**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

2. Which of the following is/are DML commands in SQL?

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

4. Full form of DDL is:

A) Descriptive Designed Language B) Data Definition Language

C) Data Descriptive Language D) None of the above.

5. DML is:

A) Data Manipulation Language B) Data Management Language

C) Data Modeling Language D) None of these

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

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

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

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

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

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

11. What is data-warehouse?

A **Data Warehousing** (DW) is process for collecting and managing data from varied sources to provide meaningful business insights. A Data warehouse is typically used to connect and analyze business data from heterogeneous sources. The data warehouse is the core of the BI system which is built for data analysis and reporting.

It is a blend of technologies and components which aids the strategic use of data. It is electronic storage of a large amount of information by a business which is designed for query and analysis instead of transaction processing. It is a process of transforming data into information and making it available to users in a timely manner to make a difference.

12. What is the difference between OLTP VS OLAP?

OLTP is operational, while OLAP is informational. A glance at the key features of both kinds of processing illustrates their fundamental differences, and how they work together.

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| --- | --- | --- |
|  | **OLTP** | **OLAP** |
| **Characteristics** | Handles a large number of small transactions | Handles large volumes of data with complex queries |
| **Query types** | Simple standardized queries | Complex queries |
| **Operations** | Based on INSERT, UPDATE, DELETE commands | Based on SELECT commands to aggregate data for reporting |
| **Response time** | Milliseconds | Seconds, minutes, or hours depending on the amount of data to process |
| **Design** | Industry-specific, such as retail, manufacturing, or banking | Subject-specific, such as sales, inventory, or marketing |
| **Source** | Transactions | Aggregated data from transactions |
| **Purpose** | Control and run essential business operations in real time | Plan, solve problems, support decisions, discover hidden insights |
| **Data updates** | Short, fast updates initiated by user | Data periodically refreshed with scheduled, long-running batch jobs |
| **Space requirements** | Generally small if historical data is archived | Generally large due to aggregating large datasets |
| **Backup and recovery** | Regular backups required to ensure business continuity and meet legal and governance requirements | Lost data can be reloaded from OLTP database as needed in lieu of regular backups |
| **Productivity** | Increases productivity of end users | Increases productivity of business managers, data analysts, and executives |
| **Data view** | Lists day-to-day business transactions | Multi-dimensional view of enterprise data |
| **User examples** | Customer-facing personnel, clerks, online shoppers | Knowledge workers such as data analysts, business analysts, and executives |
| **Database design** | Normalized databases for efficiency | Denormalized databases for analysis |

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

There are three prominent data warehouse characteristics:

* **Integrated**: The way data is extracted and transformed is uniform, regardless of the original source.
* **Time-variant**: Data is organized via time-periods (weekly, monthly, annually, etc.).
* **Non-volatile**: A data warehouse is not updated in real-time. It is periodically updated via the uploading of data, protecting it from the influence of momentary change

14. What is Star-Schema?

In [computing](https://en.wikipedia.org/wiki/Computing), the **star schema** is the simplest style of [data mart](https://en.wikipedia.org/wiki/Data_mart) [schema](https://en.wikipedia.org/wiki/Logical_schema) and is the approach most widely used to develop data warehouses and dimensional data marts.[[1]](https://en.wikipedia.org/wiki/Star_schema#cite_note-1) The star schema consists of one or more [fact tables](https://en.wikipedia.org/wiki/Fact_table) referencing any number of [dimension tables](https://en.wikipedia.org/wiki/Dimension_(data_warehouse)). The star schema is an important special case of the [snowflake schema](https://en.wikipedia.org/wiki/Snowflake_schema), and is more effective for handling simpler queries.[[2]](https://en.wikipedia.org/wiki/Star_schema#cite_note-2)

The star schema gets its name from the [physical model's](https://en.wikipedia.org/wiki/Physical_data_model)[[3]](https://en.wikipedia.org/wiki/Star_schema#cite_note-Date-IntroToDBMS-3) resemblance to a [star shape](https://en.wikipedia.org/wiki/Star_polygon) with a fact table at its center and the dimension tables surrounding it representing the star's points.

15. What do you mean by SETL?

 Set Theory as a Language (or Set Language), SETL is a [high-level programming language](https://www.webopedia.com/TERM/H/high_level_language.html) that's based on the mathematical theory of sets. It was developed in the early 1970's by mathematician Professor J. Schwartz. SETL is an interpreted language with a [syntax](https://www.webopedia.com/TERM/S/syntax.html) that is resembles [C](https://www.webopedia.com/TERM/C/C.html) and in many cases similar to [Perl](https://www.webopedia.com/TERM/P/Perl.html). In SETL every statement is terminated by a semicolon. [Variable](https://www.webopedia.com/TERM/V/variable.html) names are case-insensitive and are automatically determined by their last assignment.