

# DATA ANALYTICS WITH IBM COGNOS

## ASSIGNMENT – 4

**NAME : ALEKYA CHILUKURI**  
**REG NO : 21BCE7633**  
**CAMPUS : VIT-AP**

**Challenge:** Create calculations and LODs using Global Dataset in Tableau

### Calculations:

**1. Model:** Trend line and Reference line with the average

The image shows two side-by-side dialog boxes from Tableau. The left dialog is titled 'Trend Lines Options' and the right is 'Edit Reference Line, Band, or Box'.

**Trend Lines Options:**

- Model Type:** Radio buttons for Linear, Logarithmic (selected), Exponential, Power, and Polynomial. A 'Degree' dropdown is set to 3.
- Factors:** A text box with the instruction 'Build separate trend lines based on the following dimensions:' and an empty list box below it.
- Options:** Checkboxes for 'Show tooltips' (checked), 'Show confidence bands', 'Allow a trend line per color' (checked), 'Show recalculated line for highlighted or selected data points' (checked), and 'Force y-intercept to zero'.
- OK** button at the bottom right.

**Edit Reference Line, Band, or Box:**

- Line, Band, Distribution, Box Plot:** Four tabs at the top, with 'Line' selected.
- Scope:** Radio buttons for 'Entire Table' (selected), 'Per Pane', and 'Per Cell'.
- Line:** A section with dropdowns for 'Value' (SUM(Sales)), 'Average' (selected), 'Label' (Computation), and 'Tooltip' (Automatic).
- Line only:** A dropdown set to '95'.
- Formatting:** A section with dropdowns for 'Line' (solid line), 'Fill Above' (light blue), and 'Fill Below' (light red).
- Show recalculated line for highlighted or selected data points:** A checked checkbox.
- OK** button at the bottom right.

## Visualization:



**2. Model:** Used SUM(Quantity) Quick Table Calculation>Percentile Quantity>Filter>Range from 0.2 to 1

This implies we are selecting only from the range 20% to 100%

Filter [Percentile of Quantity] ✕

Range of values

At least

At most

Special

Range of values

0.2 1

0% 100%

☐ Include Null Values

Reset OK Cancel Apply

## Visualization:



## Level of Detail (LOD):

### 1. Model:

## LOD Expression:

```
IF(AVG([Sales])>500 AND AVG([Profit])>50)
THEN 'Accept'
ELSE 'Not'
END
```

```
IF(AVG([Sales])>500 AND AVG([Profit])>50)
THEN 'Accept'
ELSE 'Not'
END
```

The calculation is valid.

1 Dependency ▾

Apply

OK

## Visualization:

Columns		Market							
Rows		Sub-Category							
Filters		Sheet 10							
Marks		Market							
		Sub-Category	Africa	APAC	Canada	EMEA	EU	LATAM	US
		Accessories	180	288	180	184	981	215	218
		Accessories	20	23	68	33	34	41	54
		Appliances	429	910	490	443	883	564	231
		Appliances	25	125	140	20	149	81	39
		Art	62	94	86	55	131	68	94
		Art	5	11	15	0	21	11	8
		Binders	86	98	90	38	79	64	134
		Binders	4	11	18	4	35	5	20
		Bookcases	429	809	441	413	751	470	594
		Bookcases	57	108	103	36	117	88	115
		Chairs	906	528	260	279	480	323	500
		Chairs	10	84	71	12	43	34	43
		Copiers	487	259	574	402	785	503	2,199
		Copiers	48	124	205	43	121	48	818
		Envelopes	47	84	57	46	81	62	65
		Envelopes	7	8	17	4	28	8	27
		Fasteners	26	47	27	27	47	88	14
		Fasteners	4	3	8	4	10	4	4
		Furnishings	96	117	94	110	178	108	96
		Furnishings	11	23	8	8	38	8	14
		Labels	23	11	17	18	34	22	34
		Labels	8	8	5	2	7	8	15
		Machines	184	535	809	262	628	303	1,646
		Machines	19	76	40	12	41	17	20
		Paper	66	88	88	50	96	61	57
		Paper	10	10	20	4	20	10	25
		Phones	462	708	504	388	634	480	971
		Phones	47	118	134	10	66	48	50
		Storage	264	264	112	153	258	177	265
		Storage	10	30	38	5	21	20	25
		Supplies	88	201	77	65	118	71	248
		Supplies	4	6	11	4	19	19	4

## 2. Model:

### LOD Expression:

```
{ EXCLUDE [Segment]: SUM([Quantity]) }
```

exc cat

{

EXCLUDE

[Segment]:

SUM([Quantity])

}

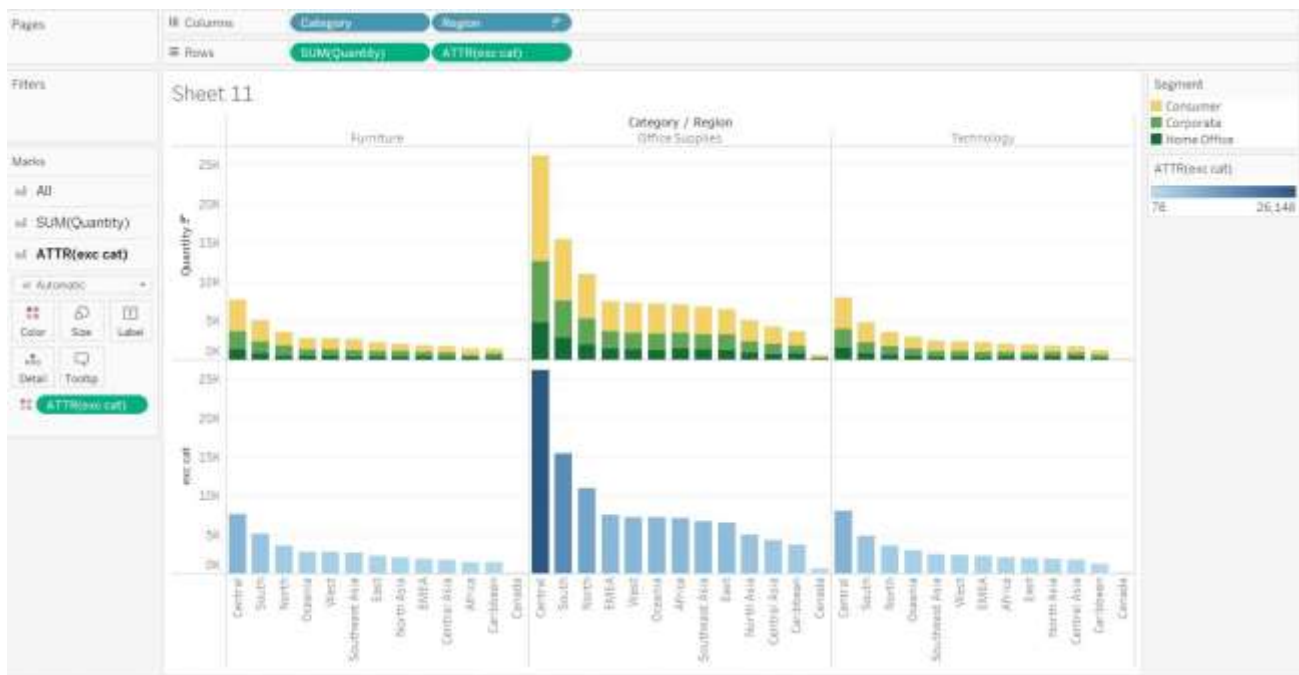
The calculation is valid.

1 Dependency ▾

Apply

OK

## Visualization:



As we can observe here in the first row we passed the segment in colour and in the second row we passed our new calculated field “exc cat”. That is the reason we are not

having a specific segment in the second visualization because we have excluded it in the LOD expression.

### 3. Model:

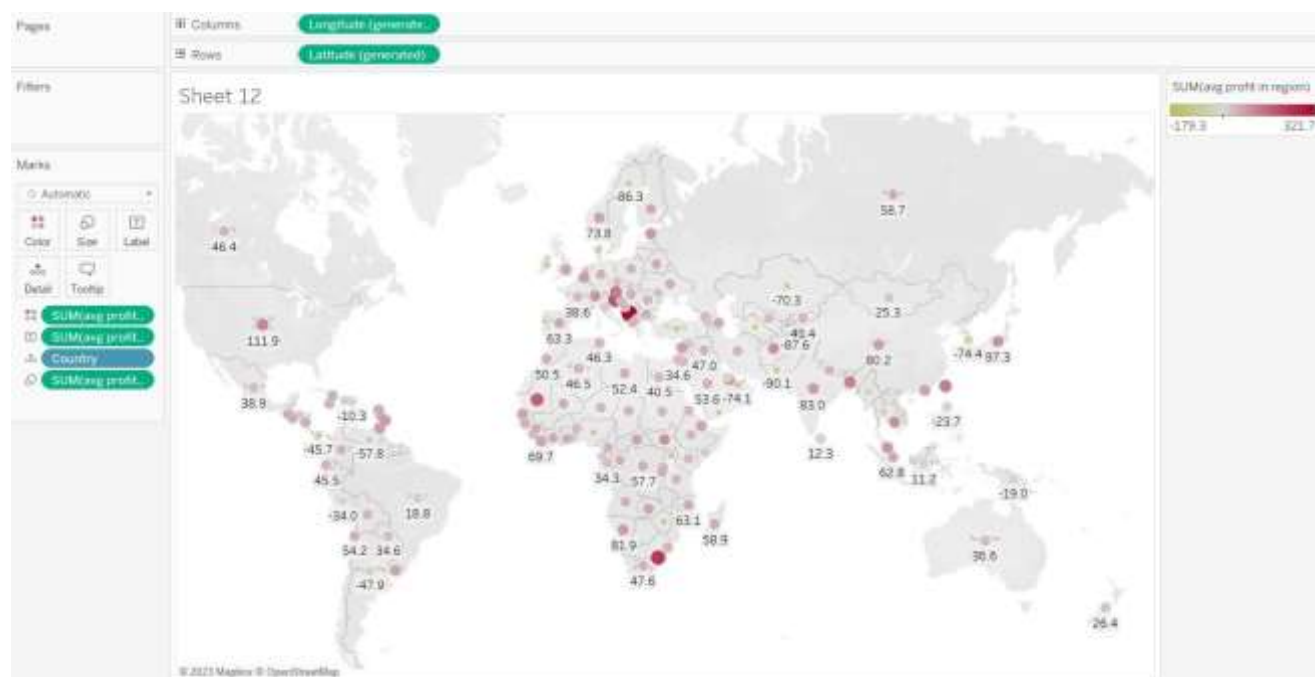
#### LOD Expression:

{ INCLUDE [Region]:AVG([Profit]) }

```
{ INCLUDE [Region]:AVG([Profit]) }
```

The calculation is valid. 1 Dependency ▾

#### Visualization:



We are including the region in average profit where the default minimum value is 179.3 and the maximum value is 321.7.