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Answer sheet

ID **13698**

NAME **SHARIQ**

SUBJECT **DATA
WAREHOUSE**

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Q1. Describe the architecture of data warehouse?

Ans: It is the collection of data and managing of the data to provide meaningful output where it is needed.

History:

First the punch card was introduced in America for business to collect and store computer generated data.

Then magnetic storage came to replace punch cards.

In 2003 hard disk was introduced to make it easier to keep records.

Data warehouse is also known by different names such as

Decision support system

Management information system

Analytic application

Data warehouse

Data may be

Structure

Semi structured

Unstructured data

Data came from different location and placed in one location so it may be accessible by the user through Sql client.

There data is processed managed and transformed.

Architecture of data warehouse:

It is complex unit where all the data is collected from different sources. There are three approaches for creating data warehouse.

Single tier

Two tier

Three tier

It is the design of collecting data and storage frame work.

Single tier:

It is the strategy used to minimize the amount of data stored. This architecture is not more usable due to his low minimizing amount of data

2nd tier:

This architecture is not expandable and limited data storage. There are no more end user because of its network limitations.

3rd tier:

This is the most widely used architecture.

Consist of

Top

Middle

Bottom

Top tier:

Top tier is the most usable tier because of the client interact with top tier.

Middle tier:

This tier work as the path for between warehouse and end user.

Bottom tier:

Data is transformed using back end tools.

Uses of Data warehouse at different fields

In the field of Health:

Records of different patients, medicines etc.

In the field of Personal information:

It keeps all the records of the citizen in the form of cnic.

In the field of Education:

It keeps all the records of students.

Q2: Describe Star schema in the Example of any relevant database?

Ans:

Star schema:

Definition:

The simplest arrangement of data for transactional relational and during star schema database are relaxed during implementation and design.

Example:

Sale price, Sale quantity, weight, distant speed and weight measurement are few example of fact data in star schema.

Explanation:

Here data is organized into facts and dimensions. Star schema is used for large data to support business intelligence.

Star schema support different aggregation such as add, sub and average.

Star schema is designed surround by each facts therefore it make the shape of star that's why its called star schema.

Q3. Describe snowflake schema with example of any relevant database structure and its representation?

Ans:

Snowflake schema:

Definition:

The logical arrangement of table in multidimensional in database such as the final shape resemble to the snowflake.

Explanation of snowflake:

It is the extension of star schema and add additional dimensions its called snowflake because its resble to the snowflake.

The snowflake effects only dimension table not the fact table.

Characteristics of snowflake schema:

The dimension model of snowflake under the following conditions:

- The snowflake schema uses small disk space.
- It is easy to implement dimension is added to schema.
- There are multiple tables, so performance is reduced.
- The dimension table consist of two or more sets of attributes which define information at different grains.

- The sets of attributes of the same dimension table are being populate by different source systems.

Example of snowflake:

Here we have different slots for different things such as

The user slot will contain

User id , user name, User age

The city slot will contain

Address, city name, country

The order slot will contain

Order id, order name, order weight

So like this it make it more slots and make the shape of snowflake.