WORKSHEET 1 SQL

Q1 and Q2 have one or more correct answer. Choose all the correct option to answer your question.

1. Which of the following is/are DDL commands in SQL?
A) Create
B) Update
C) Delete
D) ALTER

Answer : A(Create) D(ALTER)

2. Which of the following is/are DML commands in SQL?
A) Update
B) Delete
C) Select
D) Drop

Answer : A(Update) B(Delete) C(Select) D(Drop)

Q3 to Q10 have only one correct answer. Choose the correct option to answer your question.

3. Full form of SQL is:
A) Strut querying language
B) Structured Query Language
C) Simple Query Language
D) None of them

Answer : B(Structured Query Language)

4. Full form of DDL is:
A) Descriptive Designed Language
B) Data Definition Language
C) Data Descriptive Language
D) None of the above.

Answer : B(Data Definition Language)

5. DML is:
A) Data Manipulation Language
B) Data Management Language
C) Data Modeling Language
D) None of these

Answer : A(Data Manipulation Language)

6. Which of the following statements can be used to create a table with column B int type and C float type?
A) Table A (B int, C float)
B) Create A (b int, C float)
C) Create Table A (B int,C float)
D) All of them

Answer : C(Create Table A (B int,C float))

7. Which of the following statements can be used to add a column D (float type) to the table A created
above?
A) Table A (D float)
B) Alter Table A ADD COLUMN D float
C) Table A(B int, C float, D float)
D) None of them

Answer : B(Alter Table A ADD COLUMN D float)

8. Which of the following statements can be used to drop the column added in the above question?
A) Table A Drop D
B) Alter Table A Drop Column D
C) Delete D from A
D) None of them

Answer : B(Alter Table A Drop Column D)

9. Which of the following statements can be used to change the data type (from float to int) of the column D of table A created in above questions?
A) Table A (D float int)
B) Alter Table A Alter Column D int
C) Alter Table A D float int
D) Alter table A Column D float to int

Answer : D(Alter table A Column D float to int)

10. Suppose we want to make Column B of Table A as primary key of the table. By which of the following
statements we can do it?
A) Alter Table A Add Constraint Primary Key B
B) Alter table (B primary key)
C) Alter Table A Add Primary key B
D) None of them

Answer : C(Alter Table A Add Primary key B)

Q11 to Q15 are subjective answer type questions, Answer them briefly.

11.What is data-warehouse?

Data warehouse is used a collect a multiple heterogenious files like DBMS etc.
The goal is to produce statistical results that mamy help to make a decisions.
A Data Warehouse is separate from DBMS, it stores huge amount of data, which is typically collected from multiple heterogeneous source like files, DBMS, etc. The goal is to produce statistical results that may help in decision makings. For example, a college might want to see quick different results, like how is the placement of CS students has improved over last 10 years, in terms of salaries, counts, etc. An ordinary Database can store MBs to GBs of data and that too for a specific purpose. For storing data of TB size, the storage shifted to Data Warehouse. Besides this, a transactional database doesn’t offer itself to analytics. To effectively perform analytics, an

organization keeps a central Data Warehouse to closely study its business by organizing, understanding and using its historic data for taking strategic decisions and analyzing trends.

12.What is the difference between OLTP VS OLAP?

In Database entire data is not store in sigle set. It will store in different sets like OLAP is one set and OLTP is another set of data which makes database faster and speed up precessing power in the database.

Online Analatics Processing (OLAP)	Online Transaction Processing (OLTP)
OLAP data can also say that historical data. Which contain older data that have been used but not currently working on it. e.g Suppose in banking sectors some data have which has account closed or transactions completed. These type of data are not used in day to day life.	OLTP is contains a current data. In this data user work day to day life. With a same banking sector example: Non cloased account transaction and debiting a money into the bank.
It is a part of Subject oriented.	It is part of Application oriented
By using historical data we can analyse and do some prediction on it or it helps to make a some decisions for company/organization growth.	It is used ony for day to day operations
It requires only read operation.	I requres both read and write operations.

13.What are the various characteristics of data-warehouse?

Subject-oriented –
A data warehouse is always a subject oriented as it delivers information about a theme instead of organization’s current operations. It can be achieved on specific theme. That means the data warehousing process is proposed to handle with a specific theme which is more defined. These themes can be sales, distributions, marketing etc.

A data warehouse never put emphasis only current operations. Instead, it focuses on demonstrating and analysis of data to make various decision. It also delivers an easy and precise demonstration around particular theme by eliminating data which is not required to make the decisions.

Integrated –
It is somewhere same as subject orientation which is made in a reliable format. Integration means founding a shared entity to scale the all similar data from the different databases. The data also required to be resided into various data warehouse in shared and generally granted manner.

A data warehouse is built by integrating data from various sources of data such that a mainframe and a relational database. In addition, it must have reliable naming conventions, format and codes. Integration of data warehouse benefits in effective analysis of data. Reliability in naming conventions, column scaling, encoding structure etc. should be confirmed. Integration of data warehouse handles various subject related warehouse.

Time-Variant –

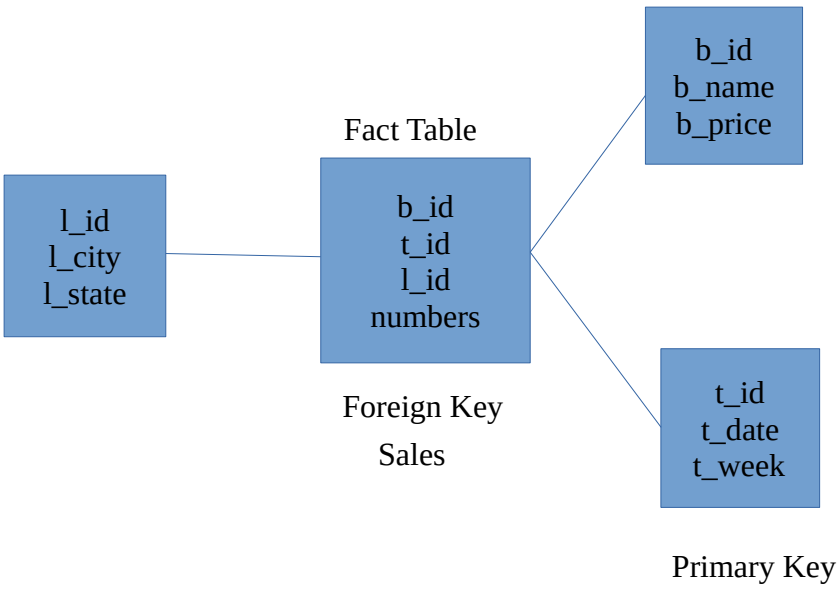
In this data is maintained via different intervals of time such as weekly, monthly, or annually etc. It founds various time limit which are structured between the large datasets and are held in online transaction process (OLTP). The time limits for data warehouse is wide-ranged than that of operational systems. The data resided in data warehouse is predictable with a specific interval of time and delivers information from the historical perspective. It comprises elements of time explicitly or implicitly. Another feature of time-variance is that once data is stored in the data warehouse then it cannot be modified, alter, or updated.

Non-Volatile –
As the name defines the data resided in data warehouse is permanent. It also means that data is not erased or deleted when new data is inserted. It includes the mammoth quantity of data that is inserted into modification between the selected quantity on logical business. It evaluates the analysis within the technologies of warehouse.

In this, data is read-only and refreshed at particular intervals. This is beneficial in analysing historical data and in comprehension the functionality. It does not need transaction process, recapture and concurrency control mechanism. Functionalities such as delete, update, and insert that are done in an operational application are lost in data warehouse environment. Two types of data operations done in the data warehouse are:
Data Loading
Data Access

14.What is Star-Schema?
A schema is a collection of database objects, including tables, views indexes etc.
In Data Warehouse schems have different types of schemas and there are:
Star schema
Snowflake schema
Fact constellation schema

Star Schema:
In star schema there is a fact table which includes attributes and dimensions. In each dimension having single dimension table from a fact table. All respective dimension tables having same attributes. In terms of database fact tables contains a foreign keys and each respective dimension tables contains a primary key.



15.What do you mean by SETL?

Extraction:

The first step of the ETL process is extraction. In this step, data from various source systems is extracted which can be in various formats like relational databases, No SQL, XML and flat files into the staging area. It is important to extract the data from various source systems and store it into the staging area first and not directly into the data warehouse because the extracted data is in various formats and can be corrupted also. Hence loading it directly into the data warehouse may damage it and rollback will be much more difficult. Therefore, this is one of the most important steps of ETL process.

Transformation:

The second step of the ETL process is transformation. In this step, a set of rules or functions are applied on the extracted data to convert it into a single standard format. It may involve following processes/tasks:

Filtering – loading only certain attributes into the data warehouse.

- Cleaning – filling up the NULL values with some default values, mapping U.S.A, United States and America into USA, etc.
- Joining – joining multiple attributes into one.
- Splitting – splitting a single attribute into multipe attributes.
- Sorting – sorting tuples on the basis of some attribute (generally key-attribbute).

Loading:

The third and final step of the ETL process is loading. In this step, the transformed data is finally loaded into the data warehouse. Sometimes the data is updated by loading into the data warehouse very frequently and sometimes it is done after longer but regular intervals. The rate and period of loading solely depends on the requirements and varies from system to system.