Page No.
Date

Assignment - 02

* Date of Completion: 26th August - 2020
* Date of Submission: 14th September - 2020
* Title: Implement DDL commands in context of view, index, sequence
* Problem Statement: Design and develop SQL DDL statements which demonstrate the use of SQL objects such as creation of Table, View, Index, Sequence, Synonym
* Objective:
  - To understand and implement the various DDL commands.
  - To understand database concepts like view, index, sequence & synonym.
* Outcomes:-
  - We have understood & implemented the various DDL commands.
  - We have understood database concepts like view, index, sequence & synonym.
* S/W and H/W Requirements:-
  MySQL, Windows 10 (64 bit), i5 processors, intelliJ IDE, JDBC, etc.

* Theory:-

- View:-

In SQL, a view is a virtual table based on the result set of an SQL statement. A view contains rows and columns, just like a real table. The fields in a view are fields from one or more real tables in the database.

CREATE VIEW Syntax:

i) Simple view:

- Simple view in SQL is the view created by involving on single table.

create view view_name as select column1, column2, from table_name [where][condition];

ii) Complex View:

- complex view is created by involving more than one table

create view view_name as select col1, col2.... from table1, table2 where table1.col = table2.col

iii) Drop view:

drop view view_name;

Teacher's Sign.: _____

NOTE 5 PRO
CAMERA

INDEX:-

Indexes are special lookup tables that database search engine can use to speed up data retrieval. Simply, put an index is a pointer to data in a table.

An index helps to speed up SELECT queries and WHERE clauses, but it slows down data input with UPDATE & INSERT statements.

i) SIMPLE INDEX:
- create index on one column

Syntax: create index index_name on table_name (column_name);

ii) COMPOUND INDEX:
- create index on multiple selected columns of the table

Syntax: create index index_name on table_name (column_name1, column_name2);

iii) UNIQUE INDEX:
- create on selected column of the database table & does not allow duplicate values of that column.

Syntax: create unique index index_name on table_name (column_name);

iv) SHOW INDEX:
- shows all indexes created on table.

Syntax: show index from table_name;

v) DROP INDEX:

- drops the given index

Syntax: alter table table_name drop index index_name;

SEQUENCE:

- A sequence is a user defined schema bound object that generates a sequence of numeric values.
- Sequences are frequently used in many databases because many applications require to each row in a table to contain a unique value and sequences provides an easy way to generate them

Syntax: Using auto_increment

create table table_name (col1 type not null auto_increment, primary_key (col1), col2 type);

SYNONYM:

- Supported by ORACLE

- A synonym is an alternative name for objects such as tables, views, sequences, stored procedures and other database objects.
- You generally use synonyms when you are granting access to an object from another schema & you don't want the users to have to worry about knowing which schema owns the object.

Teacher's Sign.: _____

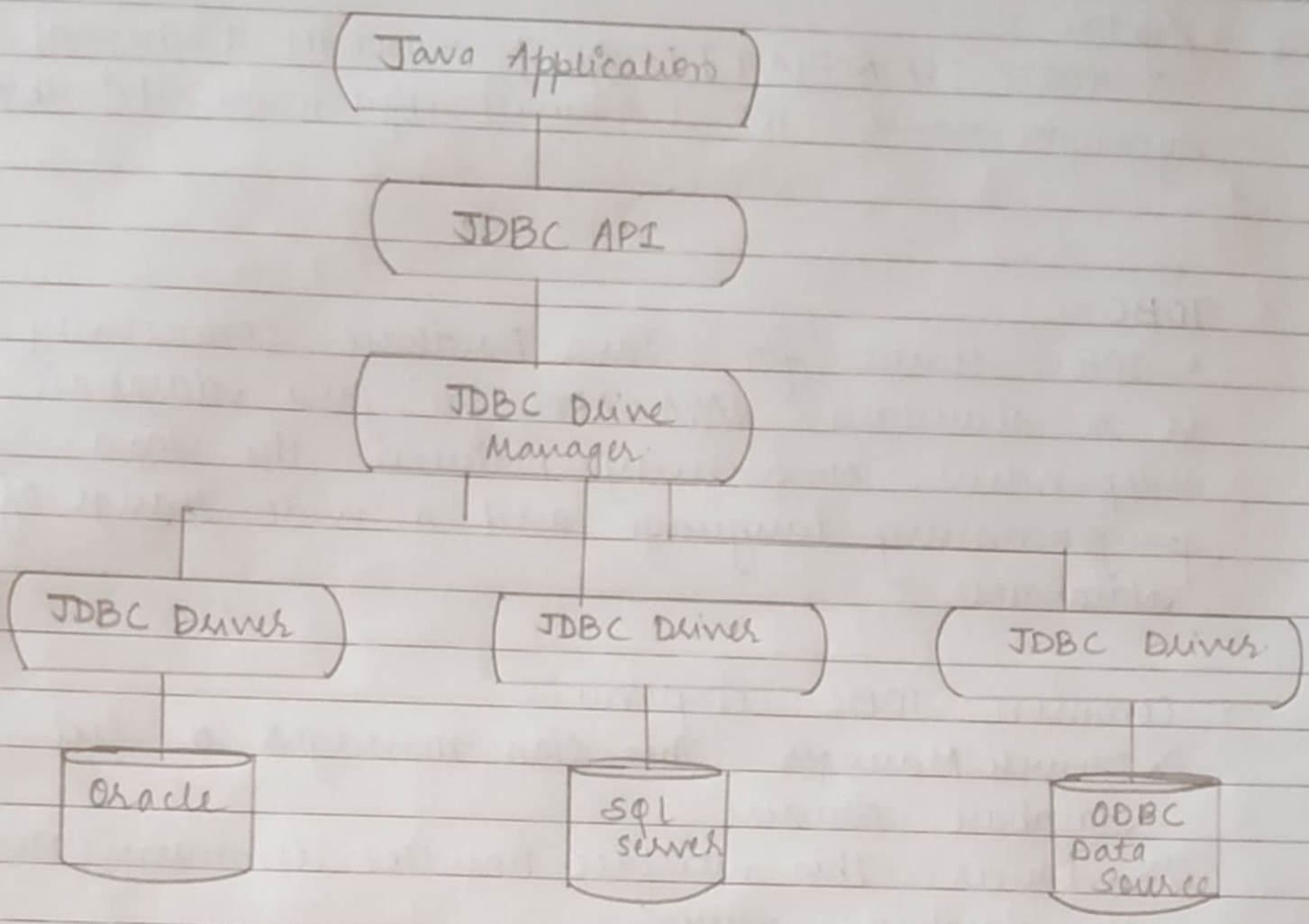
Syntax:

CREATE [OR REPLACE] [PUBLIC] SYNONYM [schema] synonym_name FOR [schema.] object_name [@ dblink];

JDBC

- JDBC stands for Java Database connectivity which is a standard JAVA API for java database independent connectivity between the Java programming language and a wide range of databases.

- Common JDBC components:
  i) Driver Manager - This class manages a list database drivers
  ii) Driver - This interface handles communications with database server.
  iii) Connection - This interface with all methods for contacting a database.
  iv) Statement - you use objects created from this interface to submit the SQL statements to the database.
  v) Resultset - these objects retrieves data from database after you execute SQL query using statement object
  vi) SQL Exception: This class handles any errors that occur in a database application.



Conclusion:

i) We understood how to create simple & complex views & also drop views in a database

ii) We understood how to create simple, compound & unique indexes on a table & also how to show & drop indexes

iii) We understood how to create sequences

iv) We understood how to create synonyms

v) We understood how to use JDBC to connect to our database in MySQL.