

MAI172 : Advance Database Technologies

Register Number: 2448513

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Experiment Number and Name : 1 : DDL, DML, and TCL commands

Date : 11/07/2024 Time : 9.45 to 11.45

Scenario:

You have been assigned the task of managing student records for a new database called "StudentDetail". Your responsibilities include creating tables, inserting and updating records, and modifying table structures to meet new requirements.

Tasks:

1. **Create** a database named StudentDetail.

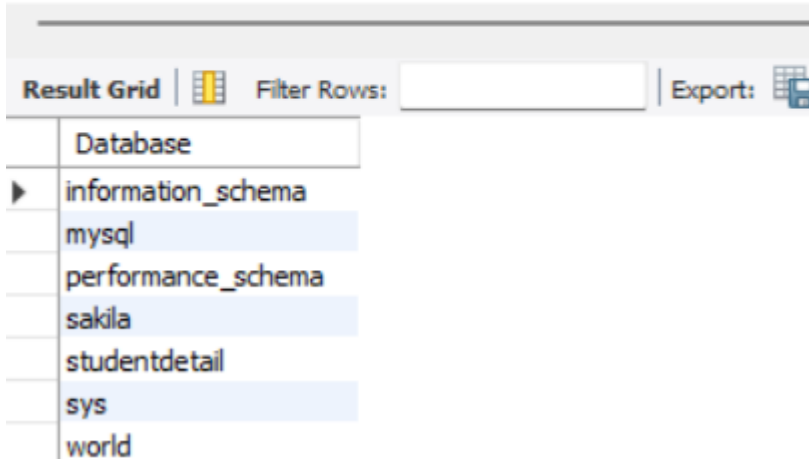
Query & Output Screen:

Query:

```
create database StudentDetail;
```

Screenshot:

```
1 • create database StudentDetail;
2 • show databases;
3
4
5
```



Database
information_schema
mysql
performance_schema
sakila
studentdetail
sys
world

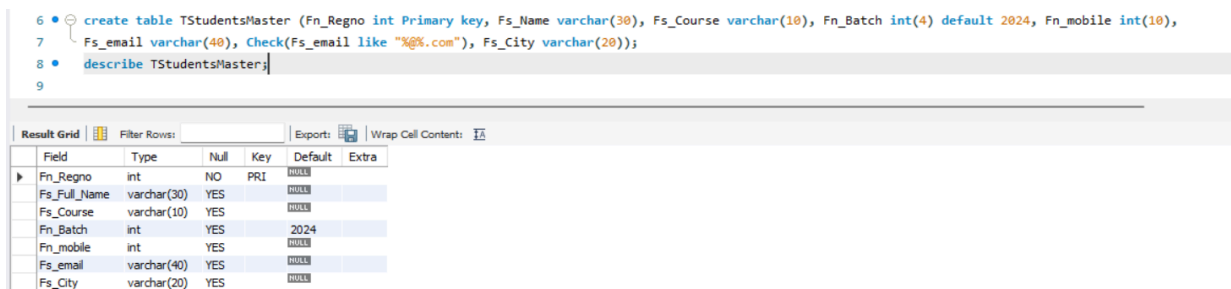
2. **Construct** a table TStudentsMaster with the following attributes:
- Fn_Regno number(7) as the primary key, Fs_Name varchar2(30), Fs_Course varchar(10), Fn_Batch number(4) default value of 2024, Fn_mobile number(10), Fs_email varchar(40) which must contain an '@' character and end with ".com" and city Fs_City varchar (20).

Query & Output Screen

Query:

```
create table TStudentsMaster (Fn_Regno int Primary key, Fs_Name varchar(30), Fs_Course varchar(10), Fn_Batch int(4) default 2024, Fn_mobile int(10), Fs_email varchar(40), Check(Fs_email like "%@%.com"), Fs_City varchar(20));
```

Screenshot:



```
6 • create table TStudentsMaster (Fn_Regno int Primary key, Fs_Name varchar(30), Fs_Course varchar(10), Fn_Batch int(4) default 2024, Fn_mobile int(10),
7   Fs_email varchar(40), Check(Fs_email like "%@%.com"), Fs_City varchar(20));
8 • describe TStudentsMaster;
9
```

Field	Type	Null	Key	Default	Extra
Fn_Regno	int	NO	PRI		
Fs_Full_Name	varchar(30)	YES			
Fs_Course	varchar(10)	YES			
Fn_Batch	int	YES		2024	
Fn_mobile	int	YES			
Fs_email	varchar(40)	YES			
Fs_City	varchar(20)	YES			

3. **Insert** 10 instances into the TStudentsMaster table.

Query & Output Screen

Query:

insert into TStudentsMaster values

```
(101, "Pratik D", "MSc AIML", 2024, 1234567890, "pratik@mail.com", "Solapur"),
(102, "Jas J", "MSc DS", 2023, 1234567890, "Jas@mail.com", "Mumbai"),
(103, "PB Deshmukh", "MSc Stat", 2021, 1234567890, "Deshmukh@mail.com",
"Pune"),
(104, "Sham A", "MSc Math", 2020, 1234567890, "Sham@mail.com", "Bangalore"),
(105, "JP Bhat", "BCA", 2022, 1234567890, "Bhat@mail.com", "Solapur"),
(106, "Disha C", "MA Cs", 2018, 1234567890, "Disha@mail.com", "Chennai"),
(107, "UN Chopra", "MSc", 2012, 1234567890, "Chopra@mail.com", "Delhi"),
(108, "A Arrora", "BCA IT", 2010, 1234567890, "Arrora@mail.com", "Mangalore"),
(109, "Shubham C", "BCA CS", 2024, 1234567890, "Shubham@mail.com",
"Bangalore"),
(110, "DK Nager", "B.Tech", 2010, 1234567890, "Nager@mail.com", "Pune");
```

Screenshot:

```
12 • insert into TStudentsMaster values (101, "Pratik D", "MSc AIML", 2024, 1234567890, "pratik@mail.com", "Solapur"),
13                                     (102, "Jas J", "MSc DS", 2023, 1234567890, "Jas@mail.com", "Mumbai"),
14                                     (103, "PB Deshmukh", "MSc Stat", 2021, 1234567890, "Deshmukh@mail.com", "Pune"),
15                                     (104, "Sham A", "MSc Math", 2020, 1234567890, "Sham@mail.com", "Bangalore"),
16                                     (105, "JP Bhat", "BCA", 2022, 1234567890, "Bhat@mail.com", "Solapur"),
17                                     (106, "Disha C", "MA Cs", 2018, 1234567890, "Disha@mail.com", "Chennai"),
18                                     (107, "UN Chopra", "MSc", 2012, 1234567890, "Chopra@mail.com", "Delhi"),
19                                     (108, "A Arrora", "BCA IT", 2010, 1234567890, "Arrora@mail.com", "Mangalore"),
20                                     (109, "Shubham C", "BCA CS", 2024, 1234567890, "Shubham@mail.com", "Bangalore"),
21                                     (110, "DK Nager", "B.Tech", 2010, 1234567890, "Nager@mail.com", "Pune");
22 • select * from TStudentsMaster;
```

Result Grid						
Filter Rows:						
Edit: Export/Import: Wrap Cell Contents:						
	Fn_Regno	Fs_Name	Fs_Course	Fn_Batch	Fn_mobile	Fs_email
▶	101	Pratik D	MSc AIML	2024	1234567890	pratik@mail.com
	102	Jas J	MSc DS	2023	1234567890	Jas@mail.com
	103	PB Deshmukh	MSc Stat	2021	1234567890	Deshmukh@mail.com
	104	Sham A	MSc Math	2020	1234567890	Sham@mail.com
	105	JP Bhat	BCA	2022	1234567890	Bhat@mail.com
	106	Disha C	MA Cs	2018	1234567890	Disha@mail.com
	107	UN Chopra	MSc	2012	1234567890	Chopra@mail.com
	108	A Arrora	BCA IT	2010	1234567890	Arrora@mail.com
	109	Shubham C	BCA CS	2024	1234567890	Shubham@mail.com
	110	DK Nager	B.Tech	2010	1234567890	Nager@mail.com
•	NULL	NULL	NULL	NULL	NULL	NULL

4. **Display** the table structure.

Query & Output Screen

Query:

```
describe TStudentsMaster;
```

Screenshot:

25 • `describe TStudentsMaster;`

26

Result Grid						
		Filter Rows:			Export:	Wrap Cell C
	Field	Type	Null	Key	Default	Extra
▶	Fn_Regno	int	NO	PRI	NULL	
	Fs_Name	varchar(30)	YES		NULL	
	Fs_Course	varchar(10)	YES		NULL	
	Fn_Batch	int	YES		2024	
	Fn_mobile	int	YES		NULL	
	Fs_email	varchar(40)	YES		NULL	
	Fs_City	varchar(20)	YES		NULL	

5. **Retrieve** the records from the table.

Query & Output Screen

Query:

```
select * from TStudentsMaster;
```

Screenshot:

22 • `select * from TStudentsMaster;`

Result Grid

Filter Rows:

Edit:

Export/Import:

Wrap Cell Content:

Fn_Regno	Fs_Name	Fs_Course	Fn_Batch	Fn_mobile	Fs_email	Fs_City
101	Pratik D	MSc AIML	2024	1234567890	pratik@mail.com	Solapur
102	Jas J	MSc DS	2023	1234567890	Jas@mail.com	Mumbai
103	PB Deshmukh	MSc Stat	2021	1234567890	Deshmukh@mail.com	Pune
104	Sham A	MSc Math	2020	1234567890	Sham@mail.com	Bangalore
105	JP Bhat	BCA	2022	1234567890	Bhat@mail.com	Solapur
106	Disha C	MA Cs	2018	1234567890	Disha@mail.com	Chennai
107	UN Chopra	MSc	2012	1234567890	Chopra@mail.com	Delhi
108	A Arrora	BCA IT	2010	1234567890	Arrora@mail.com	Mangalore
109	Shubham C	BCA CS	2024	1234567890	Shubham@mail.com	Bangalore
110	DK Nager	B.Tech	2010	1234567890	Nager@mail.com	Pune
NULL	NULL	NULL	NULL	NULL	NULL	NULL

6. **Modify** the TStudentsMaster table by adding a new attribute DOJ (Date of Joining).

Query & Output Screen


Query:


```
alter table TStudentsMaster add (DOJ date );
```


Screenshot:

```
31 • alter table TStudentsMaster add (DOJ date );
32 • describe TStudentsMaster;
```

Result Grid

 Filter Rows:

Export: 

Wrap Cell Content: 

	Field	Type	Null	Key	Default	Extra
▶	Fn_Regno	int	NO	PRI	NULL	
	Fs_Name	varchar(30)	YES		NULL	
	Fs_Course	varchar(10)	YES		NULL	
	Fn_Batch	int	YES		2024	
	Fn_mobile	int	YES		NULL	
	Fs_email	varchar(40)	YES		NULL	
	Fs_City	varchar(20)	YES		NULL	
	DOJ	date	YES		NULL	

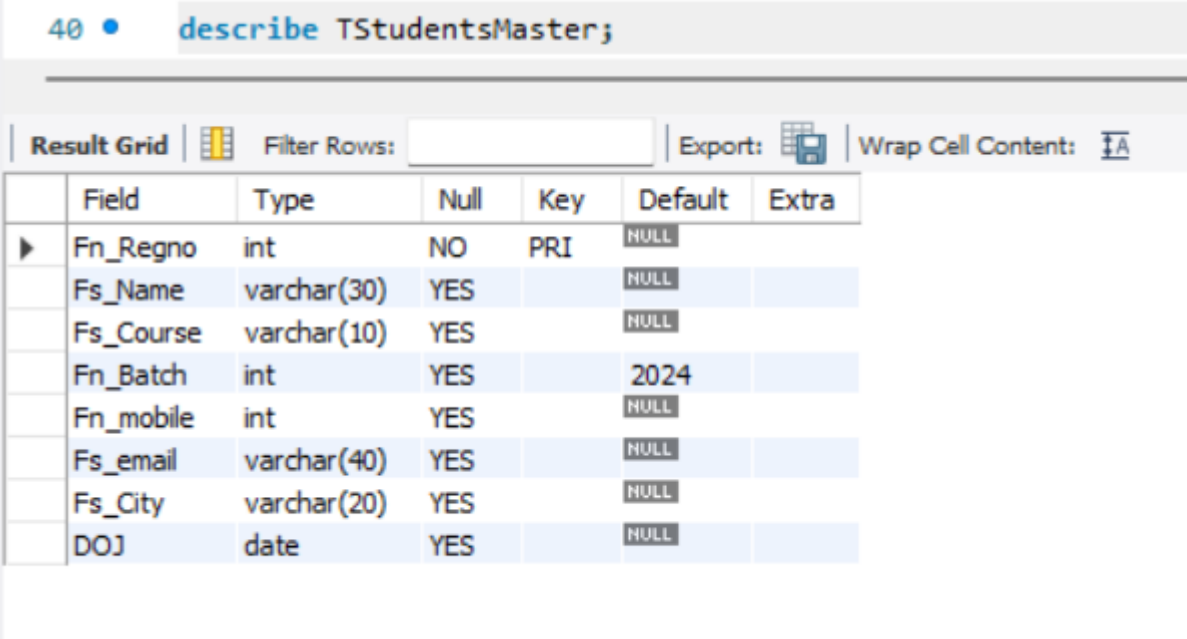
7. **Show** the updated table structure.

Query & Output Screen

Query:

```
describe TStudentsMaster;
```

Screenshot:



The screenshot displays a database query interface. At the top, a query editor shows the command `describe TStudentsMaster;`. Below the editor, a toolbar includes a 'Result Grid' button, a 'Filter Rows' input field, an 'Export' button with a grid icon, and a 'Wrap Cell Content' button with a text icon. The main area contains a table with the following structure:

	Field	Type	Null	Key	Default	Extra
▶	Fn_Regno	int	NO	PRI	NULL	
	Fs_Name	varchar(30)	YES		NULL	
	Fs_Course	varchar(10)	YES		NULL	
	Fn_Batch	int	YES		2024	
	Fn_mobile	int	YES		NULL	
	Fs_email	varchar(40)	YES		NULL	
	Fs_City	varchar(20)	YES		NULL	
	DOJ	date	YES		NULL	

8. **Assign** June 1, 2024, to the DOJ attribute for all records.

Query & Output Screen

Query:

```
update TStudentsMaster set DOJ='2024-06-01';
```

Screenshot:

[illegible]

9. **Retrieve** the records from the table

Query & Output Screen

Query:

```
select * from TStudentsMaster;
```

Screenshot:

[illegible]

10. **Remove** the DOJ column from the table.

Query & Output Screen

Query:

```
alter table TStudentsMaster drop Column DOJ;
```

Screenshot:

```
45 • alter table TStudentsMaster drop Column DOJ;
46 • describe TStudentsMaster;
```

Result Grid

Filter Rows:

Export:

Wrap Cell Content:

	Field	Type	Null	Key	Default	Extra
▶	Fn_Regno	int	NO	PRI	NULL	
	Fs_Name	varchar(30)	YES		NULL	
	Fs_Course	varchar(10)	YES		NULL	
	Fn_Batch	int	YES		2024	
	Fn_mobile	int	YES		NULL	
	Fs_email	varchar(40)	YES		NULL	
	Fs_City	varchar(20)	YES		NULL	

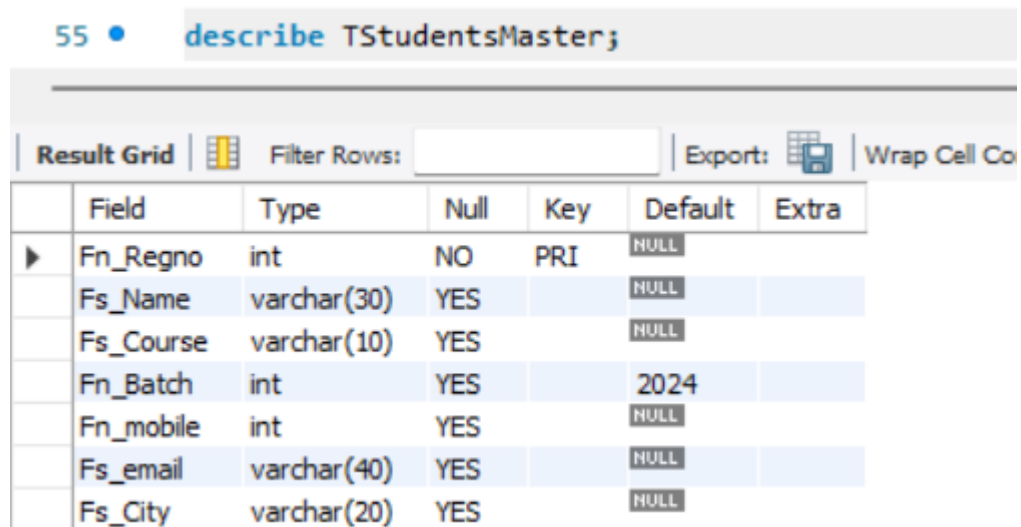
11. **Exhibit** the table structure after the column removal.

Query & Output Screen

Query:

```
describe TStudentsMaster;
```

Screenshot:



	Field	Type	Null	Key	Default	Extra
►	Fn_Regno	int	NO	PRI	NULL	
	Fs_Name	varchar(30)	YES		NULL	
	Fs_Course	varchar(10)	YES		NULL	
	Fn_Batch	int	YES		2024	
	Fn_mobile	int	YES		NULL	
	Fs_email	varchar(40)	YES		NULL	
	Fs_City	varchar(20)	YES		NULL	

12. **Rename** the column Fs_Name to Fs_Full_Name.

Query & Output Screen

Query:


```
alter table TStudentsMaster rename column Fs_Name to  
Fs_Full_Name;
```


Screenshot:

```
48 • alter table TStudentsMaster rename column Fs_Name to Fs_Full_Name;
49 • describe TStudentsMaster;
```

Result Grid

Filter Rows:

Export: 

Wrap Cell Content: 

	Field	Type	Null	Key	Default	Extra
▶	Fn_Regno	int	NO	PRI	NULL	
	Fs_Full_Name	varchar(30)	YES		NULL	
	Fs_Course	varchar(10)	YES		NULL	
	Fn_Batch	int	YES		2024	
	Fn_mobile	int	YES		NULL	
	Fs_email	varchar(40)	YES		NULL	
	Fs_City	varchar(20)	YES		NULL	

13. **Illustrate** the updated table structure.

Query & Output Screen

Query:

describe TStudentsMaster;

Screenshot:

59 • describe TStudentsMaster;

Field	Type	Null	Key	Default	Extra
Fn_Regno	int	NO	PRI	NULL	
Fs_Full_Name	varchar(30)	YES		NULL	
Fs_Course	varchar(10)	YES		NULL	
Fn_Batch	int	YES		2024	
Fn_mobile	int	YES		NULL	
Fs_email	varchar(40)	YES		NULL	
Fs_City	varchar(20)	YES		NULL	

14. **Retrieve** the records based on specific criteria.

Query & Output Screen

Query:

```
select * from TStudentsMaster where Fs_City="Solapur";
```

Screenshot:

[illegible]

15. **Select** unique batch and course details.

Query & Output Screen

Query:

```
select distinct Fs_course, Fn_Batch from TStudentsMaster;
```

Screenshot:



The screenshot displays a database query interface. At the top, a SQL query is entered in a text area: `select distinct Fs_course, Fn_Batch from TStudentsMaster;`. Below the query area, a toolbar contains options for 'Result Grid', 'Filter Rows', 'Export', and 'Wrap Cell Contents'. The 'Result Grid' option is selected, and the results are displayed in a table below. The table has two columns: 'Fs_course' and 'Fn_Batch'. The results are as follows:

Fs_course	Fn_Batch
MSc AIML	2024
MSc Stat	2021
MSc Math	2020
BCA	2022
MA Cs	2018
MSc	2012
BCA IT	2010
BCA CS	2024
B.Tech	2010

16. **Update** the city name to "Bangalore" for specific students.

Query & Output Screen

Query:

```
update TStudentsMaster set Fs_city="Bangalore" where  
Fs_Full_Name="DK Nager";
```

Screenshot:

```
60 • update TStudentsMaster set Fs_city="Bangalore" where Fs_Full_Name="DK Nager";
61 • select * from TStudentsMaster;
```

Result Grid

Filter Rows:

Edit:

Export/Import:

Wrap Cell Cont

Fn_Regno	Fs_Full_Name	Fs_Course	Fn_Batch	Fn_mobile	Fs_email	Fs_City
101	Pratik D	MSc AIML	2024	1234567890	pratik@mail.com	Solapur
102	Jas J	MSc DS	2023	1234567890	Jas@mail.com	Mumbai
103	PB Deshmukh	MSc Stat	2021	1234567890	Deshmukh@mail.com	Pune
104	Sham A	MSc Math	2020	1234567890	Sham@mail.com	Bangalore
105	JP Bhat	BCA	2022	1234567890	Bhat@mail.com	Solapur
106	Disha C	MA Cs	2018	1234567890	Disha@mail.com	Chennai
107	UN Chopra	MSc	2012	1234567890	Chopra@mail.com	Delhi
108	A Arrora	BCA IT	2010	1234567890	Arrora@mail.com	Mangalore
109	Shubham C	BCA CS	2024	1234567890	Shubham@mail.com	Bangalore
110	DK Nager	B.Tech	2010	1234567890	Nager@mail.com	Bangalore
NULL	NULL	NULL	NULL	NULL	NULL	NULL

17. **Show** the student details for those from Bangalore.

Query & Output Screen

Query:

```
select * from TStudentsMaster where Fs_city="Bangalore";
```

Screenshot:

[illegible]

18. **Delete** a particular student record.

Query & Output Screen

Query:

```
delete from TStudentsMaster where Fs_City = "Mumbai";
```

Screenshot:

65 • `delete from TStudentsMaster where Fs_City = "Mumbai";`

66 • `select * from TStudentsMaster;`

Result Grid

Filter Rows:

Edit:

Export/Import:

Wrap Ce

	Fn_Regno	Fs_Full_Name	Fs_Course	Fn_Batch	Fn_mobile	Fs_email	Fs_City
▶	101	Pratik D	MSc AIML	2024	1234567890	pratik@mail.com	Solapur
	103	PB Deshmukh	MSc Stat	2021	1234567890	Deshmukh@mail.com	Pune
	104	Sham A	MSc Math	2020	1234567890	Sham@mail.com	Bangalore
	105	JP Bhat	BCA	2022	1234567890	Bhat@mail.com	Solapur
	106	Disha C	MA Cs	2018	1234567890	Disha@mail.com	Chennai
	107	UN Chopra	MSc	2012	1234567890	Chopra@mail.com	Delhi
	108	A Arrora	BCA IT	2010	1234567890	Arrora@mail.com	Mangalore
	109	Shubham C	BCA CS	2024	1234567890	Shubham@mail.com	Bangalore
	110	DK Nager	B.Tech	2010	1234567890	Nager@mail.com	Bangalore
✱	NULL	NULL	NULL	NULL	NULL	NULL	NULL