SQL_WORKSHEET_ 1

1	Which of the following is/are DDL commands in SQL? A) Create B) Update C) Delete D) ALTER
Answer	**A : Create and B: Alter**
2	Which of the following is/are DDL commands in SQL? A) Create B) Update C) Delete D) ALTER
Answer	**B: update and C: Delete**
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

<table>
<tr><td>Answer</td><td>C) Alter Table A Add Primary key B</td></tr>
<tr><td>11</td><td>What is data-warehouse?</td></tr>
<tr><td>Answer</td><td>Data-warehouse is the central repository or collection of data. It contains data from different departments or systems of an organization integrated together into a central repository, so that we can get the data from a single repository whenever required for analysis or other tasks.</td></tr>
<tr><td>12</td><td>What is the difference between OLTP VS OLAP?</td></tr>
<tr><td>Answer</td><td>Online Analytical Processing (OLAP): Online Analytical Processing consists of a type of software tools that are used for data analysis for business decisions. Olap provides an environment to get insights from the database retrieved from multiple database systems at one time. Examples – Any type of Data warehouse system is an OLAP system. The uses of olap are as follows:
Spotify analyzed songs by users to come up with a personalized homepage of their songs and playlist.
Netflix movie recommendation system.
Online transaction processing (OLTP): Online transaction processing provides transaction-oriented applications in a 3-tier architecture OLTP administers the day-to-day transactions of an organization.
Examples: Uses of OLTP are as follows:
ATM center is an OLTP application.
OLTP handles the ACID properties during data transactions via the application.
It’s also used for Online banking, Online airline ticket booking, sending a text message, add a book to the shopping cart.

Comparisons of OLAP vs OLTP :

<table>
<tr><td>Sr. No.</td><td>Category</td><td>OLAP (Online analytical processing)</td><td>OLTP (Online transaction processing)</td></tr>
<tr><td>1.</td><td>Definition</td><td>It is well-known as an online database query management system.</td><td>It is well-known as an online database modifying system.</td></tr>
<tr><td>2.</td><td>Data source</td><td>Consists of historical data from various</td><td>Consists of only of operational current data.</td></tr>
<tr><td>3.</td><td>Method used</td><td>It makes use of a data warehouse.</td><td>It makes use of a standard database management</td></tr>
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		4.	Application	It is subject-oriented. Used for Data Mining, Analytics, Decisions making, etc.	It is application-oriented. Used for business tasks.	
		5.	Normalized	In an OLAP database, tables are not	In an OLTP database, tables are normalized	
		6.	Usage of data	The data is used in planning, problem-solving, and decision-making.	The data is used to perform day-to-day fundamental operations.	
		7.	Task	It provides a multi-dimensional view of	It reveals a snapshot of present business tasks.	
		8.	Purpose	It serves the purpose to extract information for analysis and decision-making.	It serves the purpose to Insert, Update, and Delete information from the database.	
		9.	Volume of data	A large amount of data is stored typically in TB, PB	The size of the data is relatively small as the historical data is archived. For ex MB, GB	
		10.	Queries	Relatively slow as the amount of data involved is large. Queries may take hours.	Very Fast as the queries operate on 5% of the data.	

		11.	Update	The OLAP database is not often updated. As a result, data integrity is	The data integrity constraint must be maintained in an OLTP	
		12.	Backup and Recovery	It only need backup from time to time as compared to OLTP.	Backup and recovery process is maintained rigorously	
		13.	Processing time	The processing of complex queries can take a lengthy time.	It is comparatively fast in processing because of simple and straightforward queries.	
		14.	Types of users	This data is generally managed by CEO, MD, GM.	This data is managed by clerks, managers.	
		15.	Operations	Only read and rarely write operation.	Both read and write operations.	
		16.	Updates	With lengthy, scheduled batch operations, data is refreshed on a regular	The user initiates data updates, which are brief and quick.	
		17.	Nature of audience	Process that is focused on the customer.	Process that is focused on the market.	
		18.	Database Design	Design with a focus on the subject.	Design that is focused on the application.	
13	What are the various characteristics of data-warehouse?					

Answer	Data warehouse can be controlled when the user has a shared way of explaining the trends that are introduced as specific subject. Below are major 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
14	What is Star-Schema??
Answer	A star schema is a database organizational structure optimized for use in a data warehouse or business intelligence that uses a single large fact table to store transactional or measured data, and one or more smaller dimensional tables that store attributes about the data. It is called a star schema because the fact table sits at the center of the logical diagram, and the small dimensional tables branch off to form the points of the star. A fact table sits at the center of a star schema database, and each star schema database only has a single fact table. The fact table contains the specific measurable (or quantifiable) primary data to be analyzed, such as sales records, logged performance data or financial data. It may be transactional -- in that rows are added as events happen -- or it may be a snapshot of historical data up to a point in time. How a star schema works The fact table stores two types of information: numeric values and dimension attribute values. Using a sales database as an example: **Numeric value cells** are unique to each row or data point and do not correlate or relate to data stored in other rows. These might be facts about a transaction, such as an order ID, total amount, net profit, order quantity or exact time. **The dimension attribute values** do not directly store data, but they store the foreign key value for a row in a related dimensional table. Many rows in the fact table will reference this type of information. So, for example, it might store the sales employee ID, a date value, a product ID or a branch office ID. **Dimension tables** store supporting information to the fact table. Each star schema database has at least one dimension table, but will often have many. Each dimension table will relate to a column in the fact table with a dimension value, and will store additional information about that value. For example: The **employee dimension table** may use the employee ID as a key value and can contain information such as the employee's name, gender, address or phone number. A **product dimension table** may store information such as the product name, manufacture cost, color or first date on market. Optimized for querying large data sets, star schemas are primarily used in data warehouses and data marts for BI and analytics, among other applications. Organizations should carefully construct a star schema. Each table should have either fact data or dimension data, and avoid mixing the two. Consider the total number of dimension tables to maximize performance. Also, consider the granularity of the data captured to optimize for the types of queries that will be run. For example, determine if the exact time should be used or just the date, or if the monetary values should be recorded to the dollar or rounded to the thousandth place. Optimized for querying large data sets, data warehouses and data marts, star schemas support online analytical processing (OLAP)cubes, analytic application, ad hoc queries and business intelligence (BI). They also support count, sum, average and other rapid aggregations of many fact records. Users can filter and group (sliced and diced) these aggregations by dimensions. For example, users can generate queries such as "find all sales

	records in the month of June" or "get the total revenue for the Texas office from 2020" quickly.
15	What do you mean by SETL?
Answer	SETL are the operations of Select Extract Transform Load. Select operation means selecting the data which we want to analyse. Extract operation includes connecting to the data source and pulling out the data. Transform operation includes converting the data into a standard form before pushing the data in to a schema. Load means loading the data into data warehouse.