

UNIT II

1. Define schema hierarchy?

A concept hierarchy that is a total (or) partial order among attributes in a database schema is called a schema hierarchy.

2. List out the OLAP operations in multidimensional data model?

- Roll-up
- Drill-down
- Slice and dice
- Pivot (or) rotate

3. What is roll-up operation?

The roll-up operation is also called drill-up operation which performs aggregation on a data cube either by climbing up a concept hierarchy for a dimension (or) by dimension reduction.

4. What is drill-down operation?

Drill-down is the reverse of roll-up operation. It navigates from less detailed data to more detailed data. Drill-down operation can be taken place by stepping down a concept hierarchy for a dimension.

5. What is slice operation?

The slice operation performs a selection on one dimension of the cube resulting in a sub cube.

6. What is dice operation?

The dice operation defines a sub cube by performing a selection on two (or) more dimensions.

7. What is pivot operation?

This is a visualization operation that rotates the data axes in an alternative presentation of the data.

8. List out the views in the design of a data warehouse?

- Top-down view
- Data source view
- Data warehouse view

- Business query view

9. What are the methods for developing large software systems?

- Waterfall method
- Spiral method

10. How the operation is performed in waterfall method?

The waterfall method performs a structured and systematic analysis at each step before proceeding to the next, which is like a waterfall falling from one step to the next.

11. List out the steps of the data warehouse design process?

- Choose a business process to model.
- Choose the grain of the business process
- Choose the dimensions that will apply to each fact table record.
- Choose the measures that will populate each fact table record.

12. Define ROLAP?

The ROLAP model is an extended relational DBMS that maps operations on multidimensional data to standard relational operations.

13. Define MOLAP?

The MOLAP model is a special purpose server that directly implements multidimensional data and operations.

14. Define HOLAP?

The hybrid OLAP approach combines ROLAP and MOLAP technology, benefiting from the greater scalability of ROLAP and the faster computation of MOLAP, (i.e.) a HOLAP server may allow large volumes of detail data to be stored in a relational database, while aggregations are kept in a separate MOLAP store.

15. What is enterprise warehouse?

An enterprise warehouse collects all the information's about subjects spanning the entire organization. It provides corporate-wide data integration, usually from one (or) more operational systems (or) external information providers. It contains detailed data as well as summarized data and can range in size from a few giga bytes to hundreds of giga bytes, tera bytes (or) beyond. An

enterprise data warehouse may be implemented on traditional mainframes, UNIX super servers (or) parallel architecture platforms. It requires business modeling and may take years to design and build.

16.What is data mart?

Data mart is a database that contains a subset of data present in a data warehouse. Data marts are created to structure the data in a data warehouse according to issues such as hardware platforms and access control strategies. We can divide a data warehouse into data marts after the data warehouse has been created. Data marts are usually implemented on low-cost departmental servers that are UNIX (or) windows/NT based. The implementation cycle of the data mart is likely to be measured in weeks rather than months (or) years.

17.What are dependent and independent data marts?

Dependent data marts are sourced directly from enterprise data warehouses. Independent data marts are data captured from one (or) more operational systems (or) external information providers (or) data generated locally with in particular department(or) geographic area.

18.What is virtual warehouse?

A virtual warehouse is a set of views over operational databases. For efficient query processing, only some of the possible summary views may be materialized. A virtual warehouse is easy to build but requires excess capability on operational database servers.

19.Define indexing?

Indexing is a technique, which is used for efficient data retrieval (or) accessing data in a faster manner. When a table grows in volume, the indexes also increase in size requiring more storage.

20.Define metadata?

Metadata is used in data warehouse is used for describing data about data. (i.e.) meta data are the data that define warehouse objects. Metadata are created for the data names and definitions of the given warehouse.