**Group A: Assignment No 2a**

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| **W (4)** | **C (4)** | **D (4)** | **V(4)** | **T (4)** | **Total(20)** | **Sign** |
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**Title of Assignment:** SQL DDL Statements

**Assignment Name: - Design and Develop SQLDDL statements which demonstrate the use of SQL objects such as Table, View, Index, Sequence, Synonym, different constraints etc.**

**Theory: -**

**Prerequisite:** Basics of RDBMS.

**Objective:**

* To learn and understand the concept and DDL queries of SQL Table,View and Index using MYSQL using 2-tier .

**New Concepts:**

**Introduction to MySQL Table DDL Commands.**

### CREATE Table

Use a [**CREATE TABLE**](http://dev.mysql.com/doc/refman/5.0/en/create-table.html) statement to specify the layout of your table:

mysql> **CREATE TABLE Student (roll\_no int (3) Primary key auto\_increment , name varchar(20) , age int(3));**

[VARCHAR](http://dev.mysql.com/doc/refman/5.0/en/char.html) is a good choice for the name, owner, and species columns because the column values vary in length. The lengths in those column definitions need not all be the same, and need not be 20. You can normally pick any length from 1 to 65535, whatever seems most reasonable to you.

### DESCRIBE Table

To verify that your table was created the way you expected, use a [DESCRIBE](http://dev.mysql.com/doc/refman/5.0/en/describe.html) statement:

mysql> **DESC Student;**

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| Field | Type | Null | Key | Default | Extra |

+-------------+---------------------+------+-----+---------+----------------+

| roll\_no | int (3) | NO | PRI | NULL | auto\_increment |

| name | varchar(20) | NO | | NULL | |

| age | int(3) | NO | | NULL | |

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**Constraints**

* **NOT NULL** - a value is required

**Example**

Create table stud (name varchar (20) not null);

* **UNIQUE** - the attribute value must be unique in the table

**Example**

Create table stud (rollno number(4) constraint uk1 unique key);

* **PRIMARY KEY** - unique and used to refer to tuples

**Example**

Create table stud (rollno number(4)constraint pk1 primary key)

* **FOREIGN KEY** – It refers to the another column which is primary key

**Syntax**:

Create table table\_name(Attr\_name Attr\_type(size)references table\_name(attr\_name))

**Example**

Create table stud1 (rollno number(4) references stud(rollno));

* **CHECK (condition)** - for general constraints on a table's contents.

**Example**

CHECK (rollno BETWEEN 1 AND 60)

**You can also add constraint after table creation using alter table option**

Eg Alter table stud add constraint **prk1** primary key(rollno);

**You can also drop constraint using Drop command & name of constraint**

Eg Drop constraint **prk1**;

### ALTER Table

The ALTER TABLE statement is used to add, delete, or modify columns in an existing table

**Syntax**

**Alter table table\_name**

**add/modify/drop**

**column\_name data\_type(size)**

**Example**

Following example shows use of Alter command. First example add new column Address in table and second example modify in size of age column. Third example shows how to drop column age.

**1> Alter table Student add Address varchar(30);**

**2> Alter table Student modify age int(5);**

**3> Alter table Student drop column age;**

## DROP Table

The DROP TABLE statement is used to delete a table.

DROP TABLE table\_name

**TRUNCATE TABLE**

What if we only want to delete the data inside the table, and not the table itself?

Then, use the TRUNCATE TABLE statement:

TRUNCATE TABLE table\_name

**VIEW in MySQL**

**CREATE VIEW Statement**

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.

**SQL CREATE VIEW Syntax**

CREATE VIEW view\_name AS  
SELECT column\_name(s)  
FROM table\_name  
WHERE condition

**SQL Dropping a View**

You can delete a view with the DROP VIEW command.

DROP VIEW view\_name

**INDEX in MySQL**

**Create Index Statement**

Index in SQL is created on existing tables to retrieve the rows quickly. When there are thousands of records in a table, retrieving information will take a long time. Therefore indexes are created on columns which are accessed frequently, so that the information can be retrieved quickly. Indexes can be created on a single column or a group of columns. When a index is created, it first sorts the data and then it assigns a ROWID for each row.

**Syntax to create Index:**

CREATE UNIQUE INDEX index\_name

ON table\_name ( column1, column2,...);

ALTER TABLE table\_name ADD INDEX index\_name (column\_name);

**Show Index Information**

show index from table\_name

Table | Non\_unique | Key\_name | Seq\_in\_index | Column\_name | Collation | Cardinality | Sub\_part | Packed | Null | Index\_type | Comment

**Drop Index**

ALTER TABLE table\_name DROP INDEX index\_name