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Business Intelligence System

Experiment no: 3

* **Aim:-** Demonstration of BI techniques ETL on Application Student result pattern and ranking analysis.

* **Theory :-**

Data Analysis Expressions (DAX) is a programming language that can be used to create calculated columns, measures and custom tables in Microsoft Power BI. It is a set of functions, operators and constants that can be used to calculate and return one or more values using a formula, or expression. The DAX language has a function that returns the ranking of a sorted element based on a given expression. The RANKX Power BI is one such function. It is both a scalar and an iterator. The RANKX Power BI function is also a robust sorting tool.

- The RANKX Power BI returns the ranking of a number in a list of numbers for each row in the table argument.
- RANKX is a type of function in Power BI. It is a built-in function termed a sorting function, which is used extensively in sorting the data in various conditions.

- The syntax for this function is as follows:

RANKX(<table>, <expression>, <value>, <order>, <ties>).

- The RANKX function in Power BI works similarly to the one in the excel RANK function and assigns rank based on numbers of the specific or mentioned column.

1] Table:
We need to specify based on which table you are ranking.

2] Expression:
We must supply the column name here based ~~at the~~ on which column you use ranking.

3] Value:
This is a bizarre argument unless you are ranking at the advanced level. This argument will not put to use.

4] Order:
In this argument, we can mention whether the ranking is in the form of asrending or descending order. The default parameter is in descending order, i.e it will rank the top value 1 and so on.

We can supply two arguments here: TRUE or FALSE. TRUE is for asrending order ie the lowest value is 1.

If you supply FALSE, it will rank in descending order. Therefore, the highest value is 1.

5] Ties:

This is the important thing you need to learn. In this argument, we can specify what should be done if there is a TIE between two values.

- If you SKIP this, the rank after the tied value will be the rank of the tied value plus a count of tied values. So, for example, if there are 3 values tied at 5th rank, then the next rank will be 8 = (5+3).

- If you supply DENSE as the option, the next value after the tied rank will be the next rank of the tied values. So, for example, if there are 3 values tied at 5th rank, then the next rank will be 6 = (5+1).