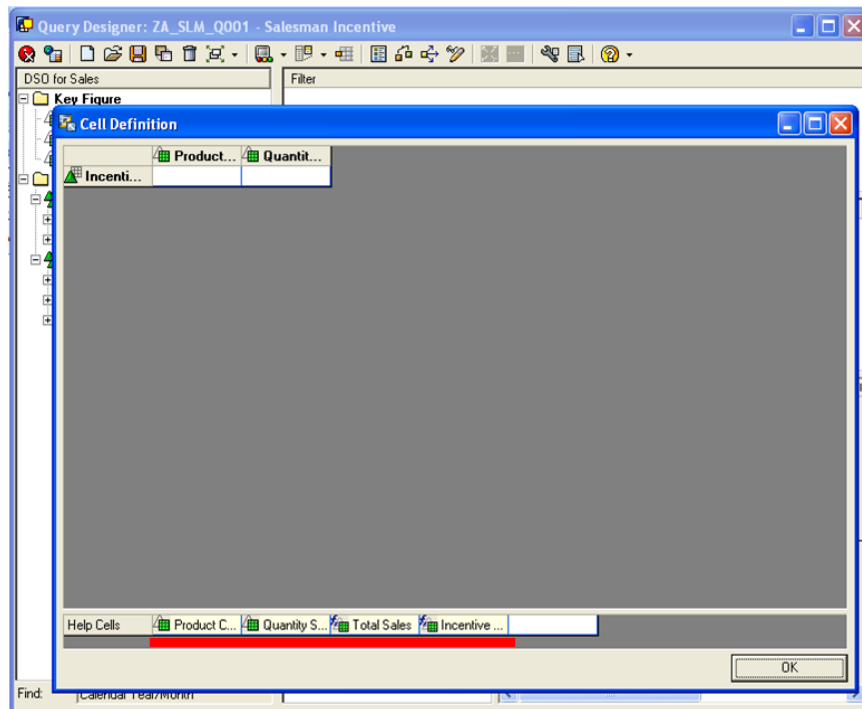
Create a formula for Incentive Percentage.

**Formula: Incentive Percentage = (Incentive Percentage / 100)**

Here we are going to use the Variable created on the Characteristic in the formula to get the Incentive Percentage.

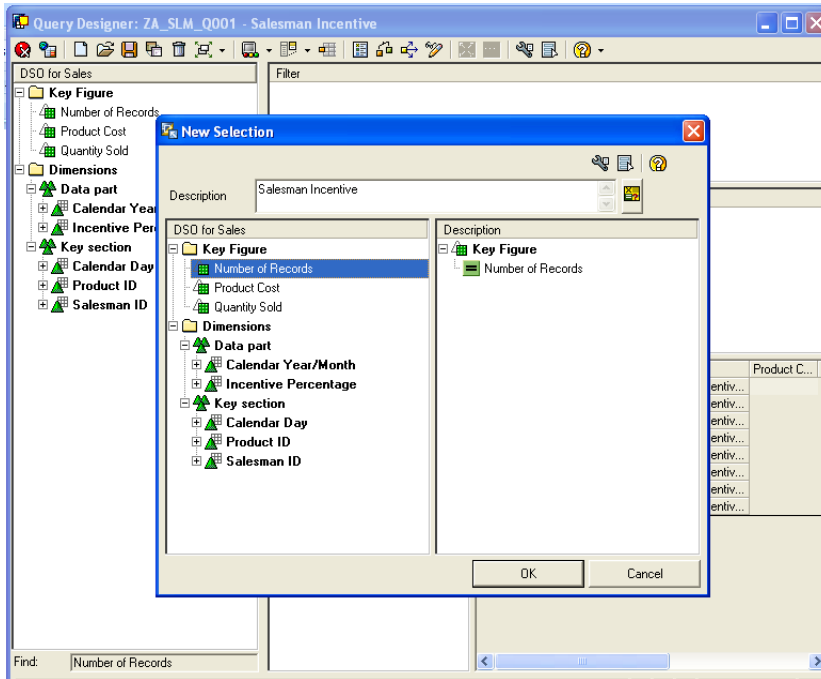


The Cell definition window will look as below after the Help Cells are defined.

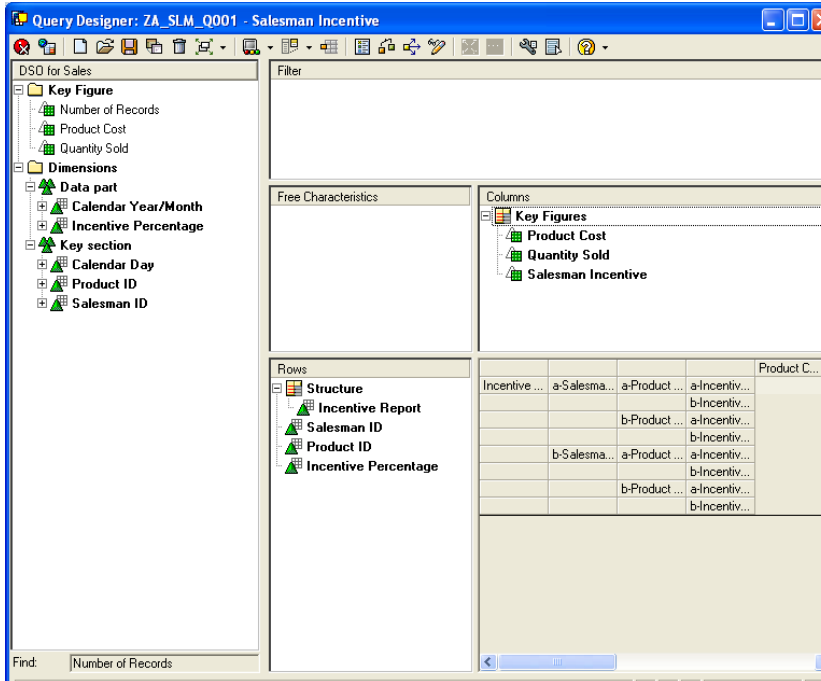


The cell definition always takes effect at the intersection between the characteristic value and the key figure.

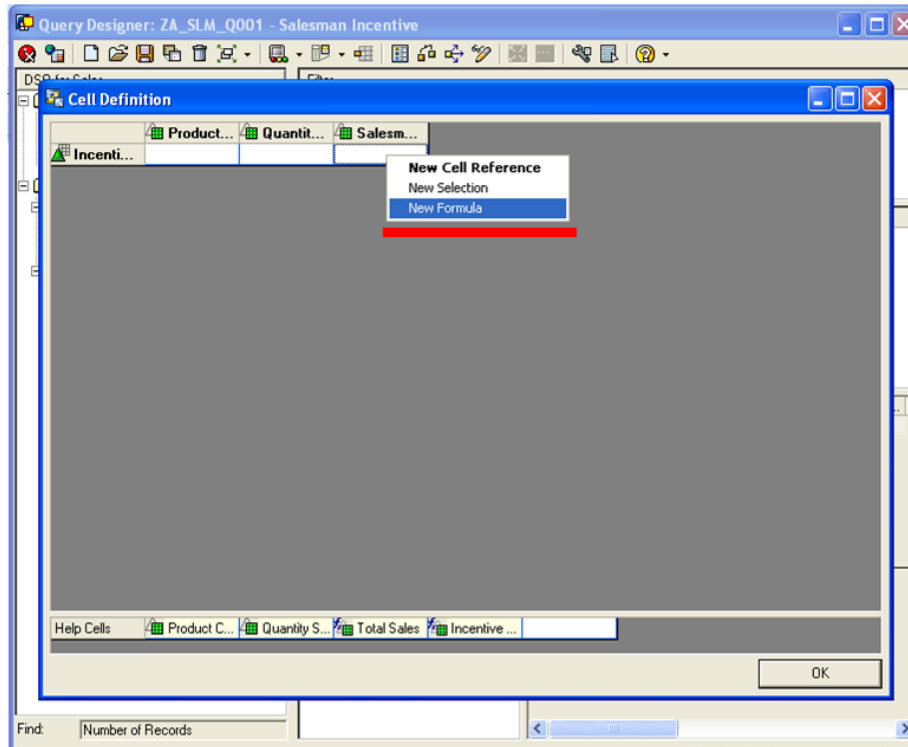
- ➔ We need to take a new selection for the Key Figure, this will act as the column to display the Salesman Incentive.



The query will be as below.



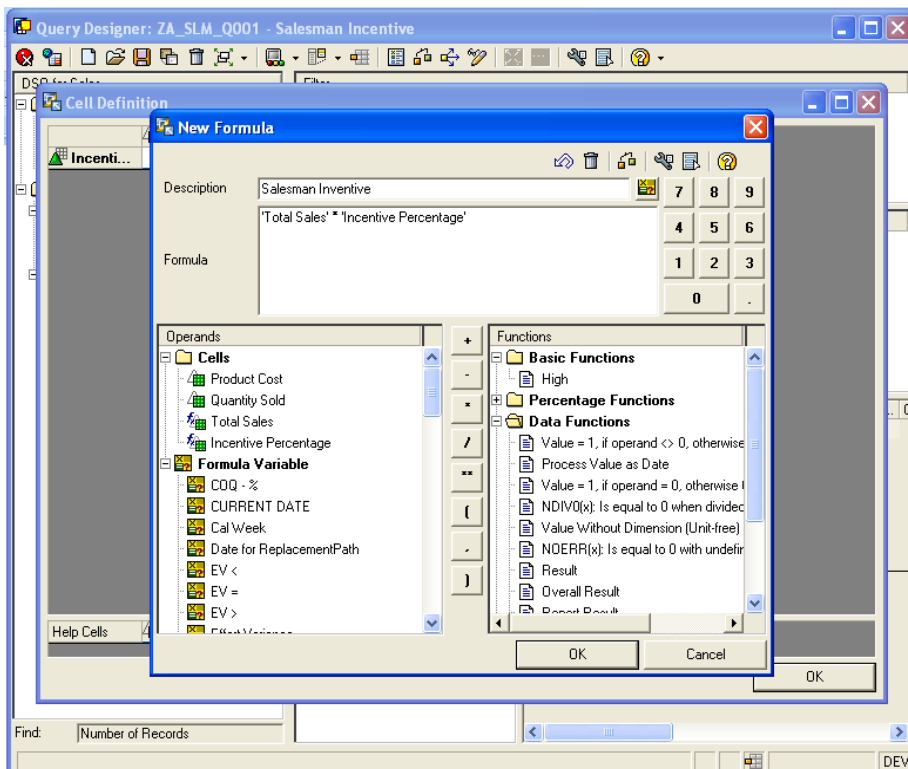
Now goto the function “Define Cells”, here we will create a formula to calculate the Salesman Incentive. Right click on the new column and select “New Formula”.



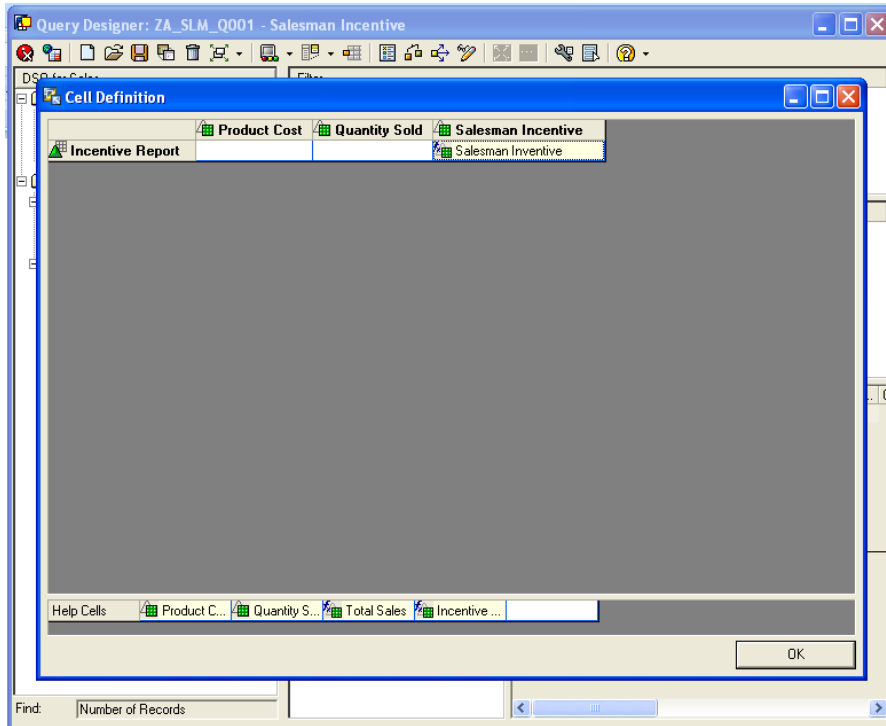
Formula to calculate Salesman Incentive:

**Formula: Salesman Incentive = (Total Sales \* Incentive Percentage)**

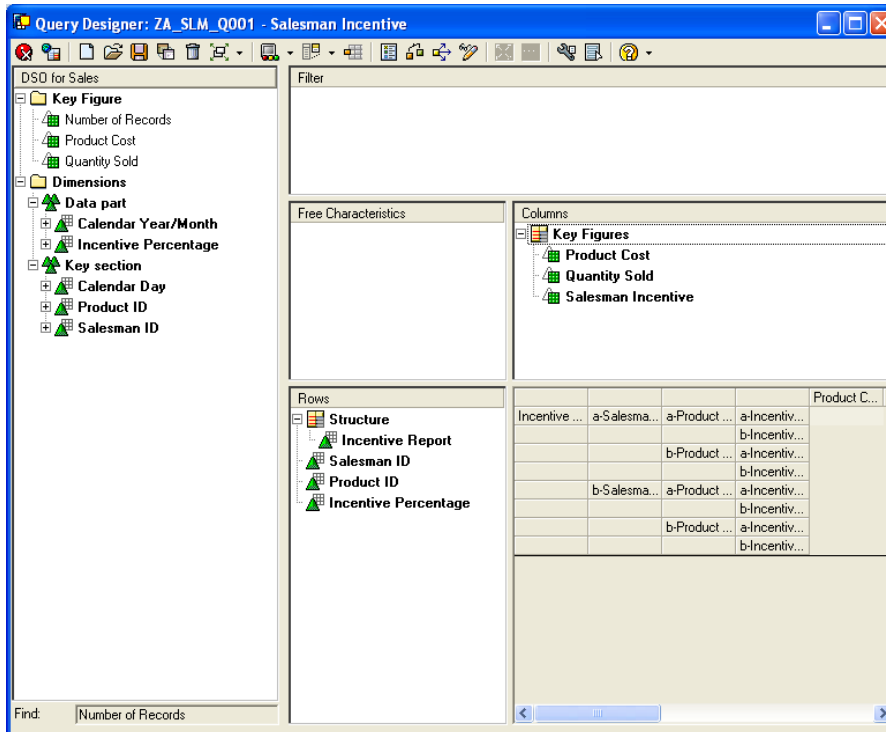
This formula will work at the intersection of the character and the keyFigure.



The final Cell Definition is shown in the below screen shot.



Go to the query and execute.



Result of the Query:

**Salesman Incentive - Microsoft Internet Explorer**

File Edit View Favorites Tools Help

Address

**BEx Ad-hoc Analysis**

**Data Analysis** Graphical display Information Information Broadcasting

**Salesman Incentive** Validity of Data: 16.09.2010 16:41:35

Save View Bookmark Variable Screen Exceptions and Conditions Notes Export to Excel Export to CSV

Rows	Salesman ID	Product ID	Incentive Percentage	Calendar Day	Product Cost	Quantity Sold	Salesman Incentive (INR)
Calendar Day	44819	1005	25	16.10.2010	25,000.00 INR	8 EA	50,000.00
Incentive Percentage		1006	5	16.09.2010	45,000.00 INR	5 EA	11,250.00
Product ID		1007	10	16.10.2010	45,000.00 INR	10 EA	22,500.00
Salesman ID				16.09.2010	40,000.00 INR	5 EA	20,000.00
Structure		1008	15	16.10.2010	40,000.00 INR	2 EA	8,000.00
				16.09.2010	35,000.00 INR	10 EA	52,500.00
		1009	20	16.10.2010	35,000.00 INR	4 EA	21,000.00
				16.09.2010	30,000.00 INR	15 EA	90,000.00
		1010	25	16.10.2010	30,000.00 INR	6 EA	36,000.00
				16.09.2010	25,000.00 INR	20 EA	125,000.00
	1011	10	16.10.2010	25,000.00 INR	8 EA	50,000.00	
			16.09.2010	75,000.00 INR	25 EA	187,500.00	
	58240	1001	5	16.10.2010	75,000.00 INR	10 EA	75,000.00
				16.09.2010	45,000.00 INR	5 EA	11,250.00
		1002	10	16.10.2010	45,000.00 INR	2 EA	4,500.00
				16.09.2010	40,000.00 INR	10 EA	40,000.00
		1003	15	16.10.2010	40,000.00 INR	4 EA	16,000.00
				16.09.2010	35,000.00 INR	15 EA	78,750.00
		1004	20	16.10.2010	35,000.00 INR	6 EA	31,500.00
				16.09.2010	30,000.00 INR	20 EA	120,000.00
		1005	25	16.10.2010	30,000.00 INR	8 EA	48,000.00
				16.09.2010	25,000.00 INR	25 EA	156,250.00
	1006	5	16.10.2010	25,000.00 INR	10 EA	62,500.00	
			16.09.2010	45,000.00 INR	30 EA	67,500.00	
				16.10.2010	45,000.00 INR	12 EA	27,000.00

Row 10 / 44

In this way we can use the function “Define Cells” depending on our requirement.

## Related Content

For more information please go through these URLs.

[http://help.sap.com/saphelp\\_nw04/helpdata/en/cb/89fa3a0376a51fe10000000a114084/content.htm](http://help.sap.com/saphelp_nw04/helpdata/en/cb/89fa3a0376a51fe10000000a114084/content.htm)

[http://help.sap.com/saphelp\\_nw04/helpdata/en/49/9f7bdd05a911d2a1f800a0c943858e/frameset.htm](http://help.sap.com/saphelp_nw04/helpdata/en/49/9f7bdd05a911d2a1f800a0c943858e/frameset.htm)

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