SQL report 1

1.Downloaded and installed SQL server and SSMS.

2.Restored AventureWorks2019 to the sql server

DBMS: It is a software, which is used to manage the database

SQL server:

Note:

\*SQL is also called Sequel it stands for Structured English Query Language

\* It is a non-procedural language that is used to communicate with any database such as Oracle, SQL Server, etc.

\* SQL is not a case-sensitive language it means that all the commands of SQL are not case sensitive

\* Every command of SQL should end with a semicolon (;) (It is optional for SQL Server)

\*SQL can be called NLI (Natural Language Interface)

SQL Server is a relational database management system (RDBMS) which is developed by Microsoft. It is also called MS SQL Server.

This product is built on the basic function of storing and retrieving data as required by other applications.

Database types in SQL server:

1.System database:

databases which are created and managed by the SQL Server itself called System databases.

2. User Databases:

databases which are created and managed by the user are called User Databases.

SQL server database creation:

Method-1

1. Right Click on the Databases folder in the Object Explorer
2. Select New Database
3. In the New Database dialog box, enter the Database name and click the OK button.

Method-2

By using Query

The syntax for creating a database in SQL Server: Create database <Database Name>

For creating:

Select the query and Click on either Execute option

Two files are generated:

1.MDF file: Master data file

Contains actual data and store all Tables data and will be saved with an extension of .mdf

2.LDF: Log data file

Used to recover the database. store transaction Query information (insert, update, delete. Create, etc) and saved with an extension of .ldf

Rename database command:

Alterdatabase DatabaseName Modify Name = NewDatabaseName

**SQL data types:**

1. Integer data types
2. Decimal data types
3. Money / currency data types
4. Date and Time data types
5. Character data types
6. Binary data types
7. Special data types

**SQL contains the following sublanguages**

1. **DDL** (5 commands- create, alter, sp\_rename, drop, truncate)
2. **DML** (3 commands- Insert, Update, Delete).
3. **DQL/ DRL** (1 command- select).
4. **TCL** (3 commands- commit, rollback, savepoint)
5. **DCL** (2 commands- Grant, Revoke).

SQL QUERIES

Create:

creating table

CREATE TABLE table\_name (

column1 datatype,

column2 datatype,

column3 datatype,

....

);

Alter:

used to add, delete, or modify columns in an existing table.

also used to add and drop various constraints on an existing table.

**Adding column**

ALTER TABLE table\_name

ADD column\_name datatype;

**Deleting column**

ALTER TABLE table\_name

DROP COLUMN column\_name;

**Changing datatype**

ALTER TABLE table\_name

ALTER COLUMN column\_name datatype;

Rename

Renaming table name

ALTER TABLE table\_name

RENAME TO new\_table\_name;

**Renaming column name**

ALTER TABLE table\_name

RENAME COLUMN old\_name TO new\_name;

Drop

used to drop an existing table in a database.

DROP TABLE table\_name;

Truncate

used to delete the data inside a table, but not the table itself.

TRUNCATE TABLE table\_name;

Insert

**Inserting data**

INSERT INTO table\_name (column1, column2, column3, ...)

VALUES (value1, value2, value3, ...);

Or

insert into tablename values('',''),('','')

update

UPDATE statement is used to modify the existing records in a table.

update tablename set column = value where id=value

or

UPDATE table\_name

SET column1 = value1, column2 = value2, ...

WHERE condition;

Delete

\*used to delete existing records in a table.

DELETE FROM table\_name WHERE condition;

\*delete all rows in a table without deleting the table.

DELETE FROM table\_name;

Select

want to select all the fields available in the table

select \* from tablename

displays only selected ones

SELECT CustomerName, City FROM Customers;

Commit

COMMIT in SQL is a transaction control language that is used to permanently save the changes done in the transaction in tables/databases.

The database cannot regain its previous state after its execution of commit.

SELECT \*

FROM tablename

WHERE columnname = value;

COMMIT;

Rollback

ROLLBACK in SQL is a transactional control language that is used to undo the transactions that have not been saved in the database.

The command is only been used to undo changes since the last COMMIT.

SELECT \*

FROM EMPLOYEES

WHERE ALLOWANCE = 400;

ROLLBACK;

savepoint

A SAVEPOINT is a point in a transaction in which you can roll the transaction back to a certain point without rolling back the entire transaction.

**Creating savepoint:**

SAVEPOINT SAVEPOINT\_NAME;

**rolling back to Savepoint command:**

ROLLBACK TO SAVEPOINT\_NAME;

Grant

SQL Grant command is specifically used to provide privileges to database objects for a user. This command also allows users to grant permissions to other users too.

grant privilege\_name on object\_name

to {user\_name | public | role\_name}

Revoke :

Revoke command withdraw user privileges on database objects if any granted.

revoke privilege\_name on object\_name

from {user\_name | public | role\_name}

Practice:

