**Lesson 0**

Design Schemas in Data Modelling

Remember:

- The most important goal of OLAP (Online Analytical Processing - BI) applications is analysis of historical data.

|  |  |  |
| --- | --- | --- |
| Table | Contains | Description |
| Fact | Measurements/facts  Foreign key to dimension table | Contains all the primary keys of the dimension and associated facts or measures(is a property on which calculations can be made) like quantity sold, amount sold and average sales. |
| Dimension | Dimensions of a fact joined to fact table via a foreign key. | Describe what measures mean. Dimension tables provides descriptive information for all the measurements recorded in fact table. Dimensions are relatively very small as comparison of fact table. Commonly used dimensions are people, products, place and time |

|  |  |  |
| --- | --- | --- |
|  | Snowflake | Star Schema |
| Description | Center fact table, many dim’s and sub dim’s. Data warehouses | Center fact table, many dim’s. Datamarts with simple relationships |
| Normalization | Can have normalized dims’ | Pure denormalized dim’s |
| Redundancy | Chances of data redundancy are low. | Chances of data redundancy are high |
| Maintenance | Less redundancy, less maintenance | More redundancy (denormalized) so more maintenance. |
| Query | Complex queries | Simple queries (denormalized) |
| Joins | More joins (normalization). Provide a faster way for cube processing | Less joins  Cube processing is slow due to the complex join |
| Usage guidelines | Data integrity and less duplication | Speed & performance over data integrity |

Diagram

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**Lesson 0**

PowerBI

We’ll typically use Dimensions when analyzing data in PowerBI

|  |  |  |
| --- | --- | --- |
| Dimension | Dimensions of a fact joined to fact table via a foreign key. | Describe what measures mean. Dimension tables provides descriptive information for all the measurements recorded in fact table. Dimensions are relatively very small as comparison of fact table. Commonly used dimensions are people, products, place and time |

**Steps to create a PowerBI report**

<https://docs.microsoft.com/en-us/power-bi/create-reports/desktop-dimensional-model-report>

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[1] Get data

- import data

- transform data (check column data types)

[2] Prepare data

[3] Model data

Resembles data from data warehouse

Graphical user interface, diagram, application

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[4] Create relationships

[5] Hide key/sensitive columns

[6] Create hierarchies

[7] Rename tables

[8] Write measure in DAX

[9] Build reports