# Exercise :

In the DATA view, add the following calculated column:

In the ***Calendar table***, add a column named "Weekend" Equals "Yes" for Saturdays or Sundays (otherwise "No")

| Day Name | Weekends |
|---|---|
| Friday | No |
| Monday | No |
| Saturday | Yes |
| Sunday | Yes |
| Thursday | No |
| Tuesday | No |
| Wednesday | No |

# Exercise :

- In the ***Calendar table***, add a column named "End of Month" Returns the last date of the current month for each row

| Date | End of Month |
|---|---|
| 1/1/2015 | 1/31/2015 |
| 1/2/2015 | 1/31/2015 |
| 1/3/2015 | 1/31/2015 |
| 1/4/2015 | 1/31/2015 |
| 1/5/2015 | 1/31/2015 |
| 1/6/2015 | 1/31/2015 |
| 1/7/2015 | 1/31/2015 |
| 1/8/2015 | 1/31/2015 |
| 1/9/2015 | 1/31/2015 |
| 1/10/2015 | 1/31/2015 |
| 1/11/2015 | 1/31/2015 |
| 1/12/2015 | 1/31/2015 |
| 1/13/2015 | 1/31/2015 |
| 1/14/2015 | 1/31/2015 |
| 1/15/2015 | 1/31/2015 |
| 1/16/2015 | 1/31/2015 |
| 1/17/2015 | 1/31/2015 |
| 1/18/2015 | 1/31/2015 |

# Exercise :

In the DATA view, add the following calculated column:

In the ***Customers table***, add a column named "Current Age" Calculates current customer ages using the "birthdate" column and the TODAY() function

| Full Name | BirthDate | Current Age |
|---|---|---|
| Abby Rana | Monday, April 24, 1961 | 58 |
| Adriana Gonzalez | Thursday, July 18, 1946 | 73 |
| Aidan Hayes | Tuesday, April 14, 1936 | 83 |
| Alejandro Beck | Sunday, December 23, 1945 | 74 |
| Alexa Cox | Thursday, May 10, 1945 | 74 |
| Alexa Watson | Thursday, August 25, 1977 | 42 |
| Alexander Jackson | Wednesday, May 14, 1958 | 61 |
| Alexandra Evans | Saturday, February 22, 1964 | 55 |
| Alexandria Stewart | Friday, March 7, 1941 | 78 |
| Alisha Liu | Monday, March 13, 1972 | 47 |
| Alisha Shan | Monday, July 13, 1970 | 49 |
| Amanda Perry | Saturday, March 26, 1966 | 53 |
| Andrea Wright | Saturday, August 21, 1971 | 48 |
| Angela Butler | Thursday, August 4, 1966 | 53 |
| Angela Perry | Wednesday, June 27, 1973 | 46 |
| Anna Griffin | Wednesday, November 19, 1952 | 67 |
| Anna Murphy | Wednesday, October 22, 1975 | 44 |
| Arthur Rodriguez | Tuesday, March 11, 1947 | 72 |
| Barbara Ma | Saturday, May 5, 1979 | 40 |
| Barry Perez | Thursday, September 14, 1967 | 52 |
| Total | | 1041978 |

# Exercise :

In the ***Customers table***, add a column named "Priority Customer" Equals "High" for customers who own homes and have Education Level is Graduate Degree (otherwise "Standard")

| Full Name | HomeOwner | EducationLevel | Priority Custom |
|---|---|---|---|
| Abby Rana | Y | Bachelors | Standard |
| Adriana Gonzalez | Y | Partial College | Standard |
| Aidan Hayes | Y | Graduate Degree | High |
| Alejandro Beck | Y | Partial High School | Standard |
| Alexa Cox | N | High School | Standard |
| Alexa Watson | N | Partial College | Standard |
| Alexander Jackson | N | Partial College | Standard |
| Alexandra Evans | Y | Bachelors | Standard |
| Alexandria Stewart | N | Graduate Degree | Standard |
| Alisha Liu | Y | Partial College | Standard |
| Alisha Shan | Y | Bachelors | Standard |
| Amanda Perry | Y | Graduate Degree | High |
| Andrea Wright | Y | Graduate Degree | High |
| Angela Butler | N | Graduate Degree | Standard |
| Angela Perry | Y | Graduate Degree | High |
| Anna Griffin | Y | Partial College | Standard |
| Anna Murphy | N | Partial High School | Standard |
| Arthur Rodriguez | N | Partial College | Standard |
| Barbara Ma | Y | Partial College | Standard |
| Barry Perez | N | High School | Standard |

# Exercise -

In the REPORT view, add the following measures :

Create new measures named "Quantity Sold" and "Quantity Returned" to calculate the sum of quantity from each data table


# Exercise :

- Create new measures named "Total Transactions" and "Total Returns" to calculate the count of rows from each data table

*Quick check: You should see 56000 transactions and 1828 returns*

**56K**

**Total Transactions**

**1828**

**Quantity Returned**

# Exercise :

- Create a new measure named "Return Rate" to calculate the ratio of quantity returned to quantity sold (format as %)

*Quick check: You should see an overall return rate of 2.17%*

# Exercise :

- Create a new measure named "Weekend Transactions" to calculate transactions on weekends

*Quick check: You should see **15708** total weekend transactions*

| Date | Day Name | Weekends | Weekend Transactions |
|---|---|---|---|
| 1/3/2015 | Saturday | Yes | 8 |
| 1/4/2015 | Sunday | Yes | 5 |
| 1/10/2015 | Saturday | Yes | 4 |
| 1/11/2015 | Sunday | Yes | 9 |
| 1/17/2015 | Saturday | Yes | 8 |
| 1/18/2015 | Sunday | Yes | 6 |
| 1/24/2015 | Saturday | Yes | 8 |
| 1/25/2015 | Sunday | Yes | 4 |
| 1/31/2015 | Saturday | Yes | 7 |
| 2/1/2015 | Sunday | Yes | 5 |
| 2/7/2015 | Saturday | Yes | 6 |
| 2/8/2015 | Sunday | Yes | 4 |
| 2/14/2015 | Saturday | Yes | 8 |
| 2/15/2015 | Sunday | Yes | 6 |
| 2/21/2015 | Saturday | Yes | 1 |
| 2/22/2015 | Sunday | Yes | 10 |
| 2/28/2015 | Saturday | Yes | 5 |
| 3/1/2015 | Sunday | Yes | 6 |
| 3/7/2015 | Saturday | Yes | 9 |

# Exercise :

- In the ***Products table***, add a column named "Price Tier" Equals "High" if the retail price is >=1000, "Mid" if the retail price is >=100, and "Low" otherwise.

| ProductKey | ProductName | ProductPrice | Product Tier |
|---|---|---|---|
| 214 | Sport-100 Helmet, Red | 34.99 | Low |
| 215 | Sport-100 Helmet, Black | 33.64 | Low |
| 218 | Mountain Bike Socks, M | 9.50 | Low |
| 219 | Mountain Bike Socks, L | 9.50 | Low |
| 220 | Sport-100 Helmet, Blue | 33.64 | Low |
| 223 | AWC Logo Cap | 8.64 | Low |
| 226 | Long-Sleeve Logo Jersey, S | 48.07 | Low |
| 229 | Long-Sleeve Logo Jersey, M | 48.07 | Low |
| 232 | Long-Sleeve Logo Jersey, L | 48.07 | Low |
| 235 | Long-Sleeve Logo Jersey, XL | 48.07 | Low |
| 238 | HL Road Frame - Red, 62 | 1,263.46 | High |
| 241 | HL Road Frame - Red, 44 | 1,263.46 | High |
| 244 | HL Road Frame - Red, 48 | 1,263.46 | High |
| 247 | HL Road Frame - Red, 52 | 1,263.46 | High |
| 250 | HL Road Frame - Red, 56 | 1,263.46 | High |
| 253 | LL Road Frame - Black, 58 | 297.63 | Mid |
| 256 | LL Road Frame - Black, 60 | 297.63 | Mid |
| 259 | LL Road Frame - Black, 62 | 297.63 | Mid |
| 262 | LL Road Frame - Red, 44 | 306.56 | Mid |

# Exercise :

- Create a new measure named "% Weekend Transactions" to calculate weekend transactions as a percentage of total transactions (format as %)

**28.03%**

**Weekend Transaction%**

*Quick check: You should see* ***28.03%*** *weekend transactions*

# Exercise :

- Create a new measure to calculate "Total Revenue" based on transaction quantity and product price, and format as $

*(hint: you'll need an iterator & Related function)*

*Quick check: You should see a total revenue of $ 24.91 M*

**$24.91M**

**Total Revenue**

# Exercise :

- Create a new measure to calculate "Total Cost" based on transaction quantity and product cost, and format as $

***(hint: you'll need an iterator & Related function)***

***Quick check: You should see a total cost of $14.46M***

**$14.46M**

**Total Cost**

# Exercise :

- Create a new measure named "Total Profit" to calculate total revenue minus total cost, and format as $

***Quick check: You should see a total profit of $10.46M***

**$10.46M**

**Total Profit**

# Exercise :

- Create a new measure to calculate "Profit Margin" by dividing total profit by total revenue (format as %)

| 41.97% |
| --- |
| **Profit Margin** |

***Quick check: You should see an overall profit margin of 41.97%***

# Exercise :

- Create a new measure named "Unique Products" to calculate the number of unique product names in the Products table


*Quick check: You should see 293 unique products*

# Exercise :

- Create a new measure named "YTD Revenue" to calculate year-to-date total revenue, and format as $

***Quick check: You should see 6,404,933.98 in YTD Revenue in December 2015***

| Start of Month | YTD Revenue |
|---|---|
| 1/1/2015 | 585312.69 |
| 2/1/2015 | 1117538.97 |
| 3/1/2015 | 1760975.11 |
| 4/1/2015 | 2414339.19 |
| 5/1/2015 | 3073665.13 |
| 6/1/2015 | 3743653.85 |
| 7/1/2015 | 4229768.78 |
| 8/1/2015 | 4766221.55 |
| 9/1/2015 | 5110284.44 |
| 10/1/2015 | 5514561.09 |
| 11/1/2015 | 5841172.31 |
| 12/1/2015 | 6404933.98 |
| 1/1/2016 | 432425.86 |
| 2/1/2016 | 906588.80 |
| 3/1/2016 | 1378550.82 |
| 4/1/2016 | 1873508.40 |

# Exercise :

- Create a new measure named "60-Day Revenue" to calculate a running revenue total over a 60-day period,

***Quick check: Create a matrix with "date" on rows; you should see 945,019.44 in 60-Day Revenue on 9/8/2015***

| Date | 60-Days Revenue |
|---|---|
| 9/1/2015 | 978,727.18 |
| 9/2/2015 | 973,950.62 |
| 9/3/2015 | 969,587.50 |
| 9/4/2015 | 959,929.33 |
| 9/5/2015 | 948,396.15 |
| 9/6/2015 | 943,903.70 |
| 9/7/2015 | 935,989.83 |
| 9/8/2015 | 945,019.44 |
| 9/9/2015 | 941,351.86 |
| 9/10/2015 | 942,639.92 |
| 9/11/2015 | 935,260.22 |
| 9/12/2015 | 924,899.80 |
| 9/13/2015 | 935,427.38 |
| 9/14/2015 | 939,136.47 |
| 9/15/2015 | 922,796.07 |
| 9/16/2015 | 920,118.46 |
| 9/17/2015 | 916,824.36 |
| 9/18/2015 | 918,308.78 |
| 9/19/2015 | 911,460.73 |
| 9/20/2015 | 905,105.60 |

# Exercise :

- Create new measures named "Last Month Transactions", "Last Month Revenue“ and "Last Month Profit“

***Quick check: Create a matrix with "Start of Month" on rows to confirm accuracy***

# Exercise :

- Create a new measure named "Revenue Target" based on a 5% lift over the previous month revenue, and format as $

*Quick check: You should see a Revenue Target of 2462910.03 in March 1998*

# Exercise:

- We have an active relationship between Dim_Calender(Date) & Order Date and we have an ***Inactive Relationship*** between Dim_Calender(Date) & Ship Date.
- We have learnt that in Modelling you can have only ***one*** active Relation ***But we want to analyze the Total Quantity That we have on Order Date & on Ship Date together. For this we will Use USERELATIONSHIP function***

- Total Qty by Ship Date = CALCULATE([Total Qty], USERELATIONSHIP(Orders[Ship Date],'Calendar'[Date]))

| Date | Total Qty | Total Qty by Ship Date |
|---|---|---|
| | | 151 |
| 12/6/2018 | 1 | 150 |
| 9/26/2018 | 26 | 133 |
| 11/21/2018 | 41 | 133 |
| 9/15/2018 | 110 | 122 |
| 12/16/2016 | 1 | 118 |
| 12/12/2018 | | 113 |
| 12/12/2017 | 61 | 111 |
| 11/17/2016 | 47 | 110 |
| 11/30/2017 | 17 | 108 |
| 9/6/2018 | | 107 |
| 11/5/2018 | 62 | 106 |
| 11/18/2018 | 83 | 100 |
| 11/30/2018 | 60 | 99 |
| 9/7/2017 | | 98 |
| 9/14/2015 | 77 | 95 |
| 9/26/2016 | 93 | 94 |
| 12/2/2018 | 152 | 94 |
| Total | 37873 | 37873 |

- Find out the Revenue contribution by France on Daily Basis.

| Date | Total Revenue | France Revenue |
|---|---|---|
| 01-01-2015 | $8,351.46 | |
| 02-01-2015 | $14,313.08 | |
| 03-01-2015 | $28,041.32 | |
| 04-01-2015 | $17,713.07 | 3,578.27 |
| 05-01-2015 | $7,855.64 | |
| 06-01-2015 | $21,266.34 | |
| 07-01-2015 | $8,554.74 | |
| 08-01-2015 | $25,365.43 | |
| 09-01-2015 | $14,313.08 | |
| 10-01-2015 | $14,109.80 | 3,578.27 |
| 11-01-2015 | $31,619.59 | |
| 12-01-2015 | $25,047.89 | 7,156.54 |
| 13-01-2015 | $7,855.64 | |
| 14-01-2015 | $31,669.59 | |
| 15-01-2015 | $21,380.60 | 3,399.99 |
| 16-01-2015 | $24,666.33 | |
| Total | $2,49,14,567.18 | 23,62,641.01 |

- Show the Rank of Revenue For the Products.

But, You will notice that if you get any other dimension in the table this Calculation will start showing wrong answers. So, write a proper calculation for this.

| ProductName | Total Revenue | Rank of Products |
|---|---|---|
| Mountain-200 Black, 46 | $12,41,754.60 | 1 |
| Mountain-200 Black, 42 | $12,33,558.20 | 2 |
| Mountain-200 Silver, 38 | $12,13,852.12 | 3 |
| Mountain-200 Silver, 46 | $11,82,780.82 | 4 |
| Mountain-200 Black, 38 | $11,65,937.90 | 5 |
| Mountain-200 Silver, 42 | $11,33,066.74 | 6 |
| Road-250 Black, 52 | $6,89,372.96 | 7 |
| Road-250 Red, 58 | $6,61,012.68 | 8 |
| Road-250 Black, 48 | $6,41,378.64 | 9 |
| Road-150 Red, 48 | $6,40,510.33 | 10 |
| Road-150 Red, 62 | $6,04,727.63 | 11 |
| Road-150 Red, 52 | $6,01,149.36 | 12 |
| Road-250 Black, 58 | $5,84,658.08 | 13 |
| Road-250 Black, 44 | $5,73,750.28 | 14 |
| Road-150 Red, 56 | $5,61,788.39 | 15 |
| Road-150 Red, 44 | $4,97,379.53 | 16 |
| Touring-1000 Blue, 46 | $4,19,596.32 | 17 |

- Show the Rank of the Revenue in Context with the Region & Products.

| Region | ProductName | Total Revenue | Region & Product Rank |
|---|---|---|---|
| Australia | Mountain-200 Black, 42 | $3,42,199.70 | 1 |
| Australia | Mountain-200 Silver, 38 | $3,39,712.88 | 2 |
| Australia | Mountain-200 Silver, 42 | $3,23,141.52 | 3 |
| Australia | Road-250 Red, 58 | $3,11,963.08 | 4 |
| Australia | Road-250 Black, 52 | $3,07,599.96 | 5 |
| Australia | Mountain-200 Black, 38 | $3,07,365.00 | 6 |
| Australia | Mountain-200 Black, 46 | $3,05,315.90 | 7 |
| Australia | Mountain-200 Silver, 46 | $2,81,713.12 | 8 |
| Southwest | Mountain-200 Black, 46 | $2,80,726.70 | 9 |
| Australia | Road-250 Black, 48 | $2,77,058.12 | 10 |
| Australia | Road-250 Black, 58 | $2,77,058.12 | 10 |
| Southwest | Mountain-200 Silver, 42 | $2,67,213.18 | 12 |
| Southwest | Mountain-200 Silver, 38 | $2,65,141.76 | 13 |
| Southwest | Mountain-200 Silver, 46 | $2,52,713.24 | 14 |
| Southwest | Mountain-200 Black, 42 | $2,41,793.80 | 15 |
| Southwest | Mountain-200 Black, 38 | $2,31,548.30 | 16 |
| Australia | Road-250 Black, 44 | $2,26,882.24 | 17 |
| Australia | Road-150 Red, 56 | $1,93,226.58 | 18 |