

“Heaven’s Light is Our Guide”

Rajshahi University of Engineering & Technology, Rajshahi



Department of Electrical & Computer Engineering

Course Code : ECE 2216

Course Title : Data Base Systems Sessional

Experiment No. : 01

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Submitted To-

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1.1 Experiment No. : 01

1.2 Experiment Name: Create a Database Containing Information for 10 Students.

1.3 Objective:

- To understand the process of creating a database using SQL.
- To gain experience in writing SQL queries for creating tables and inserting data.
- To practice executing queries and interpreting the output to ensure successful data management.

1.4 Query and Output:

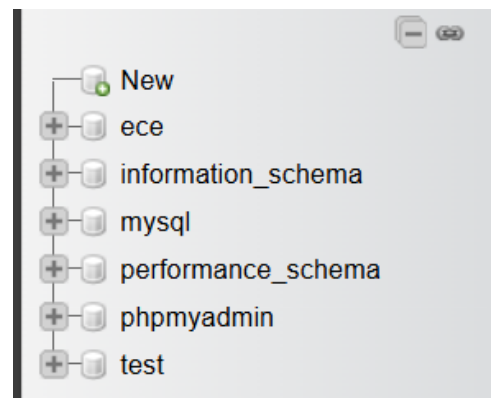
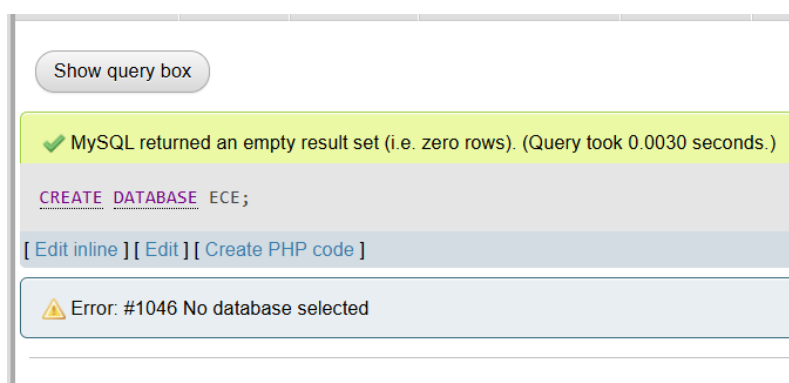
1.4.1 Create database and table

Creating database:

Query:

```
1 CREATE DATABASE ECE;  
2  
3
```

Output:



Creating table:

Query:

```
1 CREATE TABLE students (  
2     roll INT,  
3     name VARCHAR(255),  
4     semester INT,  
5     major_subject VARCHAR(255),  
6     obtained_marks INT CHECK (obtained_marks <= 75)  
7 );  
8 |
```

Output:

The screenshot shows the MySQL Workbench interface. The top menu bar includes Structure, SQL, Search, Query, Export, Import, Operations, Privileges, Routines, Events, Triggers, and Trac. Below the menu bar is a "Show query box" button. The main area displays a green status bar indicating "MySQL returned an empty result set (i.e. zero rows). (Query took 0.0005 seconds.)". Below this, the SQL query is shown: `CREATE TABLE students (roll INT, name VARCHAR(255), semester INT, major_subject VARCHAR(255), obtained_marks INT CHECK (obtained_marks <= 75));`. At the bottom, there are links for [Edit inline], [Edit], and [Create PHP code]. To the right, a tree view shows the database structure: ece (database), New (table), students (table), and information_schema (system database).

Renaming table:

Query:

The screenshot shows a single SQL query in the editor: `1 RENAME TABLE students TO students_21_series;`

Output:

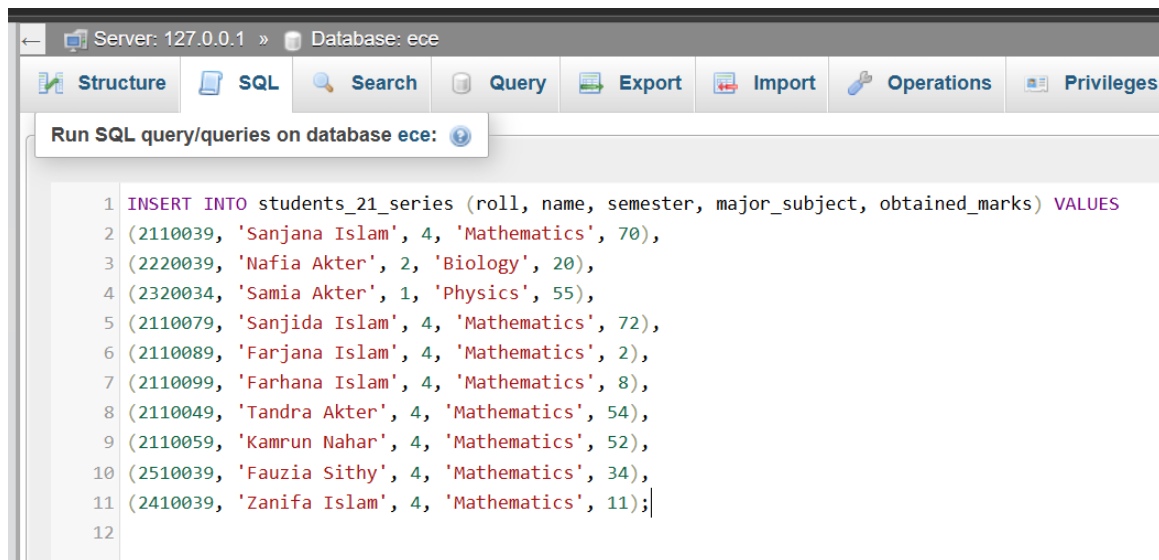
The screenshot shows the MySQL Workbench interface after executing the RENAME TABLE query. The top menu bar includes Browse, Structure, SQL, Search, Insert, Export, Import, and a button. Below the menu bar is a green status bar indicating "MySQL returned an empty result set (i.e. zero rows). (Query took 0.0009 seconds.)". Below this, the SQL query is shown: `SELECT * FROM `students_21_series``. There are links for [Edit inline], [Edit], [Explain SQL], [Create PHP code], and [Refresh]. Below the query, the table structure is displayed:

roll	name	semester	major_subject	obtained_marks
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. Below the table, there are buttons for "Query results operations" and "Create view". At the bottom, there is a "Bookmark this SQL query" button, a "Label:" input field, a checkbox for "Let every user access this bookmark", and another "Bookmark this SQL query" button. To the right, a tree view shows the database structure: ece (database), New (table), and students_21_series (table).

Inserting 10 students info:

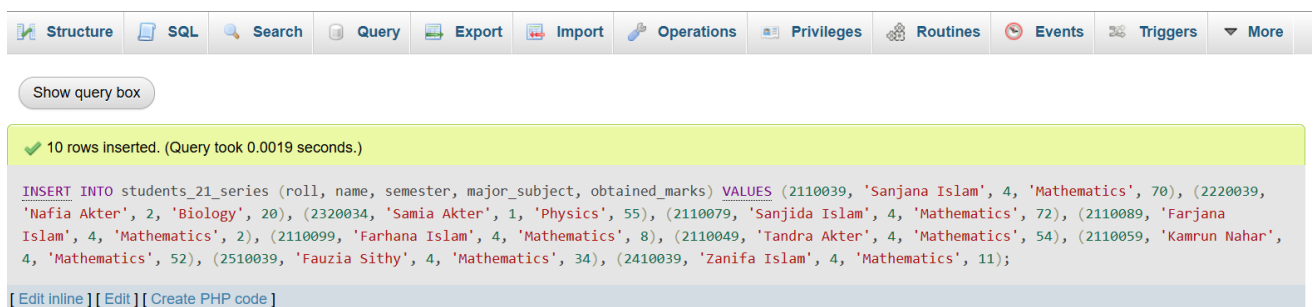
Query:



The screenshot shows a database management interface with a menu bar (Structure, SQL, Search, Query, Export, Import, Operations, Privileges) and a toolbar. Below the toolbar is a text box labeled "Run SQL query/queries on database ece:". The SQL query is as follows:

```
1 INSERT INTO students_21_series (roll, name, semester, major_subject, obtained_marks) VALUES
2 (2110039, 'Sanjana Islam', 4, 'Mathematics', 70),
3 (2220039, 'Nafia Akter', 2, 'Biology', 20),
4 (2320034, 'Samia Akter', 1, 'Physics', 55),
5 (2110079, 'Sanjida Islam', 4, 'Mathematics', 72),
6 (2110089, 'Farjana Islam', 4, 'Mathematics', 2),
7 (2110099, 'Farhana Islam', 4, 'Mathematics', 8),
8 (2110049, 'Tandra Akter', 4, 'Mathematics', 54),
9 (2110059, 'Kamrun Nahar', 4, 'Mathematics', 52),
10 (2510039, 'Fauzia Sithy', 4, 'Mathematics', 34),
11 (2410039, 'Zanifa Islam', 4, 'Mathematics', 11);
12
```

Output:



The screenshot shows the same database management interface. Below the toolbar is a button labeled "Show query box". Below that is a green status bar indicating "10 rows inserted. (Query took 0.0019 seconds.)". Below the status bar is the SQL query and its output:

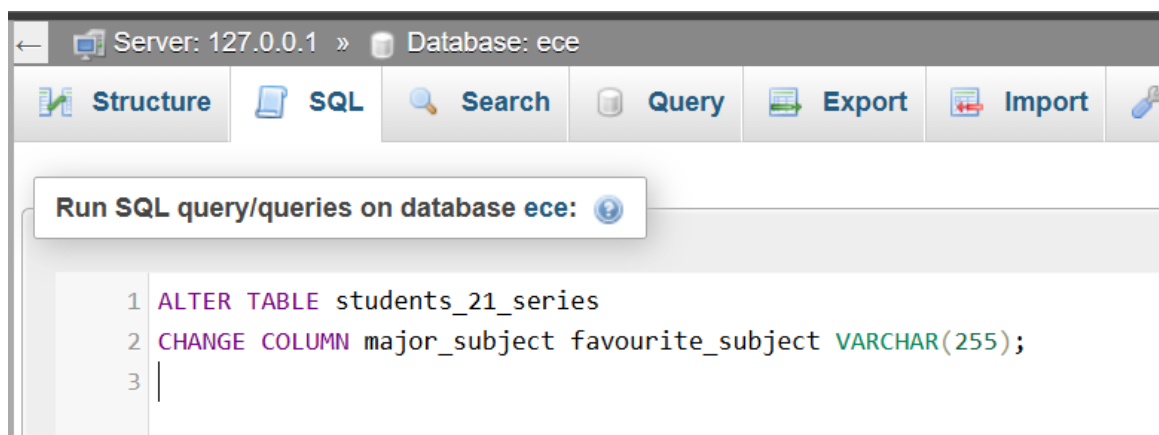
```
INSERT INTO students_21_series (roll, name, semester, major_subject, obtained_marks) VALUES (2110039, 'Sanjana Islam', 4, 'Mathematics', 70), (2220039, 'Nafia Akter', 2, 'Biology', 20), (2320034, 'Samia Akter', 1, 'Physics', 55), (2110079, 'Sanjida Islam', 4, 'Mathematics', 72), (2110089, 'Farjana Islam', 4, 'Mathematics', 2), (2110099, 'Farhana Islam', 4, 'Mathematics', 8), (2110049, 'Tandra Akter', 4, 'Mathematics', 54), (2110059, 'Kamrun Nahar', 4, 'Mathematics', 52), (2510039, 'Fauzia Sithy', 4, 'Mathematics', 34), (2410039, 'Zanifa Islam', 4, 'Mathematics', 11);
```

Below the query and output are links: [Edit inline] [Edit] [Create PHP code]

1.4.2 Change a specific column name and data type.

Changing column name:

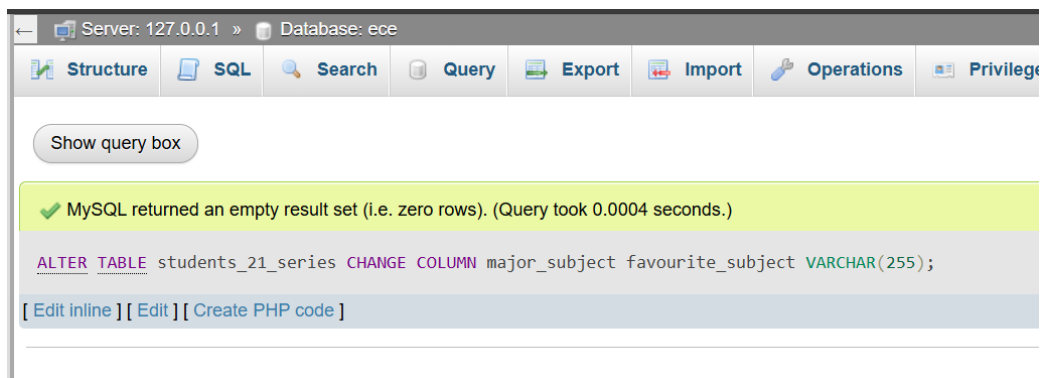
Query:



The screenshot shows the same database management interface. Below the toolbar is a text box labeled "Run SQL query/queries on database ece:". The SQL query is as follows:

```
1 ALTER TABLE students_21_series
2 CHANGE COLUMN major_subject favourite_subject VARCHAR(255);
3
```

Output:



Server: 127.0.0.1 » Database: ece

Structure SQL Search Query Export Import Operations Privileges

Show query box

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0004 seconds.)

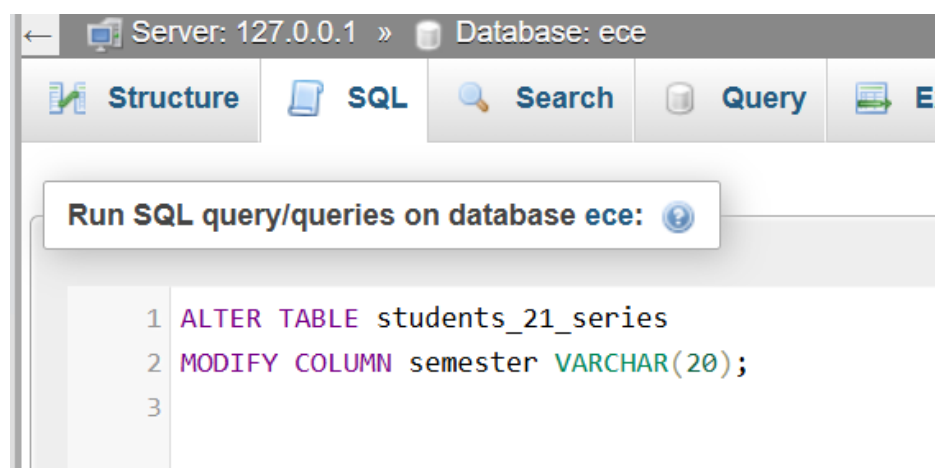
```
ALTER TABLE students_21_series CHANGE COLUMN major_subject favourite_subject VARCHAR(255);
```

[Edit inline] [Edit] [Create PHP code]

roll	name	semester	favourite_subject	obtained_marks
2110039	Sanjana Islam	4	Mathematics	70
2220039	Nafia Akter	2	Biology	20
2320034	Samia Akter	1	Physics	55
2110079	Sanjida Islam	4	Mathematics	72
2110089	Farjana Islam	4	Mathematics	2
2110099	Farhana Islam	4	Mathematics	8
2110049	Tandra Akter	4	Mathematics	54
2110059	Kamrun Nahar	4	Mathematics	52
2510039	Fauzia Sithy	4	Mathematics	34
2410039	Zanifa Islam	4	Mathematics	11

Changing Data type:

Query:



Server: 127.0.0.1 » Database: ece

Structure SQL Search Query Export

Run SQL query/queries on database ece: ?

```
1 ALTER TABLE students_21_series
2 MODIFY COLUMN semester VARCHAR(20);
3
```

Output:

The screenshot shows a database management tool interface with a menu bar containing 'Structure', 'SQL', 'Search', 'Query', 'Export', 'Import', and 'Operations'. Below the menu bar is a 'Show query box' button. The main area displays a green success message: '✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0004 seconds.)'. Below this message is the SQL query: `ALTER TABLE students_21_series MODIFY COLUMN semester VARCHAR(20);`. At the bottom, there are links: '[Edit inline] [Edit] [Create PHP code]'.

1.4.3 Add a new column named as Log. Set the value applicable and not applicable for the condition(<30)

Adding column:

Query:

The screenshot shows a database management tool interface with a menu bar containing 'Structure', 'SQL', 'Search', 'Query', and 'Export'. A dialog box titled 'Run SQL query/queries on database ece:' is open. The query editor shows the following SQL query: `1 ALTER TABLE students_21_series`
`2 ADD log varchar(255);`

Output:

The screenshot shows a database management tool interface with a menu bar containing 'Structure', 'SQL', 'Search', 'Query', 'Export', 'Import', and 'Operations'. Below the menu bar is a 'Show query box' button. The main area displays a green success message: '✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0004 seconds.)'. Below this message is the SQL query: `ALTER TABLE students_21_series ADD log varchar(255);`. At the bottom, there are links: '[Edit inline] [Edit] [Create PHP code]'.

roll	name	semester	favourite_subject	obtained_marks	log
2110039	Sanjana Islam	4	Mathematics	70	NULL
2220039	Nafia Akter	2	Biology	20	NULL
2320034	Samia Akter	1	Physics	55	NULL
2110079	Sanjida Islam	4	Mathematics	72	NULL
2110089	Farjana Islam	4	Mathematics	2	NULL
2110090	Farhana Islam	4	Mathematics	58	NULL
2110040	Zanifa Islam	3	Chemistry	45	NULL
2110050	Tania Akter	2	Biology	29	NULL
2110060	Amina Begum	1	English	60	NULL
2110070	Rita Chowdhury	3	History	5	NULL

Setting the value applicable and not applicable:

Query:

Structure SQL Search

Run SQL query/queries on database ece: ?

```

1 UPDATE students_21_series
2 SET Log = 'Applicable'
3 WHERE obtained_marks <30;

```

Structure SQL Search Query

Run SQL query/queries on database ece: ?

```

1 UPDATE students_21_series
2 SET Log = 'Not Applicable'
3 WHERE obtained_marks >= 30;

```

Output:

✓ 4 rows affected. (Query took 0.0004 seconds.)

```
UPDATE students_21_series SET Log = 'Applicable' WHERE obtained_marks <30;
```

[\[Edit inline \]](#)
[\[Edit \]](#)
[\[Create PHP code \]](#)

Show query box

✓ 6 rows affected. (Query took 0.0004 seconds.)

```
UPDATE students_21_series SET Log = 'Not Applicable' WHERE obtained_marks >= 30;
```

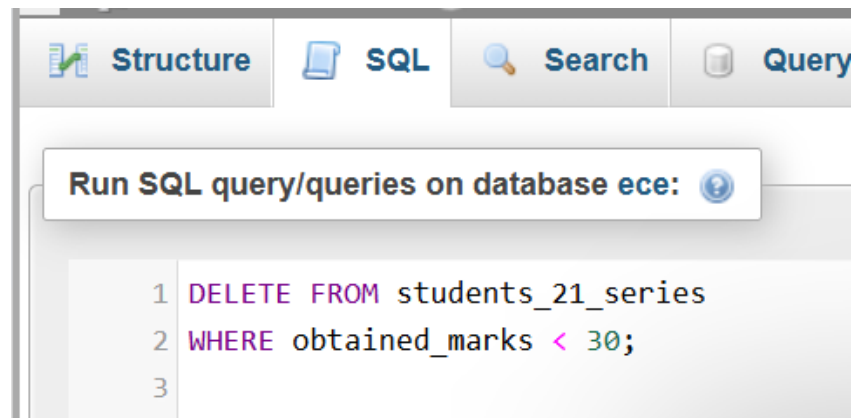
[[Edit inline](#)] [[Edit](#)] [[Create PHP code](#)]

roll	name	semester	favourite_subject	obtained_marks	log
2110039	Sanjana Islam	4	Mathematics	70	Not Applicable
2220039	Nafia Akter	2	Biology	20	Applicable
2320034	Samia Akter	1	Physics	55	Not Applicable
2110079	Sanjida Islam	4	Mathematics	72	Not Applicable
2110089	Farjana Islam	4	Mathematics	2	Applicable
2110090	Farhana Islam	4	Mathematics	58	Not Applicable
2110040	Zanifa Islam	3	Chemistry	45	Not Applicable
2110050	Tania Akter	2	Biology	29	Applicable
2110060	Amina Begum	1	English	60	Not Applicable
2110070	Rita Chowdhury	3	History	5	Applicable

1.4.4 Delete the students info whose marks are below 30.

Deleting the students info whose marks are below 30:

Query:



Output:

The screenshot shows a database management interface with a toolbar at the top containing icons for Structure, SQL, Search, Query, Export, and Import. Below the toolbar is a button labeled "Show query box". A green message box displays the result of a query: "4 rows deleted. (Query took 0.0012 seconds.)". Below this, the SQL query is shown: `DELETE FROM students_21_series WHERE obtained_marks < 30;`. At the bottom, there are links for "[Edit inline]", "[Edit]", and "[Create PHP code]".

roll	name	semester	favourite_subject	obtained_marks	log
2110039	Sanjana Islam	4	Mathematics	70	Not Applicable
2320034	Samia Akter	1	Physics	55	Not Applicable
2110079	Sanjida Islam	4	Mathematics	72	Not Applicable
2110090	Farhana Islam	4	Mathematics	58	Not Applicable
2110040	Zanifa Islam	3	Chemistry	45	Not Applicable
2110060	Amina Begum	1	English	60	Not Applicable

Truncating the table to remove all data:

Query:

```
1 TRUNCATE TABLE students_21_series;
```

Output:

The screenshot shows the same database management interface as before. The toolbar and "Show query box" button are present. A green message box displays the result of the TRUNCATE query: "MySQL returned an empty result set (i.e. zero rows). (Query took 0.0004 seconds.)". Below this, the SQL query is shown: `TRUNCATE TABLE students_21_series;`. At the bottom, there are links for "[Edit inline]", "[Edit]", and "[Create PHP code]".

☐ Profiling [[Edit inline](#)] [[Edit](#)] [[Explain SQL](#)] [[Create PHP code](#)] [[Refresh](#)]

roll	name	semester	favourite_subject	obtained_marks	log
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Query results operations

Dropping the table:

Query:

```
1 DROP TABLE students_21_series;
```

Output:

Structure SQL Search Query Export Import

Show query box

✓ MySQL returned an empty result set (i.e. zero rows). (Query took 0.0003 seconds.)

DROP TABLE students_21_series;

[[Edit inline](#)] [[Edit](#)] [[Create PHP code](#)]