



Lab Report 02

COURSE CODE: CSE384

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SECTION: 02

DEPARTMENT: CSE

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Methodology

SQL Concepts Learned

- Alter table is used to modify existing tables by adding, dropping, or modifying columns and constraints without recreating the table.
- Check constraint ensures that only valid data is inserted.
- Default keyword automatically assigns a predefined value to a column when no value is provided during insertion.
- Drop table is Used to permanently delete an existing table and all its data.

SQL Techniques Used

1. **Create the courses table first**
 - defined `course_id` as the primary key and `course_name` as not null to ensure every course has a name.
2. **Add, modify, and drop columns in courses**
 - added `credits` column with a check constraint (1 to 5).
 - added `instructor` column and later dropped it using `alter table drop column`.
 - modified `course_name` data type to `varchar(100)`.
3. **Create the tasks table**
 - created with `task_id` (primary key), `task_name` (not null), `assigned_to` (numeric), and `deadline` (date).
4. **Add constraints, default values, and drop columns in tasks**
 - added `status` column with a default value 'pending'.
 - applied a check constraint to restrict status to 'pending', 'in progress', or 'completed'.
 - dropped the `deadline` column using `alter table drop column`.

Ans to the ques no 1

Create Table Courses

```
CREATE TABLE Courses (  
    Course_Id NUMERIC(5) PRIMARY KEY,  
    Course_Name VARCHAR(50) NOT NULL  
);
```

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1 Course_Id	decimal(5,0)			No	None			Change Drop More
<input type="checkbox"/>	2 Course_Name	varchar(50)	utf8mb4_general_ci		No	None			Change Drop More

Add a Column Credits

```
alter table courses  
add Credits int(2);
```

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1 Course_Id	decimal(5,0)			No	None			Change Drop More
<input type="checkbox"/>	2 Course_Name	varchar(50)	utf8mb4_general_ci		No	None			Change Drop More
<input type="checkbox"/>	3 Credits	int(2)			Yes	NULL			Change Drop More

Check Constraint














```
alter table courses  
add constraint chk_val check (Credits between 1 and 5);
```

CONSTRAINT_CATALOG	CONSTRAINT_SCHEMA	TABLE_NAME	CONSTRAINT_NAME	CHECK_CLAUSE
def	lab2	students	chk_age	`age` >= 2 and `age` <= 18
def	mysql	global_priv	Priv	json_valid(`Priv`)
def	task2	courses	chk_val	`Credits` between 1 and 5

Add a Column Instructor

alter table courses











add Instructor varchar(50);

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	Course_Id 	decimal(5,0)			No	None			 Change  Drop  More
<input type="checkbox"/>	2	Course_Name	varchar(50)	utf8mb4_general_ci		No	None			 Change  Drop  More
<input type="checkbox"/>	3	Credits	int(2)			Yes	NULL			 Change  Drop  More
<input type="checkbox"/>	4	Instructor	varchar(50)	utf8mb4_general_ci		Yes	NULL			 Change  Drop  More

Drop Column Instructor

alter table courses











drop column Instructor;

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	Course_Id 	decimal(5,0)			No	None			 Change  Drop  More
<input type="checkbox"/>	2	Course_Name	varchar(50)	utf8mb4_general_ci		No	None			 Change  Drop  More
<input type="checkbox"/>	3	Credits	int(2)			Yes	NULL			 Change  Drop  More

Modify the Data Type

alter table courses














modify Course_Name varchar(100);

	#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1	Course_Id 	decimal(5,0)			No	None			 Change  Drop  More
<input type="checkbox"/>	2	Course_Name	varchar(100)	utf8mb4_general_ci		Yes	NULL			 Change  Drop  More
<input type="checkbox"/>	3	Credits	int(2)			Yes	NULL			 Change  Drop  More

Ans to the ques no 2

















Create Table Tasks

```
create table Tasks(  
    Task_Id numeric(5) primary key,  
    Task_Name varchar(50) not null,  
    Assigned_To numeric,  
    Deadline date  
);
```

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1 Task_Id 	decimal(5,0)			No	None			 Change  Drop  More
<input type="checkbox"/>	2 Task_Name	varchar(50)	utf8mb4_general_ci		No	None			 Change  Drop  More
<input type="checkbox"/>	3 Assigned_To	decimal(10,0)			Yes	NULL			 Change  Drop  More
<input type="checkbox"/>	4 Deadline	date			Yes	NULL			 Change  Drop  More

Add a Column with Default Value

```
alter table tasks  
add Status varchar(20) default 'Pending';
```

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1 Task_Id 	decimal(5,0)			No	None			 Change  Drop  More
<input type="checkbox"/>	2 Task_Name	varchar(50)	utf8mb4_general_ci		No	None			 Change  Drop  More
<input type="checkbox"/>	3 Assigned_To	decimal(10,0)			Yes	NULL			 Change  Drop  More
<input type="checkbox"/>	4 Deadline	date			Yes	NULL			 Change  Drop  More
<input type="checkbox"/>	5 Status	varchar(20)	utf8mb4_general_ci		Yes	Pending			 Change  Drop  More

Add a Check Constraint

alter table tasks










add constraint chk_stat check (Status = 'Pending' or Status = 'In Progress' or Status = 'Completed');

CONSTRAINT_CATALOG	CONSTRAINT_SCHEMA	TABLE_NAME	CONSTRAINT_NAME	CHECK_CLAUSE
def	lab2	students	chk_age	`age` >= 2 and `age` <= 18
def	mysql	global_priv	Priv	json_valid(`Priv`)
def	task2	courses	chk_val	`Credits` between 1 and 5
def	task2	tasks	chk_stat	`Status` = 'Pending' or `Status` = 'In Progress' o...

Drop Column Deadline

alter table tasks

drop column Deadline;

#	Name	Type	Collation	Attributes	Null	Default	Comments	Extra	Action
<input type="checkbox"/>	1 Task_Id 	decimal(5,0)			No	None			 Change  Drop More
<input type="checkbox"/>	2 Task_Name	varchar(50)	utf8mb4_general_ci		No	None			 Change  Drop More
<input type="checkbox"/>	3 Assigned_To	decimal(10,0)			Yes	NULL			 Change  Drop More
<input type="checkbox"/>	4 Status	varchar(20)	utf8mb4_general_ci		Yes	Pending			 Change  Drop More