**Assignment 4**

**1.Explain different types of views. Demonstrate with suitable examples.**

Simple View: Simple views are views that are created on a single table. We can perform only basic SQL operations in simple views. That means, we cannot perform analytical and aggregate operations by grouping, sets, etc. in simple views. We can definitely perform insert, update, delete directly from a simple view, but for that, we must have the primary key column in the view.

Example:

CREATE VIEW employee\_dept1\_view AS

SELECT \* FROM employee

WHERE department\_id = 'D01';

Complex View: Complex views as the name suggest are a bit complicated compared to simple views. Complex views are created on more than one database table. We can perform analytical and aggregate operations in complex views, but unlike simple views, we cannot perform insert, delete, and update directly from a complex view.

Example:

CREATE VIEW employee\_details AS

SELECT e.employee\_name,

e.salary,

e.highest\_qualification,

d.department\_name,

d.location

FROM

employee as e JOIN departments as d

ON e.department\_id = d.department\_id;

**2. What is the difference between function and stored procedure? Write syntax for creating functions and stored procedure.**

The function must return a value, but in Stored procedure it is optional. Even a stored procedure can return zero or n values.

Functions can be called from Stored procedures while a Stored procedure cannot be called from a function.

The procedure allows to write INSERT, UPDATE, DELETE statements with SELECT statement while function only allows SELECT statement.

Procedures cannot be utilized in a SELECT statement while a function can be embedded in a SELECT statement.

Stored procedures cannot be used in SQL statements like WHERE/HAVING/SELECT statement whereas functions can be used.

We can use transactions in Stored procedures while transactions cannot be used in functions.

**3. What is indexing in sql? What are the different types of sql?**

An index is a schema object. It is used by the server to speed up the retrieval of rows by using a pointer. It can reduce disk I/O by using rapid path access method to locate data quickly.

Types of Indexing:

Clustered index

Non-Clustered index

Unique Index

Filtered index

Columnstore index

Hash Index

**4.Showcase an example of exception handling in sql stored procedure?**

Create table student(

Id int not null,

Name varchar(100),

Primary key(Id)

)

Insert student(1,’Dhivya’)

Insert student(2,’priya’)

Select \* from student

Create procedure insert\_procedure @id int, @name varchar(100)

As

Begin try

Begin transaction

Insert into student(id, name) values (@id,@name);

Commit transaction

End try

Begin catch

Print(error\_message())

End catch

End

Execute insert\_procedure @id = 2, @name = ‘Kayal’

Id is primary key for student table. Id 2 is already present in student table. The code handle the exception when insert the same number 2

**5. create a sql function to split strings into rows on a given character?**

Select \* from string\_split(‘Stephan;peter;berry;oliver;caroline’,’;’)

**6. What is temporary and a variable table? Write suitable syntax to create temporary table and variable table?**

Temporary table or temp-Table is created on disk in the tempDB system database. The name of this temp-table is suffixed with a session-specific ID so that is can be differentiated with other similar named tables created in other sessions. The name is limited to 116 chars.

Syntax: Create table #temptable (column1 datatype)

A table variable is also created on disk in the tempDB system database. But the name of this table variable is generated completely by the sql engine and it also differs with other similar named tables created in same or other sessions.

Syntax: Declare @tablevar table(column1 datatype)