

Recoding Data Values

1. Recoding Values

2. Recoding Values Based on a Condition

3. Writing CASE Expressions

4. Creating and Applying Custom Formats

Lesson 5: Recoding Data Values

5.1 Recoding Values

5.2 Recoding Values Based on a Condition

5.3 Writing CASE Expressions

5.4 Creating and Applying Custom Formats

Profit Categories and Descriptive Order Types

- You want to summarize the total profit and total quantity sold through each channel at each profit category.

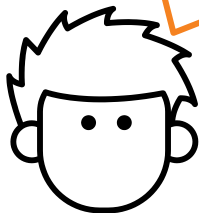
Order Type Detail	Profit Category	SUM_of_Profit	SUM_of_Quantity
Retail Sales	\$0 to \$100	\$9,119.97	393
Catalog Sales	\$0 to \$100	\$5,035.35	185
Internet Sales	\$0 to \$100	\$3,182.60	130
Retail Sales	\$100.01 to \$500	\$10,708.88	146
Catalog Sales	\$100.01 to \$500	\$8,065.75	84
Internet Sales	\$100.01 to \$500	\$7,009.75	91
Catalog Sales	\$500.01 and Above	\$5,500.10	24
Retail Sales	\$500.01 and Above	\$4,157.70	18
Internet Sales	\$500.01 and Above	\$1,390.70	5
Retail Sales	Loss	\$-2.82	2

Profit Categories and Descriptive Order Types

Order_Type	Profit	Quantity
2	51.20	2
1	241.25	5
3	1485.70	2
1	152.75	5
2	27.00	2
1	526.80	3



I need reports that are grouped into easily understood categories.



Total Quantities Ordered

		Quantity
Catalog Sales	\$0 to \$100	9,354
	\$100.01 to \$500	4,910
	\$500.01 and Above	304
	Profit Loss	4
Internet Sales	\$0 to \$100	11,955
	\$100.01 to \$500	5,600
	\$500.01 and Above	395
	Profit Loss	7
Retail Sales	\$0 to \$100	51,461
	\$100.01 to \$500	20,210
	\$500.01 and Above	1,265
	Profit Loss	21



Discussion

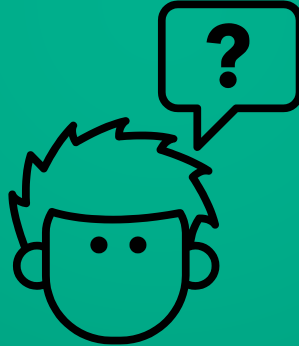
What would you assign to an invalid or missing **Order_Type** value?



Creating a New Column by Recoding Values

Demonstration 1: “Analyze profit per order type and profit category” illustrates recoding values in a query to create a new column based conditionally on an existing column.

Questions?



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Categorizing Shoes by Product Name

- A manager is interested in the numbers of available men's and women's shoes versus all other categories in the shoe_vendors table.

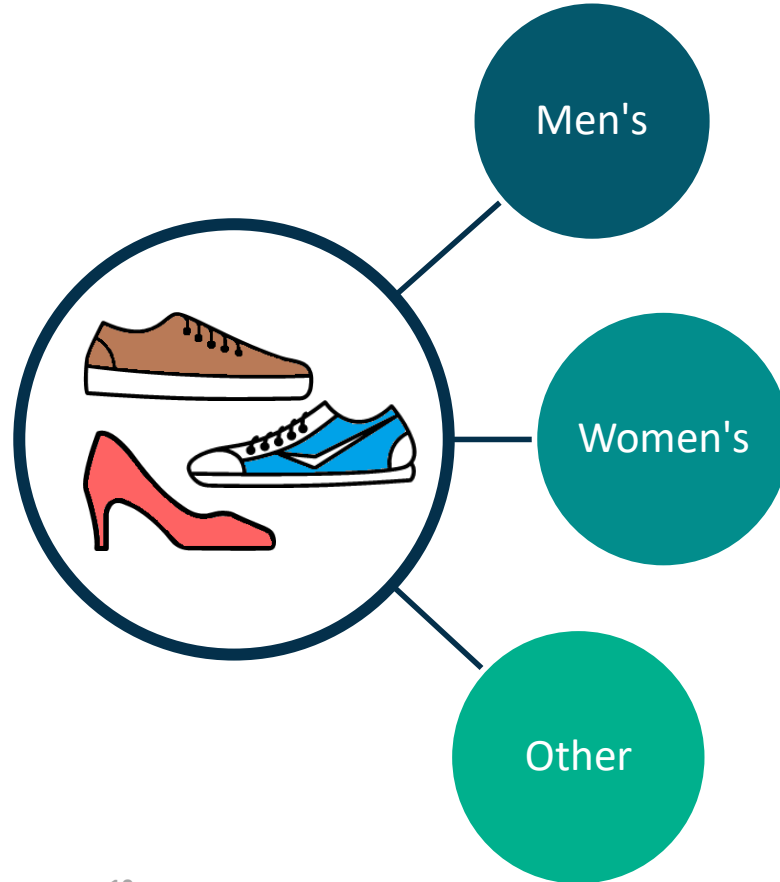
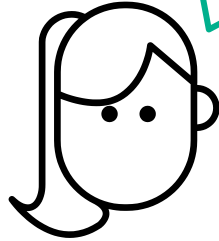
Men's and Women's Shoe Styles

The FREQ Procedure

Shoe_Categories	Frequency	Percent
Men's Shoes	174	48.20
Other	108	29.92
Women's Shoes	79	21.88

Categorizing Shoes by Product Name

What's the availability
of men's shoes,
women's shoes, and all
other shoe categories?



Replace Condition: Operator Examples

In a list

Supplier_Country IN ('SE','AU','CA')

Between

Salary BETWEEN 70000 and 80000

Contains

Product_Name CONTAINS 'Skate'

Is missing

Product_ID IS MISSING

Sounds like

Last_Name =* 'smith'

Matches pattern
(using % or _)

Name LIKE 'T_m%'

5.01 Multiple Answer Question

Which operators can be used to identify men's and women's shoes?

- a. Equal to
- b. Between
- c. Contains
- d. Matches pattern

ID	Name
210200400014	Kid Trainer Lite(Bp) Street Shoes
220100100123	Big Guy Men's Dome Shorts Shoes
220100400007	Big Guy Men's Cortez Nb-Street Shoes
220100400010	Bill London Calling Shoes
220100700017	Trainer Women's Aerobic Shoes
220100700018	Women's Aerobic Shoes Leggera

5.01 Multiple Answer Question – Correct Answers

Which operators can be used to identify men's and women's shoes?

- a. Equal to
- b. Between
- ☒ c. Contains
- ☒ d. Matches pattern

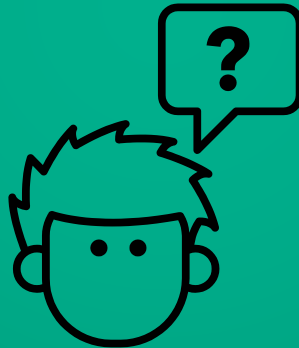
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Using the Replace Condition

Demonstration 2: “Men’s, Women’s,
and Other Shoe style frequencies”
illustrates the use of the Replace
Condition tab.

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Identifying Financial Quarters

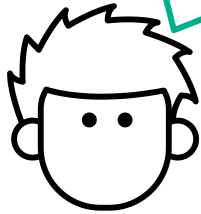
- Orion Star wants to present a financial quarter report that shows the total sales and the number of sales per quarter. Their financial year starts in December, so they cannot use the QUARTER() function.

Total Sales by Quarter

Financial_Quarter	Total Sales	Number of Sales
1	\$47,492.16	328
2	\$53,104.50	437
3	\$84,232.00	453
4	\$20,287.90	223

Identifying Financial Quarters

The Orion Star financial year starts in December.



1st Quarter



2nd Quarter



3rd Quarter



4th Quarter



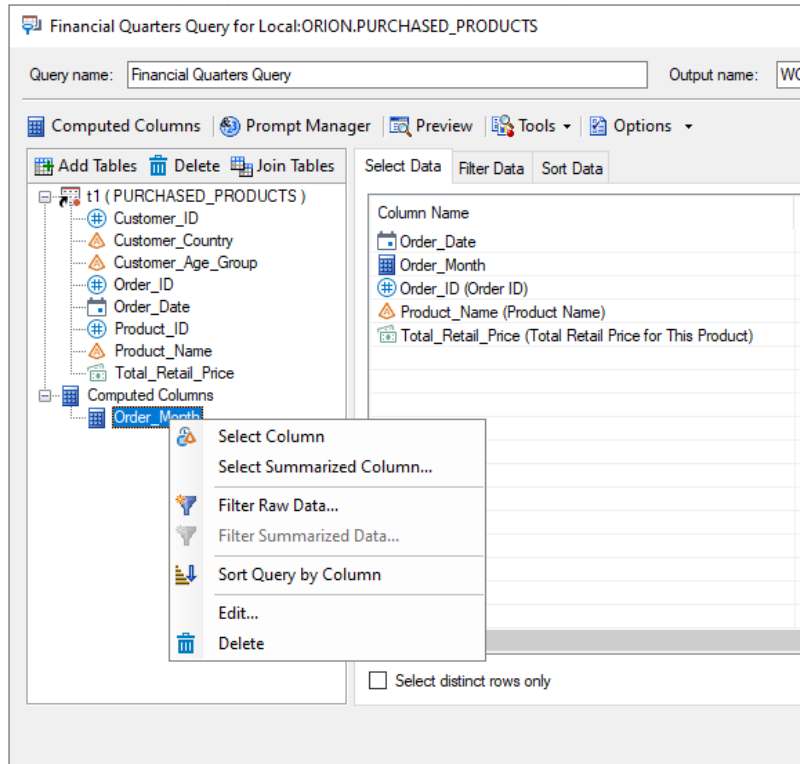
Activity 1

1. Add the **purchased_products** table to the project and launch a Query Builder.
2. Name the query Financial Quarters Query and the output table FinancialQuarters.
3. Select the Order_Date, Order_ID, Product_Name, and Total_Retail_Price columns and *create* the **Order_Month** column based on the Order_Date.
4. Right-click **Order_Month** in the list of available columns.

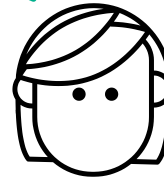
Is the Recode Column action available?

Activity 1 – Correct Answer

Is the Recode Column action available?



No. The Recode Column action is not available for computed columns.



CASE Expression - RECAP

CASE *<case-operand>*

WHEN *when-condition* **THEN** *result-expression*

<WHEN *when-condition* **THEN** *result-expression ...>*

<ELSE *result-expression***>**

END

```
case Country
  when 'FR' then 'France'
  when 'TR' then 'Turkey'
  else 'Unknown'
end
```

```
case
  when Country= 'FR' then 'France'
  when Country= 'TR' then 'Turkey'
  else 'Unknown'
end
```


WHEN Condition Examples



when country ne 'us' then 'International'



when country = 'US' and state in('CA','OR','WA')
then 'West Coast'



when month(order_date) in(8, 9, 10) then 'Fall Sales'



when profit between 500 and 1000 then 'High'



Writing the CASE Expression

Demonstration 3: “Create Finacial_Quarter column” illustrates how to write a CASE expression to recode a calculated column.

Identifying Weekday Groups

- Do more purchases occur during Monday-Thursday or Friday-Sunday?

Weekday Group Freq

The FREQ Procedure

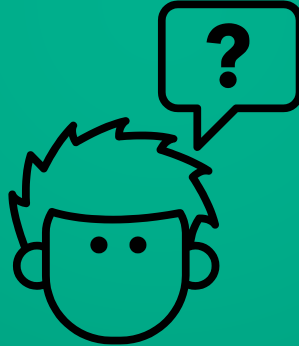
WeekdayGroup	Frequency	Percent	Cumulative Frequency	Cumulative Percent
Friday-Sunday	316	51.22	316	51.22
Monday-Thursday	301	48.78	617	100.00



Writing the CASE Expression

Demonstration 4: “Writing a CASE Expression with the WEEKDAY Function” illustrates how to write a CASE expression to recode a calculated column.

Questions?



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Comparing Profits by Order Type and Region

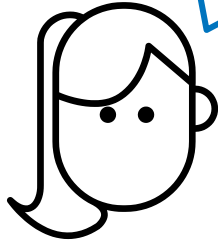
- Regional managers want to compare profits based on order type and region. The data includes coded values that must be displayed differently in order to create the desired report.

Profits by Order Type and Region

	Order Type		
	Catalog Sales	Internet Sales	Retail Sales
Africa	\$1,587.75	\$1,008.55	.
Asia/Pacific	\$4,024.60	\$706.00	\$8,040.69
Europe	\$5,234.25	\$2,814.00	.
North America	\$7,754.60	\$7,054.50	\$15,943.04
Total (ALL)	\$18,601.20	\$11,583.05	\$23,983.73

Comparing Profits by Order Type and Region

The data has coded values. I need order type descriptions and country regions.



AU (Australia)
BR (Brazil)
CN (China)
DE (Germany)
US (United States)
ZA (South Africa)

1
2
3

- Retail Sales
- Internet Sales
- Phone Sales

- Australia/Pacific
- South America
- Asia
- Europe
- North America
- Africa

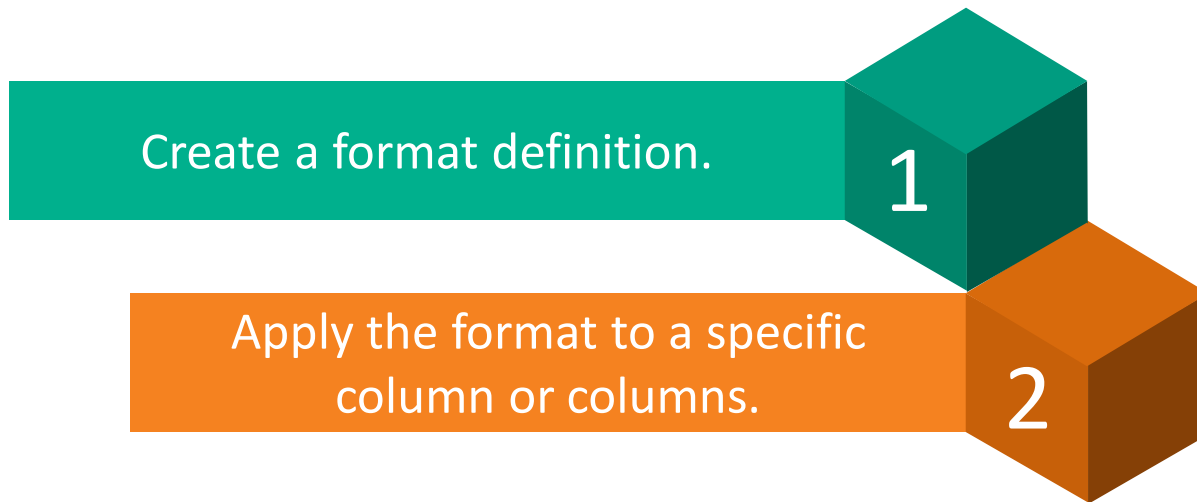


Discussion

What differences are there between recoding columns and creating and applying a user-defined format?

What are the advantages of each method?

User-Defined Formats



Create Format Tasks



Create Format

Data values and labels are entered in the task.



Create Format from Data Set

Data values and labels are loaded from an existing data set.



Discussion

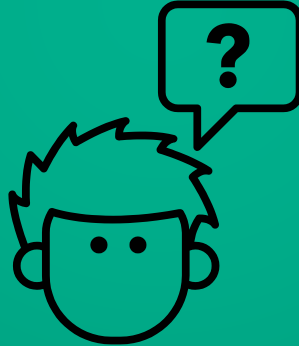
Where in SAS Enterprise Guide
can you apply a format?



Creating and Applying Custom Formats

Demonstration 5 illustrates the creation and application of custom formats to summarize data.

Questions?





Practice

In-class Exercise 7 reinforces the concepts discussed previously.