

# Assignment - 07

Submitted by Khairul Basar

1. Inserted the provided data into the respective tables and executed given query :

Query 1:

```
SELECT * FROM teachers
WHERE address = 'Dhaka';
```

Results 1 :

The screenshot shows the HeidiSQL interface with the following details:

- Database:** db\_assessment
- Table:** teachers
- Query:**

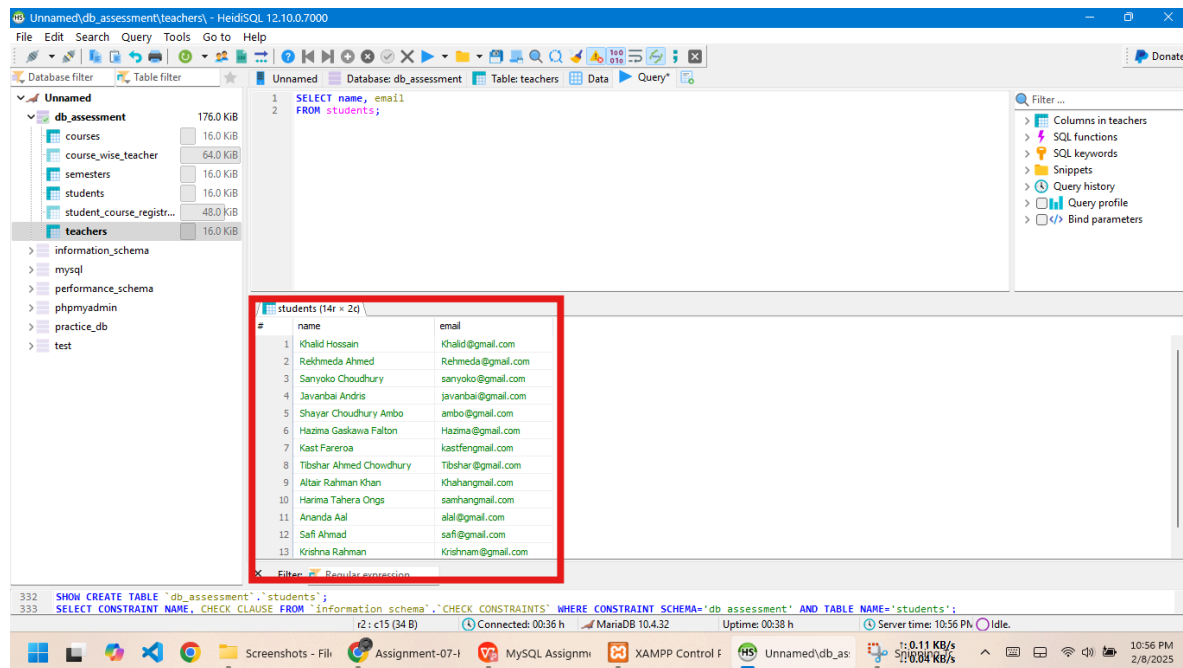
```
SELECT * FROM teachers
WHERE address = 'Dhaka';
```
- Results Table:** teachers (2r x 8g)
- Columns:** #, id, name, email, mobile, gender, address, created\_at, updated\_at
- Data Rows:**

#	id	name	email	mobile	gender	address	created_at	updated_at
1	1	Fuai al Huguadr	fuai@gmail.com		male	Dhaka	2024-04-30 14:22:08	2024-04-30 14:21:46
2	2	Anran Hasan	hasan@gmail.com		male	Dhaka	2024-04-30 14:22:08	2024-04-30 14:21:48
- SQL Log:** Shows the execution of the query and the number of affected rows (2).
- Status Bar:** Connected: 00:30 h, MariaDB 10.4.32, Uptime: 00:33 h, Server time: 10:51 PM, Idle.

## Query 2 :

```
SELECT name, email  
FROM students;
```

## Results 2 :



The screenshot shows the HeidiSQL interface with the following details:

- Database:** db\_assessment
- Table:** teachers
- Query:** SELECT name, email FROM students;
- Results:** A table with 14 rows and 2 columns (name, email) is displayed. The table is highlighted with a red border.

#	name	email
1	Khalid Hossain	khalid@gmail.com
2	Rehmeda Ahmed	Rehmeda@gmail.com
3	Sanyoko Choudhury	sanyoko@gmail.com
4	Javanbai Andris	javanbai@gmail.com
5	Shayar Choudhury Ambo	ambo@gmail.com
6	Hazima Gaskaria Falton	Hazima@gmail.com
7	Kast Fareroa	kastfengmail.com
8	Tibshar Ahmed Chowdhury	Tibshar@gmail.com
9	Altair Rahman Khan	khahangmail.com
10	Harima Tahera Ongs	samhangmail.com
11	Ananda Aal	alal@gmail.com
12	Safi Ahmad	safi@gmail.com
13	Krishna Rahman	Krishnam@gmail.com

## Query 3:

```
SELECT gender, COUNT(*) AS students  
FROM students  
GROUP BY gender;
```

## Results 3:

The screenshot shows the HeidiSQL interface with the following components:

- Database Filter:** Lists databases including db\_assessment (176.0 KiB), courses (16.0 KiB), course\_wise\_teacher (64.0 KiB), semesters (16.0 KiB), students (16.0 KiB), student\_course\_registr... (48.0 KiB), teachers (16.0 KiB), information\_schema, mysql, performance\_schema, phpmyadmin, practice\_db, and test.
- Query Editor:** Contains the SQL query:

```
1 SELECT gender, COUNT(*) AS students
2 FROM students
3 GROUP BY gender;
```
- Results Panel:** Displays the results of the query in a table titled "students (2r x 2c)". The table has two columns: "gender" and "students". The results are:

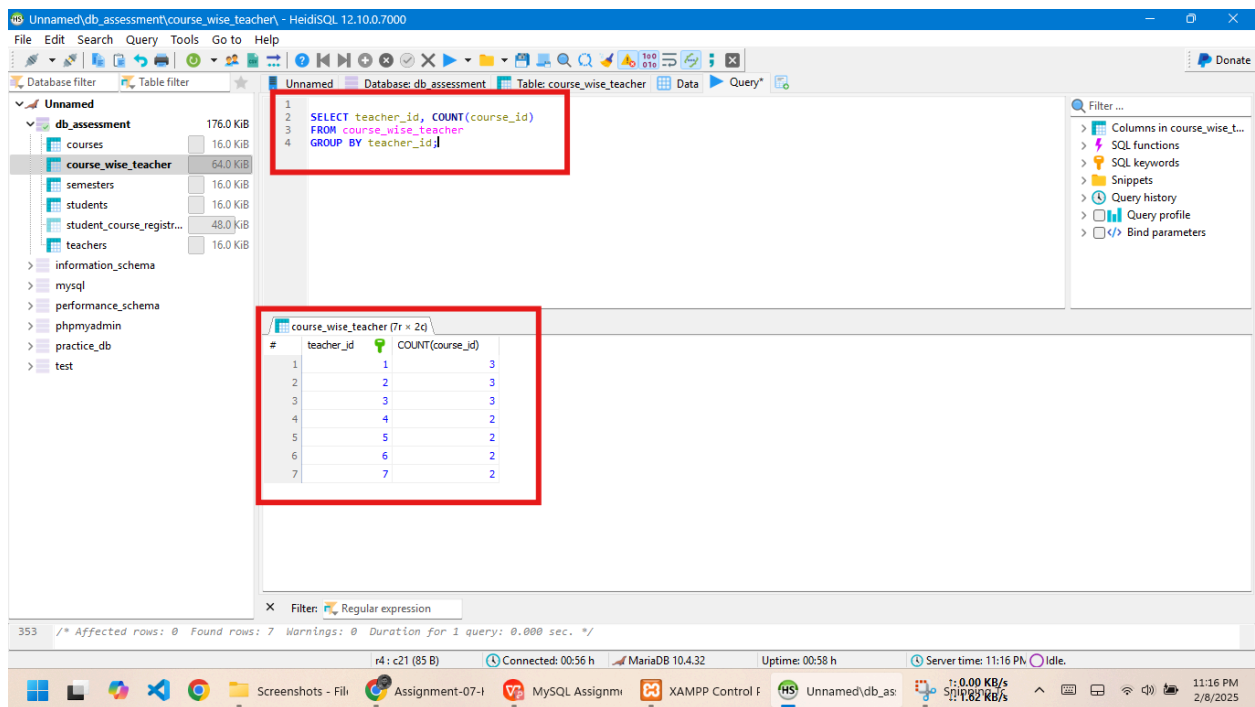
#	gender	students
1	male	11
2	female	3
- Status Bar:** Shows "342 /\* Affected rows: 0 Found rows: 2 Warnings: 0 Duration for 1 query: 0.000 sec. \*/".
- Bottom Bar:** Displays connection details: "r1: c1 (70 B)", "Connected: 00:40 h", "MariaDB 10.4.32", "Uptime: 00:42 h", and "Server time: 11:00 PM Idle".

## 2. Run the provided queries

### Task 1 Query :

```
SELECT teacher_id, COUNT(course_id)
FROM course_wise_teacher
GROUP BY teacher_id;
```

### Results 1 :



The screenshot shows the HeidiSQL interface with the following details:

- Database:** db\_assessment
- Table:** course\_wise\_teacher
- Query:**

```
1 SELECT teacher_id, COUNT(course_id)
2 FROM course_wise_teacher
3 GROUP BY teacher_id;
```
- Results:** A table with 7 rows and 2 columns: teacher\_id and COUNT(course\_id).

#	teacher_id	COUNT(course_id)
1	1	3
2	2	3
3	3	3
4	4	2
5	5	2
6	6	2
7	7	2

At the bottom, the status bar indicates: 353 /\* Affected rows: 0 Found rows: 7 Warnings: 0 Duration for 1 query: 0.000 sec. \*/

## Task 2 Query :

```
SELECT id,SUBSTR(title,1,5) AS course_title
FROM courses;
```

## Result 2:

The screenshot shows the HeidiSQL interface with a query executed against the 'courses' table. The query is highlighted in a red box:

```
1 SELECT id,SUBSTR(title,1,5) AS course_title
2 FROM courses;
```

The results are displayed in a table below the query, also highlighted in a red box:

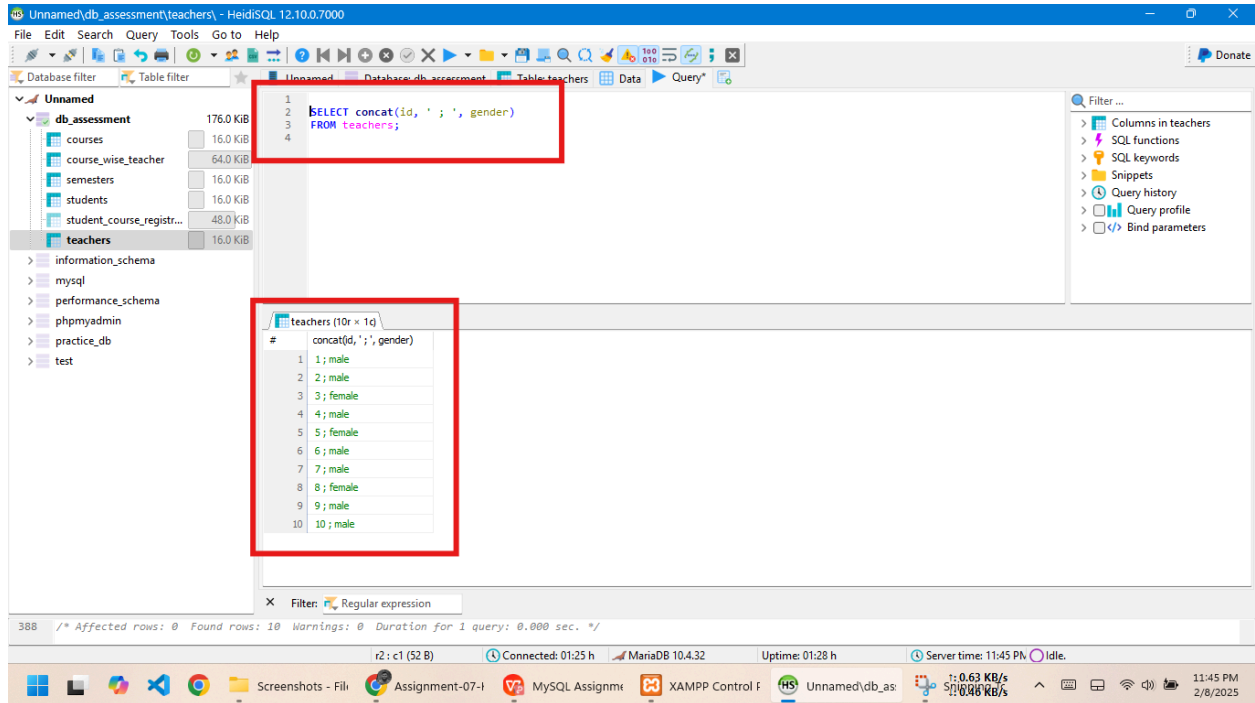
#	id	course_title
1	1	Intro
2	2	Analo
3	3	Integ
4	4	Theor
5	5	Digit
6	6	Compu
7	7	Opera

The status bar at the bottom indicates: 369 /\* Affected rows: 0 Found rows: 7 Warnings: 0 Duration for 1 query: 0.000 sec. \*/

## Task 3 Query:

```
SELECT concat(id, ' ; ', gender)
FROM teachers;
```

## Result 3 :



The screenshot shows the HeidiSQL interface with a query executed against the 'teachers' table. The query is highlighted in a red box, and the results are shown in a table below it, also highlighted in a red box.

**Query:**

```
1 SELECT concat(id, ' ; ', gender)
2 FROM teachers;
```

**Results:**

#	concat(id, ' ; ', gender)
1	1 ; male
2	2 ; male
3	3 ; female
4	4 ; male
5	5 ; female
6	6 ; male
7	7 ; male
8	8 ; female
9	9 ; male
10	10 ; male

The status bar at the bottom indicates: 388 /\* Affected rows: 0 Found rows: 10 Warnings: 0 Duration for 1 query: 0.000 sec. \*/

## Task 4 Query :

```
SELECT id, `name`  
FROM students  
WHERE LENGTH(`name`) > 10;
```

## Result 4 :

The screenshot shows the HeidiSQL interface with the following components:

- Database Filter:** A tree view on the left showing the database structure. The 'students' table is selected under the 'db\_assessment' database.
- Query Editor:** The central pane displays the SQL query: 

```
SELECT id, `name`  
FROM students  
WHERE LENGTH(`name`) > 10;
```
- Results Panel:** The bottom pane shows the query results for the 'students' table. The results are displayed in a table with columns 'id' and 'name'. The rows are numbered 1 through 11.
- Status Bar:** The bottom status bar indicates: '413 /\* Affected rows: 0 Found rows: 11 Warnings: 0 Duration for 1 query: 0.000 sec. \*/'

#	id	name
1	1	Khalid Hossain
2	3	Sanyoko Choudhury
3	4	Javanbai Andris
4	5	Shayar Choudhury Ambo
5	6	Hazima Gaskawa Falton
6	7	Kast Fareroa
7	8	Tibshar Ahmed Chowdhury
8	9	Altair Rahman Khan
9	10	Harima Tahera Onga
10	13	Krishna Rahman
11	14	Khalid Hossain

## Task 5 Query :

```
SELECT title,LENGTH(title)
FROM courses
WHERE LENGTH(title) IN (
    SELECT MAX(LENGTH(title))
    FROM courses
    UNION
    SELECT MIN(LENGTH(title))
    FROM courses
);
```

## Results 5 :

The screenshot shows the HeidiSQL interface with a query window and a results window. The query window contains the following SQL code:

```
1 SELECT title,LENGTH(title)
2 FROM courses
3 WHERE LENGTH(title) IN (
4     SELECT MAX(LENGTH(title))
5     FROM courses
6     UNION
7     SELECT MIN(LENGTH(title))
8     FROM courses
9 );
10
```

The results window displays the output of the query, showing three rows of data from the 'courses' table:

#	title	LENGTH(title)
1	Integral Calculus & Differential Equation	41
2	Computer Network	16
3	Operating System	16

The interface also shows a database filter on the left with the 'db\_assessment' database selected, and a status bar at the bottom indicating the query was executed successfully.



## Task 6 Query :

```
SELECT student_id,  
       SUM(marks) AS Total_marks,  
       AVG(marks) AS avg_marks  
FROM student_course_registration  
GROUP BY student_id;
```

## Results 6 :

The screenshot shows the HeidiSQL interface with the following components:

- Database filter:** A tree view on the left showing the database structure. The 'student\_course\_registration' table is selected under the 'db\_assessment' database.
- Query editor:** A central text area containing the SQL query:

```
1 SELECT student_id,  
2       SUM(marks) AS Total_marks,  
3       AVG(marks) AS avg_marks  
4 FROM student_course_registration  
5 GROUP BY student_id;
```
- Results pane:** A table showing the results of the query. The table has 11 rows and 4 columns: '#', 'student\_id', 'Total\_marks', and 'avg\_marks'. The data is as follows:

#	student_id	Total_marks	avg_marks
1	1	220.0	55.0
2	2	434.0	72.333333
3	3	70.0	70.0
4	4	65.0	65.0
5	5	89.0	89.0
6	6	89.0	89.0
7	7	56.0	56.0
8	8	49.0	49.0
9	10	79.0	79.0
10	12	142.0	71.0
11	13	106.0	53.0
- Status bar:** At the bottom, it shows '485 /\* Affected rows: 0 Found rows: 11 Warnings: 0 Duration for 1 query: 0.000 sec. \*/'.

## Task 7 Query :

```
SELECT student_id,  
       SUM(marks) AS Total_marks,  
       COUNT(course_wise_teacher_id) AS course_count  
FROM student_course_registration  
WHERE marks > 70  
GROUP BY student_id;
```

## Results 7 :

The screenshot shows the HeidiSQL interface with the following components:

- Database filter:** A tree view on the left showing the database structure. The 'db\_assessment' database is selected, and the 'student\_course\_registration' table is highlighted.
- Query editor:** The SQL query is entered in the main text area:

```
1 SELECT student_id,  
2       SUM(marks) AS Total_marks,  
3       COUNT(course_wise_teacher_id) AS course_count  
4 FROM student_course_registration  
5 WHERE marks > 70  
6 GROUP BY student_id;
```

- Results panel:** Below the query editor, the results of the query are displayed in a table format. The table has 6 rows and 4 columns: #, student\_id, Total\_marks, and course\_count.

#	student_id	Total_marks	course_count
1	1	161.0	2
2	2	311.0	4
3	5	89.0	1
4	6	89.0	1
5	10	79.0	1
6	12	79.0	1

The status bar at the bottom indicates: 500 /\* Affected rows: 0 Found rows: 6 Warnings: 0 Duration for 1 query: 0.000 sec. \*/

## Task 8 Query :

```
SELECT student_id, marks,
CASE
WHEN marks >= 90 THEN 'Excellent'
WHEN marks >= 70 THEN 'GOOD'
WHEN marks >= 50 THEN 'Average'
ELSE 'Poor'
END AS grade_categories
FROM student_course_registration;
```

## Results 8 :

The screenshot shows the HeidiSQL interface with the following components:

- Database Filter:** A tree view on the left showing the database structure. The 'student\_course\_registration' table is selected.
- Query Editor:** The SQL query is entered in the central pane. It is highlighted with a red box.
- Query Results:** The results of the query are displayed in a table below the editor. This table is also highlighted with a red box.
- Query Log:** At the bottom, it shows '504 /\* Affected rows: 0 Found rows: 21 Warnings: 0 Duration for 1 query: 0.000 sec. \*/'

**Query:**

```
1 SELECT student_id, marks,
2 CASE
3 WHEN marks >= 90 THEN 'Excellent'
4 WHEN marks >= 70 THEN 'GOOD'
5 WHEN marks >= 50 THEN 'Average'
6 ELSE 'Poor'
7 END AS grade_categories
8 FROM student_course_registration;
```

**Results:**

#	student_id	marks	grade_categories
1	2	80.0	GOOD
2	2	75.0	GOOD
3	2	65.0	Average
4	2	78.0	GOOD
5	1	85.0	GOOD
6	1	39.0	Poor
7	1	20.0	Poor
8	12	79.0	GOOD
9	3	70.0	GOOD
10	4	65.0	Average
11	5	89.0	GOOD
12	6	89.0	GOOD
13	7	56.0	Average