CSE3012: Database Design Lab

**Worksheet 1**: DDL, DML

The first step in any Database lab is to start and connect to the MySQL/MariaDB database. Do that now. (This was shown in Lab 1)

**Tips for this Lab:**

* Use a **Text editor** such as Notepad to save your program.
* **Copy** and **Paste** your program from to command line to the Text editor. If the program works, save the program. Otherwise, fix the error and save it.
* Save your text file regularly.

**1. Creating table**

Suppose we need to store students’ result information in a table. The table will store each student’s student number, name, dept, cgpa and graduation date. Student number will be used to uniquely identify each student. Name of each student must be stored. Other data values can be stored later when required. With the data structures specifications below, create the required table.

|  |  |
| --- | --- |
| Attribute | Data type |
| *STD\_NO* | *char(7)* |
| *NAME* | *varchar(30)* |
| *DEPT* | *char(3),* |
| *CGPA* | decimal(3,2) |
| *GRAD\_DATE* | date |

**2. Inserting data in the table**

Insert the following data in the table:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| STD\_NO | NAME | DEPT | CGPA | GRAD\_DATE |
| 0711001 | Mashrafi | CSE | 3.91 | ’2003-11-15’ |
| 0711002 | Sakib | CSE | 3.52 | ’2008-08-01’ |
| 0711003 | Razzak | EEE | 3.56 | ’2006-01-23’ |
| 0711004 | Ashraful | EEE | 3.84 | ’2008-02-13’ |
| 0711005 | Rafique | MEC | 3.88 | ’2000-12-20’ |
| 0711006 | Shafiul | EEE | 3.57 | ’2007-03-25’ |
| 0711007 | Kapali | CHE | 3.87 | ’2003-11-15’ |
| 0711008 | Aftab | MEC | 3.25 | ’2006-01-23’ |
| 0711009 | Nafees | CSE | 3.95 | ’2006-01-23’ |
| 0711010 | Tamim | CSE | 3.81 | ’2007-03-23’ |
| 0711011 | Rajeen | CHE | 3.21 | ’2007-03-01’ |

*select \**

*from STD\_INFO ; // check to ensure that data has been Inserted*

**3.** **Update the following information in the table:**

1. Kapali’s dept was in fact CSE.
2. Tamim’s cgpa was 3.71 and GRAD\_DATE was ’2006-01-23’.

**4.a Deleting records from table:**

1. Delete Rajin’s (student no 0711011) records from table.
2. Delete those records from table where any student’s cgpa is less then 3.75.

**4.b Modify column from table** (use command after each change: *describe STD\_INFO;*):

1. Delete the column DEPT from the table.
2. Add the column DEPT in the table. Its type should be a variable character of length 10.
3. Change the column DEPT in the table. The length should be 3 instead.

**5. Deleting the entire table from database**

Now recreate the table and load with data before following next set of instructions.

**6. Retrieving information from table:**

Normal projection

1. Retrieve all records (all columns of all rows):
2. Retrieve only student no, names and cgpa:

Use of functions

1. Retrieve only name and marks (cgpa\*200+200).
2. Retrieve student no, name and dept only. Departments must be in uppercase letter.

Use of ‘distinct’

1. Retrieve only the dept names
2. Retrieve dept names but output must not have duplicated values

Use of ‘order by’

1. Retrieve dept names in alphabetical order (dictionary)
2. Retrieve student names in ascending order of graduation date and names
3. Retrieve student no, names and cgpa in descending order of cgpa and ascending order of names

Filtering Rows

1. Retrieve names of cse students:
2. Retrieve names, department, cgpa of those students whose cgpa is greater than 3.95
3. Retrieve names, departments, cgpa of those students whose cgpa is between 3.50 to 3.90 inclusive
4. Retrieve those student names whose departments are either cse or eee
5. Retrieve those student names whose graduation date is in the year 2008 and whose cgpa is greater than 3.70
6. Retrieve only those students records whose graduation date is not in the year 2007 and 2008.
7. Retrieve only those students records whose name starts with the letter ‘s’
8. Retrieve only those records whose names contains at least two ‘a’