“Heaven's Light is Our Guide”

Rajshahi University of Engineering & Technology

Department of Electrical and Computer Engineering

Course code: ECE 2216

Course title: Database Management System Sessional

Report number: 01

Date of submission: 24 September 2024

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Experiment No: 01

Experiment Name: Create a database containing following info for 10 students.

1. Roll
2. Name
3. Semester
4. Major subject
5. Obtained Marks

Task-1: Create a database and table

Code:

```
-- Create the database
CREATE DATABASE student;


-- Use the newly created database
USE student;


-- Create the table
CREATE TABLE students (
    Roll INT PRIMARY KEY,
    Name VARCHAR(100),
    Semester INT,
    Major_Subject VARCHAR(100),
    Obtained_Marks INT
);


-- Insert data into the table
INSERT INTO students (Roll, Name, Semester, Major_Subject, Obtained_Marks)
VALUES
(1, 'Alice Johnson', 1, 'Electrical Engineering', 85),
(2, 'Bob Smith', 2, 'Mechanical Engineering', 78),
(3, 'Charlie Brown', 1, 'Civil Engineering', 92),
(4, 'David White', 3, 'Computer Engineering', 88),
(5, 'Eva Green', 2, 'Software Engineering', 25),
(6, 'Frank Black', 4, 'Aerospace Engineering', 91),
(7, 'Grace Clark', 1, 'Chemical Engineering', 83),
```

```
(8, 'Henry Adams', 3, 'Biomedical Engineering', 22),
(9, 'Isabella King', 4, 'Environmental Engineering', 77),
(10, 'Jack Wilson', 2, 'Industrial Engineering', 28);

-- Select all data from the table
SELECT * FROM students;
```

OutPut:

	Roll	Name	Semester	Major_Subject	Obtained_Marks
Edit Copy Delete	1	Alice Johnson	1	Electrical Engineering	85
Edit Copy Delete	2	Bob Smith	2	Mechanical Engineering	78
Edit Copy Delete	3	Charlie Brown	1	Civil Engineering	92
Edit Copy Delete	4	David White	3	Computer Engineering	88
Edit Copy Delete	5	Eva Green	2	Software Engineering	25
Edit Copy Delete	6	Frank Black	4	Aerospace Engineering	91
Edit Copy Delete	7	Grace Clark	1	Chemical Engineering	83
Edit Copy Delete	8	Henry Adams	3	Biomedical Engineering	22
Edit Copy Delete	9	Isabella King	4	Environmental Engineering	77
Edit Copy Delete	10	Jack Wilson	2	Industrial Engineering	28

Task-2: Change a specific column name and data type

Code:

```
USE student;

ALTER TABLE students

CHANGE COLUMN Obtained_Marks Score FLOAT;
```

Output:

MySQL returned an empty result set (i.e. zero rows). (Query took 0.0008 seconds.)

```
ALTER TABLE students CHANGE COLUMN Obtained_Marks Score FLOAT;
```

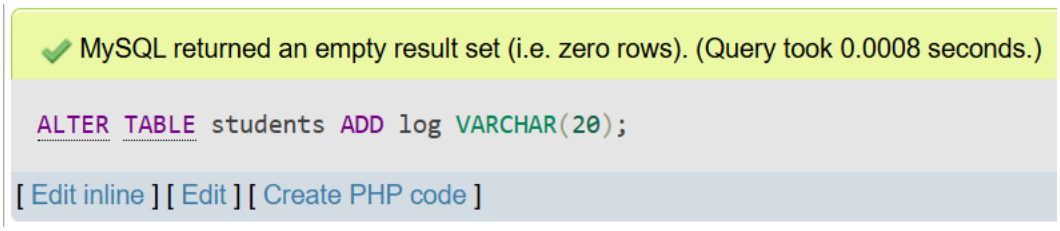
Task-3: Add a new column named as log. Set the value applicable and not applicable for the condition

Code:

```
-- Use the existing database

USE student;


-- Add the new column 'log'
```

```
ALTER TABLE students
ADD log VARCHAR(20);

-- Update the 'log' column based on the 'Score' column
UPDATE students
SET log = CASE
    WHEN Score < 30 THEN 'Applicable'
    ELSE 'Not Applicable'
END;
```

Output:



	Roll	Name	Semester	MajorSubject	ObtainedMarks	log
Edit Copy Delete	1	Alice	1	Electrical Engineering	85	NULL
Edit Copy Delete	2	Bob	2	Mechanical Engineering	78	NULL
Edit Copy Delete	3	Charlie	1	Civil Engineering	92	NULL
Edit Copy Delete	4	David	3	Computer Engineering	88	NULL
Edit Copy Delete	5	Eve	2	Chemical Engineering	95	NULL
Edit Copy Delete	6	Frank	1	Aerospace Engineering	80	NULL
Edit Copy Delete	7	Grace	3	Biomedical Engineering	76	NULL
Edit Copy Delete	8	Hank	2	Industrial Engineering	89	NULL
Edit Copy Delete	9	Ivy	1	Environmental Engineering	91	NULL
Edit Copy Delete	10	Jack	3	Nuclear Engineering	84	NULL

Task-4: delete the student's info whose marks are below 30.

Code:

```
-- Delete students whose marks are below 30
DELETE FROM students
WHERE ObtainedMarks < 30;

-- Select all data from the table to verify the changes
SELECT * FROM students;
```

Output:

←T→	Roll	Name	Semester	MajorSubject	ObtainedMarks	log
Edit Copy Delete	1	Alice	1	Electrical Engineering	85	NULL
Edit Copy Delete	2	Bob	2	Mechanical Engineering	78	NULL
Edit Copy Delete	3	Charlie	1	Civil Engineering	92	NULL
Edit Copy Delete	4	David	3	Computer Engineering	88	NULL
Edit Copy Delete	5	Eve	2	Chemical Engineering	95	NULL
Edit Copy Delete	6	Frank	1	Aerospace Engineering	80	NULL
Edit Copy Delete	7	Grace	3	Biomedical Engineering	76	NULL
Edit Copy Delete	8	Hank	2	Industrial Engineering	89	NULL
Edit Copy Delete	9	Ivy	1	Environmental Engineering	91	NULL
Edit Copy Delete	10	Jack	3	Nuclear Engineering	84	NULL