

Expt. No. 1

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Expt. Name DATA DEFINITION LANGUAGE

Date: 11/7/2023

Aim:

To create Data definition Language (DDL) using mysql.

Algorithm:

Data Definition Language (DDL):

The DDL commands in structured query language are used to create and modify the Schema of the Database and its objects.

- * Create command
- * Alter command
- * Rename command
- * Drop Command
- * Truncate command

Table Name:

Student_personal_Details

Fields / Attributes:

- ~~Student_name~~
- Register_no
- Gender
- Address
- Email_id
- Phone_no
- Father_name
- Mother_name

```

        MySQL [(none)] > show databases;
+--------------------+
| Database           |
+--------------------+
| information_schema |
| mysql              |
| performance_schema |
| phpmyadmin         |
| sathyabamauniversity |
| test               |
| webauth            |

```

Database changed

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Database creation:

Syntax:

```

create database Database name;
mysql > create database Sathyabama university;
mysql > show database;

```

Database	Type	Collation
information_schema	System	latin1_swedish_ci
mysql	System	latin1_swedish_ci
performance_schema	System	latin1_swedish_ci
phpmyadmin	System	latin1_swedish_ci
sathyabamauniversity	User	latin1_swedish_ci
test	User	latin1_swedish_ci
webauth	User	latin1_swedish_ci

mysql > use Sathyabamauniversity;

Create command:

Create is a DDL command used to create Database, Tables, Triggers and other database commands.

mysql > Table created

Field	Type	Null	Key	Default	Extra
Student-Name	varchar(50)	yes		NULL	
Register-No	int(10)	yes		NULL	
Gender	varchar(10)	yes		NULL	
Address	varchar(50)	yes		NULL	
Email-ID	varchar(50)	yes		NULL	
Phone-Number	varchar(20)	yes		NULL	
Father-Name	varchar(50)	yes		NULL	
Mother-Name	varchar(50)	yes		NULL	

mysql > table altered

student - personal - details add (DOB)

Business - details add (Business - ID)

Business - details add (Business - Name)

Business - details add (Business - Address)

Business - details add (Business - Phone)

Business - details add (Business - Email)

Business - details add (Business - Father)

Business - details add (Business - Mother)

Business - details add (Business - Gender)

Business - details add (Business - Address)

Business - details add (Business - Phone)

Business - details add (Business - Email)

Business - details add (Business - Father)

Business - details add (Business - Mother)

Business - details add (Business - Gender)

Business - details add (Business - Address)

Business - details add (Business - Phone)

Business - details add (Business - Email)

Business - details add (Business - Father)

Business - details add (Business - Mother)

Business - details add (Business - Gender)

Business - details add (Business - Address)

Business - details add (Business - Phone)

Business - details add (Business - Email)

Business - details add (Business - Father)

Business - details add (Business - Mother)

Business - details add (Business - Gender)

Business - details add (Business - Address)

Business - details add (Business - Phone)

Business - details add (Business - Email)

Business - details add (Business - Father)

Business - details add (Business - Mother)

Business - details add (Business - Gender)

Business - details add (Business - Address)

Business - details add (Business - Phone)

Business - details add (Business - Email)

Business - details add (Business - Father)

Business - details add (Business - Mother)

Business - details add (Business - Gender)

Syntax:

create table tablename (column1 datatype, column2 datatype, column3 datatype, ..., column n datatype);

Create Table student-personal-Details (Student-name varchar(50), Register-No int(10), Gender varchar(10), Address varchar(100), Email-ID varchar(50), phone-number varchar(20), Father-name varchar(50), Mother-name varchar(50))

mysql > create table student-personal-Details;

Alter command:

Alter is a DDL command which changes or modifies the existing structure of the database it also change the schema of the Database objects.

Syntax: Alter table tablename and (Column datatype);

mysql > alter table student-personal-Details add (DOB

varchar(15));

mysql > alter table student-personal-Details add (Business-

ID int);

mysql > alter table student-personal-Details add (Business-

Name varchar(50));

mysql > alter table student-personal-Details add (Business-

Address varchar(100));

mysql > alter table student-personal-Details add (Business-

Phone varchar(20));

mysql > alter table student-personal-Details add (Business-

Email varchar(50));

mysql > alter table student-personal-Details add (Business-

Father varchar(50));

mysql > alter table student-personal-Details add (Business-

Mother varchar(50));

mysql > alter table student-personal-Details add (Business-

Gender varchar(10));

mysql > alter table student-personal-Details add (Business-

Address varchar(100));

mysql > alter table student-personal-Details add (Business-

Phone varchar(20));

mysql > alter table student-personal-Details add (Business-

Email varchar(50));

Field	Type	Null	Key	Default	Extra
Std-name	varchar(50)	yes		Null	
Register-no	int (10)	yes		Null	
Gender	varchar(10)	yes		Null	
Address	varchar(100)	yes	name	(01)	Null
Email_id	varchar(50)	yes	(01)	root	Null
Phone_no	varchar(20)	yes		Null	redacted
Father_name	varchar(50)	yes		Null	
Mother_name	varchar(50)	yes	title		Null
Dob	varchar(20)	yes		Null	

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mysql> desc student_personal_Details;

111	ex1	(01) address	student
111	ex2	(01) title	student
111	ex3	(01) address	student
111	ex4	(01) address	student
111	ex5	(01) address	student
111	ex6	(01) address	student
111	ex7	(01) address	student
111	ex8	(01) address	student
111	ex9	(01) address	student
111	ex10	(01) address	student

Syntax - 2:
Alter table tablename change column name new column name
datatype;

mysql> Alter table student_personal_Details change Std-name std-name varchar(50);

111	ex1	(01) address	student
111	ex2	(01) address	student
111	ex3	(01) address	student
111	ex4	(01) address	student
111	ex5	(01) address	student
111	ex6	(01) address	student
111	ex7	(01) address	student
111	ex8	(01) address	student
111	ex9	(01) address	student
111	ex10	(01) address	student

Field	Type	Null	Key	Default	Extra
Std-Name	varchar(50)	YES		NULL	
Register-No	int(10)	YES		NULL	
Gender	varchar(20)	YES		NULL	
Address	varchar(100)	YES		NULL	
Email-ID	varchar(50)	YES		NULL	
Phone-no	varchar(20)	YES		NULL	
Father-Name	varchar(50)	YES		NULL	
Mother-Name	varchar(50)	YES		NULL	

Field	Type	Null	Key	Default	Extra
Std-Name	varchar(50)	YES	NO	NULL	
Register-No	varchar(20)	YES	NO	NULL	
Gender	varchar(20)	YES	NO	NULL	
Address	varchar(100)	YES	NO	NULL	
Email-ID	varchar(50)	YES	NO	NULL	
Phone-no	varchar(20)	YES	NO	NULL	
Father-Name	varchar(50)	YES	NO	NULL	
Mother-Name	varchar(50)	YES	NO	NULL	

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Syntax - 3: Alter tablename drop columnname

mysql > alter table student-personal-details drop bob
Varchar (15);

mysql > desc student-personal-details;

Syntax - 4:

Alter table tablename modify column datatype;

mysql > alter student-personal-details modify register-no
Varchar (20);

mysql > desc student-personal-details;

Tables -in-sathya narauniiversity

staff-details

Student - personal - details

• What is the role of the government in the economy? (Q3) not answered

The table was deleted

Ms. in - satyabma university

staff-details

Tables in Sathuabama University

Staff data:

Std - pet.

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Drop Command:

Drop is a DDL Command used to delete or remove the database object from mysql database.

Syntax:

Drop table tablename;

MySql >drop table student-personal-details;

My sql > ~~Show tables~~

Rename command:

Rename is a DDL command used to change the name of the database table.

Syntax:

Rename table old-tablename to new-tablename.

mysql> rename table Student-personal-dobits;

Mysql > show tables;

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Truncate command:
Truncate is a DDL command which deletes or remove all the records from the table.

Syntax:
~~Truncate table tablename;~~

~~MySQL> Truncate table std-details;~~

Result:
~~Thus the program has been successfully executed.~~
~~18/10/23~~

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Expt. Name DATA MANIPULATION LANGUAGE Date: 19/7/23

Aim:

To write a program query language for data manipulation using SQL.

Program/queries/Application (DML):

DML is a structural query language which is used to access/modify/delete and update data in the database table.

The following four commands are used for DML application.

- * Select command
- * Insert Command
- * update command
- * Delete command

Select command:

It is a DML command used to retrieve specific information or entire information from the database table. It can also able to retrieve information from one or more tables.

Select command optional clauses

Clause	Description
WHERE	It specifies which rows to retrieve
GROUP BY	It is used to arrange data into groups
HAVING	It selects among the group defined by the group by clause
ORDER BY	It specifies an order in which to return the rows.
AS	It provides an alias which can be used to temporarily rename tables or columns.

Explain what is meant by a group by clause in SQL.

Ans: A group by clause is used to group records in a database into several groups based on fields grouped together in the query.

For example:

```
SELECT * FROM student WHERE branch = 'CSE'
```

This query will return all records from the student table where the branch is 'CSE'. If we want to group the results by branch, we can use the GROUP BY clause:

```
SELECT * FROM student GROUP BY branch
```

This query will return all records from the student table grouped by branch. The result will be:

Branch	Count
CSE	10
ECE	5
EEE	3
IT	2
MCA	1

So, the GROUP BY clause is used to group records in a database into several groups based on fields grouped together in the query.

MySQL > Table created

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INSERT command:

It is a DML command which is used to add one or more records / rows to the database table.

UPDATE command:

It is a DML command which is used to change one or more records / rows in existing database table.

DELETE command:

It is a DML command which is used to remove particular record / row or all the records from the database table.

Table Name: student_Academic_Details
Field / Attribute Name: Reg-No, Subject_Code, Branch_name,
Branch_Code, Semester, Marks, Section, Result

MySQL > Create Table student_Academic_Details (Reg-No int(10), Subject_Code varchar(10), Branch_name varchar(20), Branch_Code int(10), Semester int(10), Marks int(10), Section varchar(5), Result varchar(10));

Reg-No	Subject- code	Branch- Name	Branch- code	Semester	Marks	Sec	Result
42612001	SCSA1301	AI AND ROBOTICS	BUSN	3	100	A1	PASS
42612006	SCSA2301	AI AND ROBOTICS	BUSN	3	93	A1	PASS

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INSERT Command:	
Syntax: insert into <table-name> (column1, column2, ..., columnN) values (value1, value2, ..., valueN);	
MySQLs > insert into Student-Academic-Details (Reg-No, Subject-Code, Branch-Name, Branch-Code, Semester, Marks, Section, Result) values (42612001, 'SC6A1301', 'CSE-AI AND ROBOTICS', 8, 3, 92, 'A1-Pass');	
SELECT Command:	
Syntax: Select * from <table-name>;	
MySQLs > Select * from Student-Academic-Details;	

Reg-No	Subject - Code	Branch - name	Branch - code	Semester	marks	Section	Result
42612001	SCSA1301	AI AND ROBOTICS	8	3	100	A1	PASS
42612001	SCSA1302	AI AND ROBOTICS	8	3	99	A1	PASS
42612001	SCSA1303	AI AND ROBOTICS	8	3	98	A1	PASS
42612001	SCSA1304	AI AND ROBOTICS	8	3	97	A1	PASS
42612001	SCSA1305	AI AND ROBOTICS	8	3	96	A1	PASS
42612001	SCSA1306	AI AND ROBOTICS	8	3	95	A1	PASS

Reg-No	Subject - code	Branch - name	Branch - code	Semester	marks	Section	Result
42612001	SCSA1301	AI AND ROBOTICS	8	3	94	A1	PASS
42612001	SCSA1301	AI AND ROBOTICS	8	3	100	A1	PASS

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Query 2:

Syntax:

Select * from <table-name> where column name = row;

MySQL > select * from Student-Academic-Details where Reg-no = 42612001;

Query 3:

Syntax:

Select * from <table-name> order by rows;

MySQL > Select * from Student-Academic-Details order by marks;

Reg-No	Subject-Code	Branch-Name	Branch-Semester	Marks	Section	Result
42612001	SCSA1301	AI AND ROBOTICS	S1	3	100	A1 PASS
42612004	SCSA1301	AI AND ROBOTICS	S1	3	100	A1 PASS
42612006	SCSA1301	AI AND ROBOTICS	S1	3	91	A1 PASS

Reg-No	Subject-Code	Branch-name	Branch-Semester	Marks	Section	Result
42612001	SCSA1301	AI AND ROBOTICS	S1	3	100	A1 PASS
42612005	SCSA2301	AI AND ROBOTICS	S1	3	89	A1 PASS

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UPDATE Command:

Syntax:
`update <table-name> set <column-name = value>
where condition;`
 MySQL > update Student-Academic-Details set mark = 91
where Subject-Code = 'SCSA1301' and Reg-No = 42612006
 MySQL > select * from Student-Academic-Details;

DELETE command:

Syntax:
~~Delete from <Table-name> update <condition>;~~
~~Delete from Student-Academic-Details where Reg-No = 42612006~~
 MySQL > select * from Student-Academic-Details;

Result:

Thus the above Data manipulation Language was successfully executed.

~~If select?~~

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Expt. Name Data control Language Date: 17/02/23

Aim:
To study about 'Data Control Language' commands in MySQL.

Uses of Data Definition Language:
* It is used in order to control various operations of the database objects.
* Two commands are supported by the language.
i) Grant
ii) Revoke

Grant:
This command is used to grant permission on database objects from one user to another user.

Revoke:
This command is used to cancel the given permission.

MySQL Server provides multiple types of privileges to a new user account. Some of the most commonly used privileges are given below.

1. ALL privileges:
It enables the user all privileges to a new user account.

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2. Create:

It enables the user account to create databases and tables.

3. Drop:

It enables the user account to drop database and tables.

4. Delete:

It enables the user account to delete rows from a specific table.

5. Select:

It enables the user account to read a database.

6. Insert:

It enables the user account to insert to rows into a specific table.

7. Update:

It enables the user account to update table rows.

Syntax:

Grant: Grant <permission list> on <tablename> to <userlist>

Revoke:

Revoke <permission list> on <table name> from <userlist>;

MySQL > Table student created

Field	Type	Null	Key	Default	Extra
id	int(11)	NO	PRI	NULL	
Name	varchar	YES		NULL	

ID	Name
1	Ashwin
2	Dharun
3	Dhruva

MySQL > user stu is created

User
kene
stu
student
root
sa
root

MySQL > permission is granted to stu

MySQL > Entered user stu

Tables_in_Sathyabama
student

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Code:

Create Tables:

MySQL > create table student (id int(11), name varchar(15));

MySQL > insert into student (id, name) values (1, 'Ashwin'), (2, 'Dharun'), (3, 'Dhruva');

MySQL > select * from student;

Creating permission:

Syntax:

Create user <username> identified by <password>

MySQL > create user stu identified by '0905';

MySQL > Select user from mysql.user;

Granting permission:

Syntax:

Grant <permission list> on <tablename>.to <user list>

MySQL > grant select,insert,update on student to stu;

MySQL > exit;

Bye

Entering new user:

C:\xampp\mysql\bin>mysql -e -u stu -p

Enter password: ****

use database:

MySQL > use Sathyabama;

Database changed.

MySQL > show database;

MySql > new row inserted

ID	Name
1	Ashwin
2	Shivani
3	Dharuba
4	Bawa

MySql > table student update id=4 new name='Babe';
MySql > select * from student;

ID	Name
1	Ashwin
2	Shivani
3	Dharuba
4	Babe

ERROR 1142(42000) Delete command denied to user 'stu'@'Local host' for table 'student';

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Checking permission of the table : [insert, update, select]

MySql > insert into student (id, name) values (4, 'Bawa');

MySql > select * from student;

MySql > update student from set name = 'Babe' where id = 4;

MySql > select * from student;

commands like delete, Alter will not work because the grant permission is not allowed

MySql > delete from student where id = 4;

MySql > exit

Bye

<p>Expt. No. _____</p> <p>Expt. Name _____</p> <p>Page No. <u>35</u></p> <p>Date: _____</p> <p>Revoke Permissions:</p> <p>Syntax:</p> <p>Revoke <permission list> on <table name> to <user list></p> <pre>mysql> revoke insert,update on student from stu;</pre> <p>mysql> exit;</p> <p>Bye</p> <p>Checking permission:</p> <pre>mysql> use satyapama; mysql> insert into student(id, name) value(5, 'Bava');</pre> <p>mysql> update student set id = 6 where id = 5</p> <p>mysql> select * from student;</p> <p>mysql> exit</p> <p>Result:</p> <p>Hence the data control language commands are successfully executed.</p> <p><i>R.W.J</i></p>
--

ID	Name
1	Ashwin
2	Shawn
3	Dhruva
4	Bobs

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Date: 28/2/23

Aim:
To use various buildin function to perform various operation using MySQL.

using "SATHYAMBAM" Database

MySQL > create table student_1 (reg_no int(10), subject_code varchar(20), branchname varchar(20), branch_code varchar(20), Semester int(3), marks int(3), Section varchar(3), result varchar(10))

MySQL > insert into student_1 (reg_no, subject_code, branch_name, branch_code, semester, marks, section, result) values (42612001, 'SCSA1301', 'ROBOTICS', 03, 87, 'A', 'PASS')

MySQL > insert into student_1 (reg_no, subject_code, branch_name, branch_code, semester, marks, section, result) values (42612001, 'SCSA1302', 'ROBOTICS', 03, 95, 'A', 'PASS')

MySQL > select * from student_1;

avg (marks)	
97.500	
Subject - code	max (marks)
SCSA1301	100
SCSA1302	99
SCSA1303	99
SCSA1304	100
SCSA2301	100
SCSA2302	98
Subject - code	min (marks)
SCSA1307	98.7
Count(subject - code)	16
Sum(total marks)	592

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i) Select the average marks from one particular reg-no	
mysql > select avg (marks) from student where reg-no = 42612004;	
ii) Select the name of Subject code with max marks	
mysql > select subject - code , max (marks) from student;	
mysql > select subject - code , max (marks) group by subject - code;	
iii) Select the name of subject code with min marks	
mysql > select subject - code , min (marks) from student;	
mysql > select subject - code , min (marks) from student group by subject - code;	
iv) select the count of number of subjects present in table	
mysql > select count (subject - code) from student;	
v) print total marks of one particular reg-no	
mysql > select sum (marks) from student where reg-no = 42612002	

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vi) Convert one field character into lower case letter in your table

MySQL > Select lower(branch-name) from student where reg-no = 42612001 and mark = 80;

vii) Convert one field into uppercase letter in your table

MySQL > Select upper(reg-no) from student where reg-no = 42612001 and mark = 80;

viii) Remove left string from any one field.

MySQL > Select ltrim('branch-name');

ix) Remove right most string from anyone word

MySQL > Select rtrim('branch-name');

x) Allocate total no. of space to be filled in the left hand side by value.

MySQL > Select lpad('ROBOTICS', 1, 'A I F');

xi) Allocate total no. of space to be filled in the right hand side by value.

MySQL > Select rpad('ROBOTICS', 1, 'A I F');

<p><code>Replace ('ROBOTICS', 'Rob', 'DBS')</code></p> <p>MySQL > select replace('ROBOTICS', 'Rob', 'DBS');</p> <p><code>abs(-0.2)</code></p> <p>MySQL > select abs(-0.2);</p> <p><code>ceil(34.9)</code></p> <p>MySQL > select ceil(34.9);</p> <p><code>floor(34.9)</code></p> <p>MySQL > select floor(34.9);</p> <p><code>sqrt(625)</code></p> <p>MySQL > select sqrt(625);</p> <p><code>exp(5)</code></p> <p>MySQL > select exp(5);</p> <p><code>sin(90)</code></p> <p>MySQL > select sin(90);</p> <p><code>power(4,2)</code></p> <p>MySQL > select power(4,2);</p> <p><code>round(99.987673)</code></p> <p>MySQL > select round(99.987673);</p>	<p>Expt. No. _____</p> <p>Expt. Name _____</p> <p>Page No. <u>43</u></p> <p>Date: _____</p> <p>xii) Replace old string with a string MySQL > select replace('ROBOTICS', 'Rob', 'DBS');</p> <p>xiii) Convert a negative value any integer into positive MySQL > select abs(-0.2);</p> <p>xiv) convert a random decimal integer into higher integer MySQL > select ceil(34.9);</p> <p>xv) convert a random decimal number into lowest integer value MySQL > select floor(34.9);</p> <p>xvi) Find square root of any number MySQL > sqrt(625);</p> <p>xvii) Find exponent of a Number MySQL > select exp(5);</p> <p>xviii) find sin value of 90 MySQL > select sin(90);</p> <p>xix) Find value of base 0=4 MySQL > select power(4,2);</p> <p>xx) Rounding off to nearest number by n digits MySQL > select round(99.987673);</p>
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xxi) Truncating off a number by ndigits		
MySQL > select truncate (99.980767120);		
xxii) Find modulus of a number		
MySQL > select mod(2,2)		
xxiii) Add a date with certain number of current date		
MySQL > select date_add (curdate(), interval 3 month);		
xxiv) Select the last date of given -no		
MySQL > select last_day ('2015-07-05');		
xxv) Select the next number of day of given day		
MySQL > select date_diff ('2016-10-05', '2016-12-05');		
xxvi) Select the greatest of two dates		
MySQL > Select greatest ('2016-10-05', '2016-11-05');		
xxvii) print the current date from system		
MySQL > select sysdate();		

Field	Type	Null	Key	Default	Extra
reg-no	int(10)	YES	UNI	NULL	
subject-code	varchar(10)	YES		NULL	
marks	int(3)	YES		NULL	
result	varchar(4)	YES		NULL	

Error 1062(23000): Duplicate entry '42612001' for key

query ok

Field	Type	Null	Key	Default	Extra
reg-no	int(10)	NO	PRI	NULL	
subject-code	varchar(10)	YES		NULL	
marks	int(3)	YES		NULL	
result	varchar(4)	YES		NULL	

Error 1062(23000): Duplicate entry '1000' for key

Program	Subject-code	Marks	Result
42612001	SCS A1301	70	PASS
42612002	SCS A1301	90	PASS
42612003	SCS A1301	60	PASS
42612004	SCS A1301	75	PASS
42612005	SCS A1301	91	PASS

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Constraints on Table

Unique constraint:

Syntax: After table tablename add constraint
UK unique (field name)

MySQL > alter table student-details add constraint
UK unique (reg-no)

MySQL's DBC Student Details

MySQL > insert into student-details (42612001, 'SCS A1301', 70, 'PASS')

Primary key constraint:

Syntax: After table table-name add primary key (field_name)

MySQL > alter table student-details add primary key (reg-no)

MySQL's DBC Student Details

MySQL > select * from student-details

MySQL > insert into student-details values (42612001, 'SCS A1302', 70)

Ques OK

Field	Type	Null	Key	Default	Extra
regno	int(10)	YES		NULL	
subject-code	Varchar(10)	No	UNI	NULL	
Marks	int(3)	YES		0	
Result	Varchar(6)	YES		NULL	

Reg-no	Subject-code	Marks	Result
42612001	SCSA1201	70	PASS
42612002	SCSA1201	90	PASS
42612003	SCSA1201	60	PASS
42612004	SCSA1201	75	PASS
42612005	SCSA1201	70	PASS
42612006	SCSA1201	0	FAIL

MySQL > table created

Error (45)(23000): column 'Marks' cannot be empty

Field	Type	Null	Key	Default	Extra
Reg-no	int(10)	YES		NULL	
Marks	int(4)	NO		NULL	

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Default constraint:

MySQL > alter table student_details alter marks default

MySQL > desc student_details

MySQL > insert into student_details (reg-no, subject-code, result) values (42612006, 'SCSA1201', 'FAIL');

MySQL > select * from student_details;

Not Null constraint:

MySQL > create table std (reg-no int (5), marks int (5) not null);

MySQL > insert into table std values (42612001, null);

MySQL > desc std;

Mysql > table created

Field	Type	Null	Key	Default	Extra
Reg-no	int(10)	YES	MUL	NULL	
roll-no	int(11)	YES		NULL	

query ok

reg-no	roll-no
42612001	225612501

Error: cannot add or update a row in a foreign key likely field ('order' constraint 'order1' - inbuilt 'FOREIGN KEY' ('reg-no') references 'student-details')

Reg-no	Roll-no
42612001	225612501

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Foreign key constraints :

Mysql > create table order (reg-no int(10), roll-no int(11), foreign key (reg-no) references student-details (reg-no));

Mysql > desc order

Mysql > insert into order values (42612001, 225612501)

Mysql > select * from order;

Mysql > insert into order values (42612007, 2256125352);

Mysql > select * from order;

Result:

thus the inbuilt function and constraints are successfully executed.

Note

Reg-no	Subject-code	branch-name	branch-code	Branch	marks	Section	result
42612001	SCSA1301	AI & Robotics	8	3	85	A1	PASS
42612006	SCSA1306	AI and Robotics	8	3	84	A1	PASS

Query ok

Query ok now affected

Name	Reg-no	Gender
Harri	42612001	male
Arathi	42612002	female
Abhi	42612003	male
Aakash	42612004	male
Aarush	42612005	male
Ashwin	42612006	male

Expt. No. 5

Expt. Name JOINs AND SUBQUERIES

Page No. 53
Date: 22/2/23

Aim:

To use the Join and Subqueries in MySQL

- 1) select name of the subject-code and reg-no for the student name = mention anyone student name!

MySQL > select * from student academic details

MySQL > create table student_details (name varchar(15),
reg-no int(10), gender varchar(6));

MySQL > insert into student_details ('Harri', 42612001, 'male');

MySQL > select * from student_details

Name	Reg-no	Subject code
Hari	42612001	SCSA1301
Hari	42612001	SCSA1302
Hari	42612001	SCSA1303
Hari	42612001	SCSA1304
Hari	42612001	SCSA1305
Hari	42612001	SCSA1306

Name	Reg-no	Subject code
Abhi	42612003	SCSA1305

Name	Reg-no
Aishwini	42612006

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Expt. Name _____

Date: _____

my sql > select student_details.name, student_academic_details.reg_no, student_academic_details.subject_code from student_details join student_academic_details on student_details.reg_no = student_academic_details.reg_no where name = 'Hari'

2) Select the list of student name and reg-no who get 99 marks in particular subject.

my sql > select student_details.name, student_academic_details.reg_no, student_academic_details.subject_code from student_academic_details join student_academic_details on student_academic_details.reg_no = student_academic_details.reg_no where mark = 99 and subject_code = 'SCSA1305'

3) Select the list of subject and reg-no who get greater than 90 in all the subjects.

my sql > select student_details.name, student_academic_details.reg_no from student_academic_details join student_details on student_academic_details.reg_no = student_details.reg_no group by student_details.name having min(student_academic_details.mark) > 90;

Name	Reg. No.	Subjects
Hari	42612001	6
Aarushi	42612002	6
Abhi	42612003	6
Aakash	42612004	6
Anush	42612005	6
Ashwin	42612006	6

Name	Reg-No.	Branch-Name	Semester
Hari	42612001	AI & Robotics	3
Aarushi	42612002	AI & Robotics	3
Abhi	42612003	AI & Robotics	3
Aakash	42612004	AI & Robotics	3
Anush	42612005	AI & Robotics	3
Ashwin	42612006	AI & Robotics	3

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Date. _____

- 4) Select the student-name, reg-no and no. of subjects registered for each student;

mysql> select student-details.name, student-academic-details.reg-no, count(student-academic-details.subject-code) as subject-count from student-academic-details join student-details on student-academic-details.reg-no = student-details.reg-no group by reg-no;

- 5) select the name, semester, branch-name and reg-no for the students present in primary table.

mysql> select student-detail.name, student-academic-details.semester, student-academic-details.branch-name, student-academic-details.semester from student-academic-details, student-details where student-details.reg-no = student-academic-details.reg-no group by reg-no;

Name	Reg-no	Subject-code
Haru	42612001	SCSA1301
Haru	42612001	SCSA1302
Haru	42612001	SCSA1303
Haru	42612001	SCSA1304
Haru	42612001	SCSA1305
Haru	42612001	SCSA1306

Name	Reg-no
Ashwin	42612006

Name	Reg-no
Ashwin	42612006

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Date: _____

6) Select subject-code and reg-no for the student-name =
 - Mention anyone student-name using subquery

MySQL > select reg-no, subject-code from student_academic_details
 where reg-no = (select reg-no from student_details
 where name = 'Haru')

7) Select the list of student-name, reg-no who got 99 in
 Particular subject using subqueries

MySQL > select name, reg-no from student_details where
 student_academic_details.mark = 99 and student_academic_details.subject_code = (select subject-code from
 student_academic_details where mark = 99 and
 subject-code = 'SCSA1305')

8) Select the list of student-name and reg-no who got
 greater than 90 in all the subject using subquery.

MySQL > select name, reg-no from student_details where
 reg-no in (select reg-no from student_academic_details
 where mark > 90 group by reg-no having count(>)
 = (Select count(*) from student_academic_details
 where reg-no = student_details.reg-no))

Name	Reg.-No.	Total Subject
Hari	42612001	6
Karthi	42612002	6
Rishi	42612003	6
Akash	42612004	6
Arush	42612005	6
Rewin	42612006	6

Name	Reg-No.	Semester	Branch-Name
Hari	42612001	3	AI & Robotics
Karthi	42612002	3	AI & Robotics
Rishi	42612003	3	AI & Robotics
Akash	42612004	3	AI & Robotics
Arush	42612005	3	AI & Robotics
Rewin	42612006	3	AI & Robotics

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a) select the student name, reg-no and total no of subjects registered for each subject using subquery.

mysql> select student_details.name, student_details.reg-no
count(subject_code) from student_academic
details where student_details.reg-no = student_academic-
details.reg-no) as total_subjects from student_details .

b) select the name of student, semester, branch-name
reg-no for the student present in primary table using
subquery

mysql> Select (select name from student_details where
student_details.reg-no = student_academic_details.
reg-no) as name, reg-no, Semester, branch-name
from student_academic_details group by reg-no;

Result:

thus the joins and subquery are successfully
executed.

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Expt. No. 6
Expt. Name FUNCTIONS

Page No. 63
Date. 5/2/23

Aim:

To create a function and also functions in MySQL

Syntax:

Create function function-name ([parameter1 datatype,
[parameter2 datatype] ...])

Returns return datatype

BEGIN

Function logic;here

Return result value;

END;

mysql> declare

a number;

b number;

c number;

FUNCTION find_max (x IN number, y IN number)

RETURN number

IS

z number;

BEGIN

IF x > y THEN

z := x;

ELSE

z := y;

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```
ENDIF;  
RETURN z;  
END;  
BEGIN  
a := 22;  
b := 45;  
c := f(a,b);  
d := output-line('maximum of (23,45) :: 11C');  
END;
```

result:
Thus the function has been successfully executed
~~program~~
~~11C~~

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Expt. Name PROCEDURES Date: 29/2/23

AIM:

To use procedures in MySQL

YNTAX:

```
Create procedure procedure-name  
@ Parameter1 datatype  
@ Parameter2 datatype
```

AS

BEGIN

-- SQL statements to be executed

END

MySQL> DECLARE

```
a Number;  
PROCEDURE Square_Num (IN INP Number) IS  
BEGIN  
    SET a := INP * INP;  
END;  
BEGIN  
    SET a := 4;  
    Square_Num(a);  
    dbms_output.PutLine('Square of 4 is ' || a);  
END;
```

RESULT:

thus the procedure has been successfully executed

MySQL>

X(10/23)

Statement Recd
Square of 4: 16

Expt. No. 8 Page No. 69
Expt. Name TRIGGERS Date: 12/7/23

Aim:

To use triggers in mysql

Syntax:

CREATE [OR REPLACE] TRIGGER trigger-name

R BEFORE | AFTER | INSTEAD OF

I : INSERT [OR] UPDATE [OR] DELETE

[OF col-name]

ON table-name

[REFERENCING OLD AS & NEW AS n]

[FOR EACH ROW]

WHEN (condition)

· DECLARE

declaration-statements

BEGIN

Executable-statements

EXCEPTION

Exception-handling-statements

END;

mysql> create table student (reg-no int not null, std-name
Varchar(20) NOTNULL, Age int not Null address Varchar(50),
total-marks number, Primary key (reg-no));

mysql> insert into student-academic details values (101, 'aaaa',
18, 'azdfgh', 100);

Reg-No	Std-name	Age	Address	Total Marks
101	aaaa	18	a b d g h	1100
102	bbbb	19	a b d f g h	1150
103	cccc	20	a b d f e g h	1050

TRIGGER CREATED

Query OK, 1 row affected
Query OK, 1 row affected

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mysql> Insert into student_values ('02', '2020', '19', 'adfgfgh', '1150');

mysql> Insert into student_values ('03', 'cccc', '20', 'adfgfagh', '1050');

mysql> Select * from student;

mysql> CREATE OR REPLACE TRIGGER DISPLAY_MARK_CHANGES
BEFORE DELETE OR INSERT OR UPDATE ON student

FOR EACH ROW

WHEN (NEW.TOG = NO TO)

DECLARE

MARK-DIFF NUMBER;

BEGIN:

MARK-DIFF := NEW.TOTAL MARKS - OLD.TOTAL MARKS;
dbms_output.put_line('Oldmark : ' || OLD.TOTALMARKS);
dbms_output.put_line('Newmark : ' || NEW.TOTALMARKS);
dbms_output.put_line('Mark Difference : ' || MARK-DIFF);

END;

Result:

thus the trigger has been successfully executed
in MySQL.

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Expt. Name STUDENT INFORMATION SYSTEM

Date: 3/10/12

Aim:

To create a student information system by connecting the files via php.

Procedure:

- * start apache & mysql in xampp
- * type the code in the notepad & save the file in database code "stdform.php".
- * Create database univ
- * Create the table student
- * <http://localhost/stdform.php> & <https://localhost/crossi.php>
- * post the above files in htdocs in xampp

mysql > create database univ

mysql > use database univ

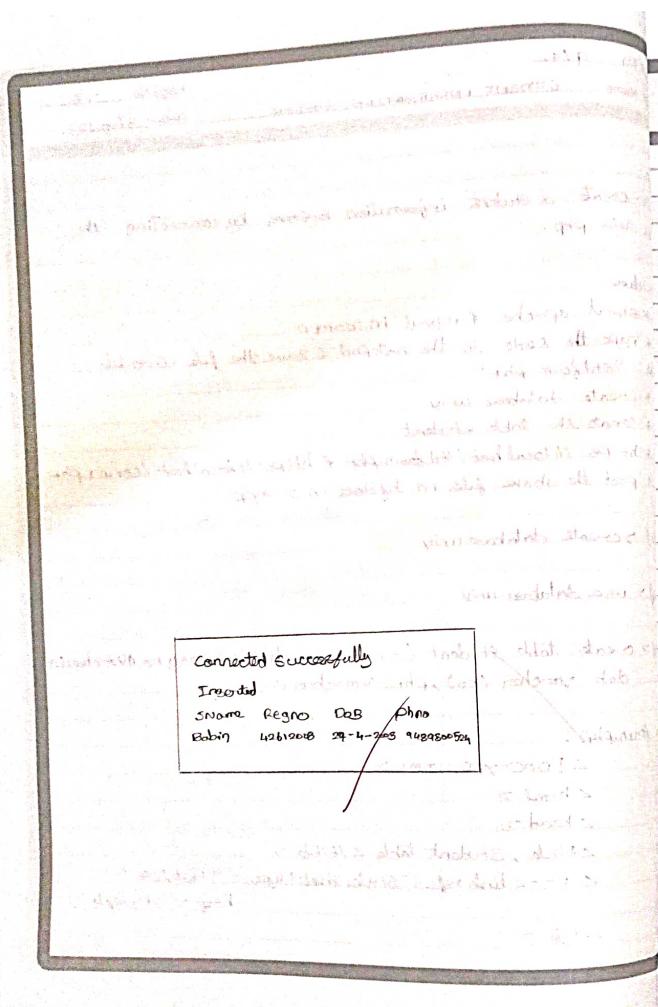
mysql > create table student (sname varchar(20), regno varchar(20), dob varchar(20), phno varchar(20));

std form.php:

```
<!DOCTYPE HTML>
<html>
<head>
<title>Student table</title>
<!--<link rel="stylesheet" type="text/css" href="style.css">
<style>
```

Student table Entry

sname	Babin
Regno	4261208
DOB	20-10-2005
Phno	98956524



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```
body{background-color: light blue; }  
h1{color: green;}  
p{color: red;}  
</style>  
</head>  
<h1>  
<div id="stud"><h3>student table entry </h3>  
</h1>  
<form method="POST" action="conn1.php">  
<p><h3>  
S.name<br><input type="text" name="name"><br>  
Reg.no<br><input type="text" name="regno"><br>  
DOB<br><input type="text" name="dob"><br>  
Phone<br><input type="text" name="pho"><br>  
<input type="submit" value="OK" >  
</h3></p>  
</form>  
</div>  
</body>  
</html>
```

conn1.php:

```
$bg-color = "#ffccbb";  
echo "<body style='background-color:$bg-color;'>";  
$servername = "localhost";  
echo "<server name:>";  
$username = "root";  
$password = "";
```

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```

$dbname = "univ";
//check connection
$conn1 = new mysqli($username, $password, $password, $dbname);
//check connection
if ($conn1->connect_error) {
  die("connection failed: " . $conn1->connect_error);
}
echo "<b>connected successfully</b>";
//display is the contents
$sql = "select * from students";
if ($conn1->query($sql) == TRUE) {
  echo "<b>"; 
  echo "<b>connected to the table</b>";
} else {
  echo "error";
}
//display contents
echo "<br>";
//insertion from html
$name = $_POST['sname'];
$regno = $_POST['regno'];
$dob = $_POST['dob'];
$phno = $_POST['phno'];
$SQL = "insert into student values ('$name', '$regno', '$dob', '$phno')";
if ($conn1->query($SQL)) {
  echo "<b> / inserted </b>";
} else {
  echo "error";
}

```

Name	Reg-no	dob	Aro. Info
Babin	42612008	29-4-2008	9492600524

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```

echo "<b>>" ;
$ sql = "Select * from student";
$result = $conn1->query($sql);
if ($result -> num_rows > 0) {
    // output data of each row
    echo "<b>> Name Reg.no DOB Phno </b>><br>";
    while ($row = $result->fetch_assoc()) {
        echo $row["sname"] . ", " . $row["regno"] . ", " .
            $row["dob"] . ", " . $row["phno"] . "<br>";
    }
} else {
    echo "empty table ";
}
$conn1 -> close();
?>

```

MySQL > Select * from student

Result:

Thus the student information system is successfully executed.

12/10/23

Expt No: 42b

Expt Name: INVENTORY MANAGEMENT

Date: 21/10/23

Page No: 51

PRODUCT ENTRY

Product Name:	Large
Quantity:	<input type="button" value="10"/> <input type="button" value="20"/> <input type="button" value="30"/> <input type="button" value="40"/> <input type="button" value="50"/> <input type="button" value="60"/> <input type="button" value="70"/> <input type="button" value="80"/> <input type="button" value="90"/> <input type="button" value="100"/>

✓

Product entry form showing product name as Large and quantity as 10.

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Page No: 51

Date: 21/10/23

Ques:

Developing GUI applications using inventory management system.

Procedures:

- * Start apache 2 mysql in xamp
- * type the code in notepad & save the file in database folder "invent.php"
- * open the database invent
- * create a table product
- * <http://localhost/invent.php>
- * Paste the above file in ht doc in xamp

mysql> create database invent;

mysql> use invent;

mysql> create table product (product_name varchar(20), quantity int(10), price varchar(10), exp_date varchar(10))

invent.php:

```

<!DOCTYPE html>
<html>
<head>
<title>Product Inventory</title>
</head>
<body background-color: #f0f0f0;>
<h1>Color: #0000ff;</h1>
<p>Color: #0000ff;</p>

```


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\$dbname = "inventory";
\$conn2 = new mysqli(\$servername, \$username, \$password, \$dbname);
if (\$conn2->connect_error) {
 die("Connection failed: " . \$conn2->connect_error);
}
echo "Connected successfully";
\$sql = "DESCRIBE products";
if (\$conn2->query(\$sql) == TRUE) {
 echo "
";
 echo "Connected to the table";
} else {
 echo "Table doesn't exist or a error occurred";
 echo "
";
 \$product_name = \$_POST['product-name'];
 \$quantity = \$_POST['quantity'];
 \$price = \$_POST['Price'];
 \$Expdate = \$_POST['Expire'];

 \$sql11 = "INSERT INTO products (product-name, quantity, price, Expire) values('\$product_name', '\$quantity', '\$price', '\$Expdate')";
 if (\$conn2->query(\$sql11) == TRUE) {
 echo "Inserted";
 } else {
 echo "Error: " . \$sql11 . "
" . \$conn2->error;
 }
}

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```
$dbname = "inventory";
$conn2 = new mysqli($servername, $username, $password, $dbname);
if ($conn2->connect_error) {
    die("Connection failed: " . $conn2->connect_error);
}
echo "<b>Connected successfully</b>";
$sql = "DESCRIBE products";
if ($conn2->query($sql) == TRUE) {
    echo "<br>";  

    echo "<b>Connected to the table</b>";  

} else {
    echo "Table doesn't exist or a error occurred";  

    echo "<br>";  

$product_name = $_POST['product-name'];
$quantity = $_POST['quantity'];
$price = $_POST['Price'];
$Expdate = $_POST['Expire'];

$sql11 = "INSERT INTO products (product-name, quantity, price, Expire) values('$product_name', '$quantity', '$price', '$Expdate')";
if ($conn2->query($sql11) == TRUE) {
    echo "<b>Inserted</b>";  

} else {
    echo "Error: " . $sql11 . "<br>" . $conn2->error;
}
```

product_id	quantity	price	expire
laptop	10	20	2021-10-2023

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Date: _____

```

echo "<html>";
$ sql11 = "SELECT * from product";
$result = $conn2->query($sql11);
if ($result->num_rows > 0);
echo "<b> product name quantity price expire </b><br>";
while ($row = $result->fetch =
echo $row['Product'] . ":" . $row['Quantity'] . ":" . $row['Price'];
}
else
echo "Empty table"; 3
$conn2->close();
?>

```

mysql> select * from product

result:

Thus the inventory management was successfully executed.

2/10/23

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```

    h1 { color: blue; }  

    p { color: red; }  

    </style>  

</head>  

<body>  

<h1>  

<div id="dept"><h3> Department table entry </h3>  

</h1>  

<p>  

<h3>  

<form method="post" action="conn3.php">  

  Dname <br> <input type="text" name="dname" /><br>  

  Department number <br> <input type="text" name="drnum" />  

  Major <br> <input type="text" name="mgreen" />  

  Major3 <br> <input type="text" name="major3" />  

  <input type="submit" value="OK" />  

</h3>  

</form>  

</p>  

</h3>  

</body>  

</html>
  
```

conn3:

```

    <?php  

    $bg_color = "#ffff00";  

    echo "<body style='background-color: $bg_color; '>";  

    $serverName = "localhost";
  
```

Connected Successfully
connected to the table
Imported
Dname Dno Manager Managerdate
Borkin 7 Maysoon 2023-10-27

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```

$username = "root";
$password = "";
$dbname = "employee";
$conn = new mysqli($servername, $username, $password, $dbname);
if ($conn->connect_error) {
    die("Connection failed: " . $conn->connect_error);
}
echo "<h3><b>Connected successfully</b></h3>";
$sql = "SELECT department";
if ($conn->query($sql) == TRUE) {
    echo "<br>";
    echo "<h3><b>Connected to the table</b></h3>";
}
else {
    echo "<br>";
```

~~echo "Error: " . \$conn->error;~~

```

$dname = $_POST['dname'];
$dnumber = $_POST['dnumber'];
$Manager = $_POST['manager'];
$Managerdate = $_POST['Managerdate'];

$sql1 = "insert into department values ('$dname', '$dnumber',
'$Manager', '$Managerdate');"
```

ename	deptno	mgr	hiredate
Ebin	7	7	2023-10-22

Expt. No. _____
 Expt. Name _____
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```

if ($conn->query($sql11) == TRUE)
    echo "<b><b>inserted</b></b><br>";
else
    echo "error"; 3
echo "<br>";
$sql11 = "select * from department";
$result = $conn->query($sql11);

if ($result->num_rows > 0)
    echo "<b><b>font color = blue> name & no <br>
    mgm start date</b></b><br><br>";
while ($row = $result->fetch_assoc())
    echo $row["dname"] . " " . $row["dnumber"] . " "
    . $row["mgmstart"] . " " . $row["mgmstartdate"] . "<br>";
    3
    echo "empty table"; 3
$conn->close();
?>

MySQL > select * from department

Result:
Thus the payroll processing is successfully executed.
12/10/23
  
```