**POWER QUERY - LEVEL 2**

**TABLE TRANSFORMATIONS**

**ITEM #16: HOW TO PERFORM GROUP BY OPERATIONS ?**

FROM POWER QUERY WINDOW >RIGHT CLICK THE DUPLICATED QUERY :

SELECT COUNTRY, COMPANY > REMOVE.

SELECT MONTH > TRANSFORM RIBBON > GROUP BY > ADVANCED > ADD AGGREGATIONS.

FOR EACH AGGREGATION : NAME, AGGREGATION OPERATION (SUM), SALE 2016 / 17 / 18 > OK.

**ITEM #17: WHAT IS TRANSPOSE?**

A MECHANISM TO CONVERT ROWS INTO COLUMNS AND COLUMN INTO ROWS.

USED IN SCENARIOS TO REPORT MORE AMOUNT OF VERTICAL DATA INTO HORIZONTAL DATA.

**SELECT MONTH : TRANSFORM TAB > CLICK @ TRANSPOSE BUTTON.**

**ITEM #18: HOW TO USE FIRST ROW AS HEADER?**

SELECT 1ST ROW OF THE ABOVE QUERY > CLICK @ "USE FIRST ROW AS HEADERS" BUTTON.

WE HAVE TWO OPTIONS IN THIS BUTTON:

1. PROMOTE HEADERS : TO GET THE 1ST ROW OF THE TABLE AS HEADER

2. DEMOTE HEADERS : TO GET THE HEADER AS 1ST ROW OF THE TABLE

**ITEM #19: WHAT IS REVERSE ROWS?**

A MECHANISM TO REVERSE THE ROW POSITIONS. LAST ROW OF TABLE IS MOVED TO FIRST ROW AND VICE VERSA.

FROM POWER QUERY EDITOR > TRANSFORM > CLICK @ REVERSE ROWS

**ITEM #20: HOW TO USE COUNT TRANSFORMATION IN POWER QUERY?**

*THIS TRANSFORMATION IS USED TO COUNT NUMBER OF ROWS IN THE TABLE.*

SELECT THE QUERY > CLICK @ "COUNT ROWS". THIS REPORTS THE ROW NUMBER VALUE.

CLICK @ INTO MARK TO THE LEFT SIDE OF THE STEP TO REMOVE THIS TRANSFORMATION.

ANY COLUMN TRANSFORMATIONS

**ITEM #21: HOW TO CHANGE DATA TYPES OF EXISTING COLUMNS?**

RIGHT CLICK ALLCOUNTRYSALES QUERY > DUPLICATE.

REQUIREMENT: HOW TO REMOVE THE DECIMAL VALUES IN SALES 2016

SELECT 2016 > CLICK @ > DATA TYPE > WE SEE A DROPDOWN WITH LIST OF ALL AVAILABLE DATA TYPES > SELECT THE REQURIED DATA TYPE {WHOLE NUMBER}

**ITEM #22: HOW TO DETECT THE DATA TYPE?**

SELECT REQUIRED COLUMN(S) [SALE 2015, SALE 2016] > CLICK @ "DETECT DATA TYPE".

THIS IS USEFUL FOR SUCH SCENARIOS IN WHICH WE REPLACE OR MASHUP THE COLUMN DATA.

**ITEM #20: HOW TO REPLACE COLUMN VALUES?**

SELECT REQUIRED COLUMN > CLICK @ **REPLACE** FROM MASHUP RIBBON [TRANSFORMATION CATEGORY] > SPECIFY SOURCE VALUE & REPLACEMENT VALUE. Ex: Replace Sale 2016 null >>> 0

**ITEM #21: HOW TO REPLACE THE NULL VALUES WITH THEIR ADJACENT (next or previous) VALUES?**

SELECT A COLUMN > CLICK @ "**FILL**" > FILL UP OR FILL DOWN.

**FILL UP** : USED TO REPLACE A NULL VALUE WITH NEXT NON NULL VALUE.

**FILL DOWN** : USED TO REPLACE A NULL VALUE WITH PREVIOUS NON NULL VALUE.

Select Sale2017 > FillUp

Select Sale 2018 > Filldown.

**ITEM #22: HOW TO PIVOT THE COLUMNS?**

**PIVOT IS A MECHANISM TO IDENTIFY UNIQUE VALUES OF A COLUMN AND DEFINE NEW COLUMNS. VALUES OF THESE COLUMNS WILL BE AGGREGATION FROM ANY OTHER COLUMN.**

SELECT MONTH & SALE 2015 > RIGHT CLICK > REMOVE OTHER COLUMNS.

TRANSFORM : ANY COLUMN > SELECT MONTH > CLICK @ **PIVOT**.

**NOTE**: PIVOT = GROUP BY + AGGREGATE + TRANSPOSE + PROMOTE HEADER.

**ITEM #23: HOW TO UNPIVOT THE COLUMNS?**

FROM POWER QUERY EDITOR> SELECT ALL COLUMNS > TRANSFORM > CLICK @ UNPIVOT

**ITEM #24: HOW TO MOVE A COLUMN FROM ONE POSITION TO ANOTHER?**

SELECT A COLUMN > CLICK @ "MOVE" > SELECT ONE OF THE OPTIONS:

1. LEFT 2. RIGHT 3.TO BEGINNING 4. TO END

TEXT COLUMN TRANSFORMATIONS

**ITEM #25: HOW TO SPLIT COLUMN VALUES?**

SELECT COLUMN > CLICK SPLIT COLUMN > OPTIONS TO SPLIT NUMERICAL or CHARACTER DATA:

1. BY DELIMETER

2. BY NUMBER OF CHARACTERS

SELECT MONTH > SPLIT > BY NUMBER OF CHARACTERS (3) > OK. THIS RESULTS IN TWO COLUMNS. 1ST COLUMN HAS 3 CHARACTERS. 2ND COLUMN HAS REMAINING CHARACTERS

**ITEM #26: HOW TO MERGE COLUMN VALUES?**

SELECT ABOVE TWO SPLIT COLUMNS > MERGE. THIS RESULTS IN A SINGLE COLUMN.

**ITEM #27: HOW TO EXTRACT COLUMNS?**

SELECT A COLUMN > CLICK @ "EXTRACT" > SELECT REQUIRED OPERATION.

SELECT MONTH > EXTRACT > FIRST 3 CHARACTERS > OK.

**ITEM #28: HOW TO USE FORMAT OPTIONS?**

SELECT A COLUMN > CLICK @ "FORMAT" > WE SEE STRING OPERATIONS :

1. LOWERCASE 2. UPPERCASE 3. CAPATALIZE EACH WORD

4. TRIM 5. CLEAN 6. ADD PREFIX 7. ADD SUFFIX

SELECT MONTH > UPERCASE.

NUMBER COLUMN TRANSFORMATIONS

**ITEM #29: HOW TO GET STANDARD CALCULATIONS AND SCIENTIFIC CALCULATIONS?**

SELECT AN WHOLE NUMBER OR DECIMAL COLUMN > CLICK @ "FORMAT" > WE SEE STANDARD CALCUALTIONS AND SCIENTIFIC CALCULATIONS.

**ITEM #30: HOW TO PERFORM NUMBER TRANSFORMATIONS**

SELECT COLUMN > SPECIFY ONE OF THE REQUIRED CALCULATIONS.

**ITEM #31: DATE & TIME TRANSFORMATIONS**

RIGHT CLICK QUERIES > NEW QUERY > EXCEL > SELECT GIVEN FINANCIAL EXCEL FILE > LOAD.

SELECT DATE COLUMN > DUPLICATE (TWICE).

SELECT 1ST DUPLCIATED COLUMN > NAME (YEAR). **TRANSFORM** TAB: DATE > YEAR.

SELECT 2ND DUPLCIATED COLUMN > NAME (NEWDAY). **TRANSFORM** TAB: DATE > DAY.

SELECT MONTH > TRANSFORM : ANY COLUMN > MOVE RIGHT

**ITEM #32: HOW TO FORMAT A CUSTOM DATE?**

SELECT YEAR, MONTH, DAY COLUMNS > ANY COLUMN TRANSFORMATION : DATA TYPE (TEXT)

GO TO "ADD COLUMN" RIBBON > CUSTOM COLUMN > SPECIFY A NAME TO THE NEW COLUMN.

DEFINE THE REQUIRED EXPRESSION.

EXAMPLE: [YEAR] & " - " & [MONTH] & " - " & [NEWDAY]

**ITEM #33: HOW TO ROLLBACK A STEP?**

GO TO QUERY SETTINGS PANE [RIGHT OF CANVAS] > APPLIED STEPS > SELECT THE REQUIRED STEP [EX COUNTED ROWS] > CLICK @ **DELETE** MARK YOU SEE TOWARDS LEFT SIDE OF THE STEP.

**ITEM #34: WHAT ARE STEPS?**

IN POWER QUERY, EVERY OPERATION WE PERFORM ON THE EXTRACTED DATA SOURCE IS CALLED A "STEP". THESE STEPS ARE AUTO CREATED AND AUTO NAMED AS PER THE SEQUENCE AND TYPE OF OPERATION = **MASHUP OPERATION**.

**ITEM #35: HOW TO VERIFY THE STEP DETIALS?**

FROM THE APPLIED STEPS > SELECT REQUIRED STEP >(EX: GROUP BY) > CLICK @ CIRCLE BUTTON TO RIGHT SIDE OF THE STEP > WE SEE THE STEP DEFINITION (TRANSFORMATION)

WE CAN MODIFY THE DEFINITION BUT ENSURE IT DOES NOT IMPACT REMAINING STEPS.

**ITEM #36: HOW TO INSERT A STEP IN BETWEEN OTHER STEPS?**

FROM THE APPLIED STEPS > SELECT REQUIRED STEP > THEN GO TO "TRANSFORM" RIBBON > CLICK @ REQUIRED TRANSFORMATION BUTTON >

THIS PROMPTS FOR A WARNING > CLICK OK > STEP GETS INSERTED.

EXAMPLE :HIGHLIGHT GROUPED ROWS >TRANSFORM > "**DETECT DATA TYPE"** BUTTON