Solved SQL Worksheet

1. Which of the following are TCL commands?
   A. Commit
   B. Select
   C. Rollback
   D. Savepoint

   Ans.- A. Commit
         C. Rollback
         D. Savepoint

2. Which of the following are DDL commands?
   A. Create
   B. Select
   C. Drop
   D. Alter

   Ans.- A. Create
          C. Drop
          D. Alter

3. Which of the following is a legal expression in SQL?
   A. SELECT NULL FROM SALES;
   B. SELECT NAME FROM SALES;
   C. SELECT * FROM SALES WHEN PRICE = NULL;
   D. SELECT # FROM SALES;

   Ans.- B. SELECT NAME FROM SALES;

4. DCL provides commands to perform actions like-
   A. Change the structure of Tables
   B. Insert, Update or Delete Records and Values
   C. Authorizing Access and other control over Database
   D. None of the above

   Ans.- C. Authorizing Access and other control over Database

5. Which of the following should be enclosed in double quotes?
   A. Dates
   B. Column Alias
   C. String
   D. All of the mentioned
Ans.- B. Column Alias

6. Which of the following command makes the updates performed by the transaction permanent in the database?
   A. ROLLBACK
   B. COMMIT
   C. TRUNCATE
   D. DELETE
Ans.- B. COMMIT

7. A subquery in an SQL Select statement is enclosed in:
   A. Parenthesis - (...).
   B. brackets - [...].
   C. CAPITAL LETTERS.
   D. braces - {...}.
Ans.- A. Parenthesis - (...).

8. The result of a SQL SELECT statement is a :-
   A. FILE
   B. REPORT
   C. TABLE
   D. FORM
Ans.- C. TABLE

9. Which of the following do you need to consider when you make a table in a SQL?
   A. Data types
   B. Primary keys
   C. Default values
   D. All of the mentioned
Ans.- D. All of the mentioned

10. If you don't specify ASC and DESC after a SQL ORDER BY clause, the
   following is used by____?
   A. ASC
   B. DESC
   C. There is no default value
   D. None of the mentioned
Ans.- A. ASC

_____

11. What is denormalization?
Ans.

   Denormalization is a technique used by database administrators to optimize the efficiency of their database infrastructure. This method allows us to add redundant data into a normalized database to alleviate issues with database queries that merge data from several tables into a single table. The denormalization concept is based on the definition of normalization that is defined as arranging a database into tables correctly for a particular purpose.

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12. What is a database cursor?
Ans.

   A database cursor is an identifier associated with a group of rows. It is, in a sense, a pointer to the current row in a buffer.
One must use a cursor in the following cases:
   • Statements that return more than one row of data from the database server:
       o A SELECT statement requires a select cursor.
       o An EXECUTE FUNCTION statement requires a function cursor.
   • An INSERT statement that sends more than one row of data to the database server requires an insert cursor.

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13. What are the different types of the queries?
Ans. The different types of queries-

   • DDL (Data Definition Language)- DDL changes the structure of the table like creating a table, deleting a table, altering a table, etc. All the command of DDL are auto-committed that means it permanently save all the changes in the database. Here are some commands that come under DDL:
       ▪ CREATE It is used to create a new table in the database.

- **DROP:** It is used to delete both the structure and record stored in the table.
- **ALTER:** It is used to alter the structure of the database. This change could be either to modify the characteristics of an existing attribute or probably to add a new attribute.
- **TRUNCATE:** It is used to delete all the rows from the table and free the space containing the table.

- Data Manipulation Language (DML): DML commands are used to modify the database. It is responsible for all form of changes in the database. The command of DML is not auto-committed that means it can't permanently save all the changes in the database. They can be rollback. Here are some commands that come under DDL:
  - **INSERT:** The INSERT statement is a SQL query. It is used to insert data into the row of a table.
  - **UPDATE:** This command is used to update or modify the value of a column in the table.
  - **DELETE:** It is used to remove one or more row from a table.

- Data Control Language (DCL): DCL commands are used to grant and take back authority from any database user. Here are some commands that come under DCL:
  - **Grant:** It is used to give user access privileges to a database.
  - **Revoke:** It is used to take back permissions from the user.

- Transaction Control Language (TCL): TCL commands can only use with DML commands like INSERT, DELETE and UPDATE only These operations are automatically committed in the database that's why they cannot be used while creating tables or dropping them. Here are some commands that come under TCL:
  - **Commit:** Commit command is used to save all the transactions to the database.
  - **Rollback:** Rollback command is used to undo transactions that have not already been saved to the database.
  - **SAVEPOINT:** It is used to roll the transaction back to a certain point without rolling back the entire transaction.

- Data Query Language: DQL is used to fetch the data from the database. It uses only one command:
  - **SELECT:** This is the same as the projection operation of relational algebra. It is used to select the attribute based on the condition described by WHERE clause.

14. Define constraint?

Constraints are the set of rules that ensures that when an authorized user modifies the database they do not disturb the data consistency and the constraints are specified within the DDL commands like "alter" and "create" command. Constraints enforce limits to the data or type of data that can be inserted/updated/deleted from a table. The whole purpose of constraints is to maintain the data integrity during an update/delete/insert into a table.

15. What is auto increment?

Auto-increment allows a unique number to be generated automatically when a new record is inserted into a table. Often this is the primary key field that we would like to be created automatically every time a new record is inserted.