

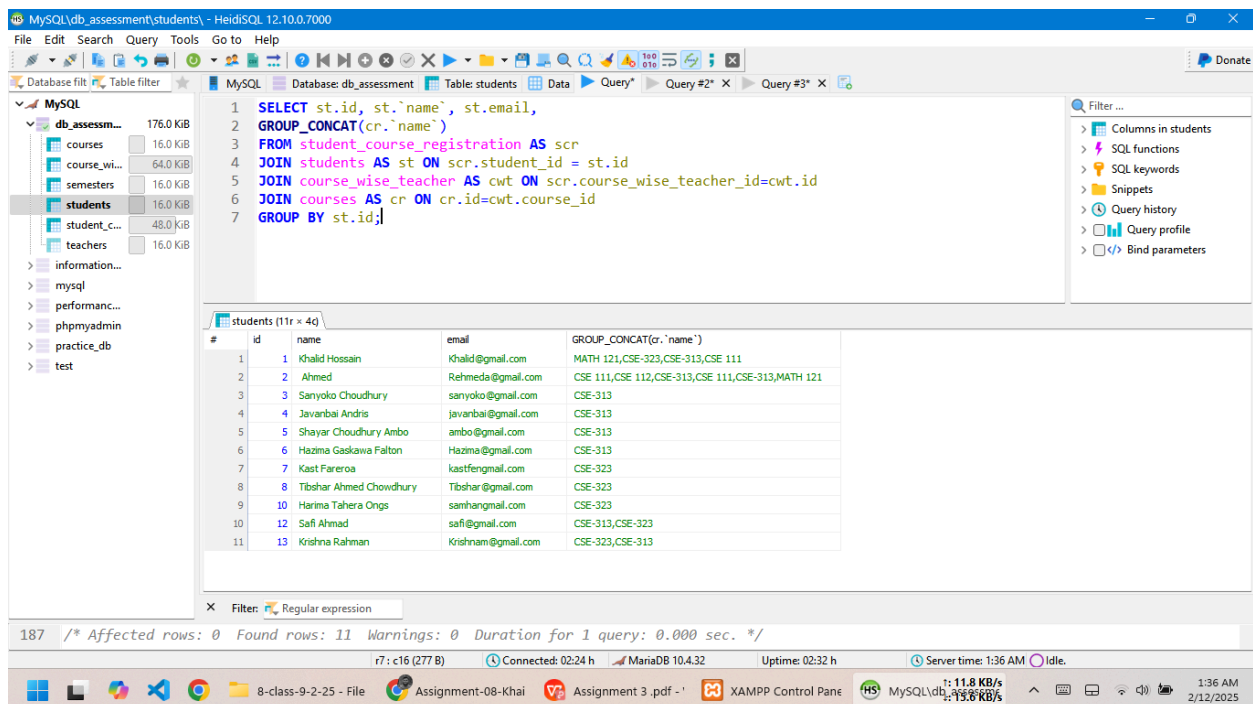
Assignment-08

Submitted by Khairul Basar

Task- 1: Query:

```
SELECT
    st.id,
    st.`name`,
    st.email,
    GROUP_CONCAT(cr.`name`)
FROM
    student_course_registration AS scr
JOIN students AS st ON scr.student_id = st.id
JOIN course_wise_teacher AS cwt ON scr.course_wise_teacher_id = cwt.id
JOIN courses AS cr ON cr.id = cwt.course_id
GROUP BY
    st.id;
```

Result:



The screenshot displays the HeidiSQL interface with the following components:

- Database Structure:** A tree view on the left shows the database 'db_assessment' containing tables: courses (176.0 KIB), course_wise_teacher (64.0 KIB), semesters (16.0 KIB), students (16.0 KIB), student_course_registration (48.0 KIB), and teachers (16.0 KIB).
- Query Editor:** The central pane shows the SQL query:

```
1 SELECT st.id, st.`name`, st.email,
2 GROUP_CONCAT(cr.`name`)
3 FROM student_course_registration AS scr
4 JOIN students AS st ON scr.student_id = st.id
5 JOIN course_wise_teacher AS cwt ON scr.course_wise_teacher_id=cwt.id
6 JOIN courses AS cr ON cr.id=cwt.course_id
7 GROUP BY st.id;
```
- Query Results:** The bottom pane shows the result set for the 'students' table (11 rows x 4 columns). The columns are: #, id, name, email, and GROUP_CONCAT(cr.`name`).
- Result Data:**

#	id	name	email	GROUP_CONCAT(cr.`name`)
1	1	Khalid Hossain	khalid@gmail.com	MATH 121,CSE-323,CSE-313,CSE 111
2	2	Ahmed	Rehmeda@gmail.com	CSE 111,CSE 112,CSE-313,CSE 111,CSE-313,MATH 121
3	3	Sanyoko Choudhury	sanyoko@gmail.com	CSE-313
4	4	Javanbai Andris	javanbai@gmail.com	CSE-313
5	5	Shayer Choudhury Ambo	ambo@gmail.com	CSE-313
6	6	Hazima Gaskawa Falton	Hazima@gmail.com	CSE-313
7	7	Kast Fareroa	kastfengmail.com	CSE-323
8	8	Tibshar Ahmed Chowdhury	Tibshar@gmail.com	CSE-323
9	10	Harina Tahera Onga	samhangmail.com	CSE-323
10	12	Safi Ahmad	safi@gmail.com	CSE-313,CSE-323
11	13	Krishna Rahman	Krishnam@gmail.com	CSE-323,CSE-313

- Status Bar:** At the bottom, it indicates '187 /* Affected rows: 0 Found rows: 11 Warnings: 0 Duration for 1 query: 0.000 sec. */'.

Task- 2: Query:

```
SELECT cr.id AS course_id,  
       cr.name AS course_name,  
       t.name AS teacher_name  
FROM course_wise_teacher AS cwt  
JOIN courses AS cr ON cwt.course_id = cr.id  
JOIN teachers AS t ON cwt.teacher_id = t.id;
```

Result:

The screenshot shows the HeidiSQL interface with the following components:

- Database filter:** MySQL db_assessment (176.0 KiB)
- Table filter:** courses (16.0 KiB)
- Query editor:** The SQL query is displayed and formatted.
- Query result:** A table with 12 rows and 3 columns: course_id, course_name, and teacher_name.
- Filter:** Regular expression
- Status bar:** Connected: 02:41 h, MariaDB 10.4.32, Uptime: 02:49 h, Server time: 1:53 AM, Idle.

#	course_id	course_name	teacher_name
1	1	CSE 111	Fuad al Huguadir
2	1	CSE 111	Sahbi Alam
3	2	CSE 112	Ruzest afrez Tania
4	3	MATH 121	Nishimi Islam
5	4	CSE-231	Jianzui Jahan
6	5	CSE-323	Muhammad Sharif Uddin
7	5	CSE-323	Fuad al Huguadir
8	5	CSE-323	Sahbi Alam
9	5	CSE-323	Ruzest afrez Tania
10	6	CSE-323	Amran Hasan
11	7	CSE-313	Fuad al Huguadir
12	7	CSE-313	Sahbi Alam

Task- 3: Query:

```
SELECT
  st.id AS student_id,
  st.name AS student_name, GROUP_CONCAT(cr.name) AS courses,
  t.name AS teacher_name
FROM
  student_course_registration AS scr
JOIN
  students AS st ON scr.student_id = st.id
JOIN
  course_wise_teacher AS cwt ON scr.course_wise_teacher_id = cwt.id
JOIN
  courses AS cr ON cwt.course_id = cr.id
JOIN
  teachers AS t ON cwt.teacher_id = t.id
GROUP BY
  st.id, t.name;
```

Result:

The screenshot shows the HeidiSQL interface with a MySQL query executed. The query is as follows:

```
1 SELECT
2   st.id AS student_id,
3   st.name AS student_name, GROUP_CONCAT(cr.name) AS courses,
4   t.name AS teacher_name
5 FROM
6   student_course_registration AS scr
7 JOIN
8   students AS st ON scr.student_id = st.id
9 JOIN
10  course_wise_teacher AS cwt ON scr.course_wise_teacher_id = cwt.id
11 JOIN
12  courses AS cr ON cwt.course_id = cr.id
13 JOIN
14  teachers AS t ON cwt.teacher_id = t.id
15 GROUP BY
16   st.id, t.name;
```

The results are displayed in a table with 3 columns: student_name, course_name, and teacher_name. The table contains 6 rows of data.

#	student_name	course_name	teacher_name
1	Ahmed	CSE 111	Fuad al Huguadr
2	Ahmed	CSE 111	Sahbi Alam
3	Khalid Hossain	CSE 111	Sahbi Alam
4	Ahmed	CSE 112	Ruzest afrez Tania
5	Ahmed	MATH 121	Nishimi Islam
6	Khalid Hossain	MATH 121	Nishimi Islam

The interface also shows a database filter on the left, a query editor on the right, and a status bar at the bottom indicating connection details and server time.

Task- 4: Query:

```
SELECT
  st.id AS student_id,
  st.name AS student_name,
  st.email
FROM
  students AS st
LEFT JOIN
  student_course_registration AS scr ON st.id = scr.student_id
WHERE
  scr.id IS NULL;
```

Result:

The screenshot shows the HeidiSQL interface with a MySQL query executed. The query is a LEFT JOIN between the 'students' table and the 'student_course_registration' table, filtering for rows where 'scr.id' is NULL. The results table shows three rows of student data.

Query:

```
1 SELECT
2   st.id AS student_id,
3   st.name AS student_name,
4   st.email
5 FROM
6   students AS st
7 LEFT JOIN
8   student_course_registration AS scr ON st.id = scr.student_id
9 WHERE
10  scr.id IS NULL;
11
```

Results:

#	student_id	student_name	email
1	9	Altair Rahman Khan	Khahangmail.com
2	11	Ananda Aal	alal@gmail.com
3	14	Khalid Hossain	Khalid@gmail.com

Status Bar: 246 /* Affected rows: 0 Found rows: 3 Warnings: 0 Duration for 1 query: 0.000 sec. */

Task- 5: Query:

```
SELECT t.id, t.name,
       COUNT(cr.id)
FROM teachers AS t
LEFT JOIN course_wise_teacher AS cwt ON cwt.teacher_id = t.id
LEFT JOIN courses AS cr ON cwt.course_id = cr.id
GROUP BY t.id;
```

Result:

The screenshot shows the HeidiSQL interface with the following components:

- Database filter:** Shows the database structure for 'db_assessment' with tables: courses (16.0 KiB), course_wise_teacher (64.0 KiB), semesters (16.0 KiB), students (16.0 KiB), student_course_registration (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 t.id, t.name,
2       COUNT(cr.id)
3 FROM teachers AS t
4 LEFT JOIN course_wise_teacher AS cwt ON cwt.teacher_id = t.id
5 LEFT JOIN courses AS cr ON cwt.course_id = cr.id
6
7 GROUP BY t.id;
```
- Query results:** Displays the results for the 'teachers' table (10 rows x 3 columns). The columns are 'id', 'name', and 'COUNT(cr.id)'. The data is as follows:

#	id	name	COUNT(cr.id)
1	1	Fuad al Huguadr	3
2	2	Sahbi Alam	3
3	3	Ruzest afrez Tania	3
4	4	Nishini Islam	2
5	5	Jianzui Jehan	2
6	6	Muhammad Sharif Uddin	2
7	7	Amran Hasan	2
8	8	Prof. Dr. Fatma Ashraf	0
9	9	Sahbi Alam	0
10	10	Huajuku Uddin Haigh	0

At the bottom, the status bar shows: 268 /* Affected rows: 0 Found rows: 10 Warnings: 0 Duration for 1 query: 0.000 sec. */

Task- 6: Query:

```
SELECT
  cr.name AS course_name,
  st.name AS student_name,
  scr.updated_at AS registration_date
FROM student_course_registration AS scr
JOIN students AS st ON scr.student_id = st.id
JOIN course_wise_teacher AS cwt ON scr.course_wise_teacher_id = cwt.id
JOIN courses AS cr ON cwt.course_id = cr.id;
```

Result:

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 pasted into the editor window.
- Query Result:** The result of the query is displayed in a table with 3 columns: 'course_name', 'student_name', and 'registration_date'. The table contains 9 rows of data.
- Status Bar:** At the bottom, it shows '289 /* Affected rows: 0 Found rows: 21 Warnings: 0 Duration for 1 query: 0.000 sec. */'.

#	course_name	student_name	registration_date
1	CSE 111	Ahmed	2024-04-30 14:30:11
2	CSE 111	Ahmed	2024-04-30 14:30:11
3	CSE 111	Khalid Hossain	2024-04-30 14:30:11
4	CSE 112	Ahmed	2024-04-30 14:30:11
5	MATH 121	Ahmed	2024-04-30 14:30:11
6	MATH 121	Khalid Hossain	2024-04-30 14:30:11
7	CSE-323	Khalid Hossain	2024-04-30 14:30:11
8	CSE-323	Safi Ahmad	2024-04-30 14:30:11
9	CSE-323	Harima Tahera Ongo	2024-04-30 14:30:11

Task- 7: Query:

```
SELECT
  cr.id AS course_id,
  cr.name AS course_name
FROM
  courses AS cr
LEFT JOIN
  course_wise_teacher AS cwt ON cr.id = cwt.course_id
LEFT JOIN
  student_course_registration AS scr ON cwt.id =
  scr.course_wise_teacher_id
WHERE
  scr.id IS NULL;
```

Result:

The screenshot shows the HeidiSQL interface with the following components:

- Database filter:** Shows the database structure for 'db_assessment' with tables like 'courses', 'course_wise_teacher', 'semesters', 'students', 'student_course_registration', and 'teachers'.
- Query editor:** Contains the SQL query from the task, reformatted with line numbers 1 through 12.
- Query results:** Displays the results of the query in a table with 4 rows and 2 columns: 'course_id' and 'course_name'. The results are: (4, CSE-231), (6, CSE-323), (7, CSE-313), and (7, CSE-313).
- Status bar:** Shows connection details: 'Connected: 03:29 h', 'MariaDB 10.4.32', 'Uptime: 03:37 h', and 'Server time: 2:41 AM, Idle'.

#	course_id	course_name
1	4	CSE-231
2	6	CSE-323
3	7	CSE-313
4	7	CSE-313

Task- 8: Query:

```
SELECT
  cr.id AS course_id,
  cr.name AS course_name, COUNT(scr.student_id) AS total_students
FROM
  courses AS cr
JOIN
  course_wise_teacher AS cwt ON cr.id = cwt.course_id
JOIN
  student_course_registration AS scr ON cwt.id =
  scr.course_wise_teacher_id
GROUP BY
  cr.id;
```

Result :

The screenshot shows the HeidiSQL interface with the following components:

- Database filter:** MySQL, 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_registration (48.0 KiB), teachers (16.0 KiB), information_schema, mysql, performance_schema, phpmyadmin, practice_db, test.
- Query editor:** The SQL query is pasted and formatted. The status bar at the bottom indicates: "/* Code reformatted in 00:00:00.000, using formatter #0 */".
- Query results:** The results are displayed in a table with 5 rows and 3 columns: course_id, course_name, and total_students.
- Taskbar:** Shows the system clock as 2:49 AM on 2/12/2025, and various open applications including XAMPP Control Panel and MySQL db_assessment.

#	course_id	course_name	total_students
1	1	CSE 111	3
2	2	CSE 112	1
3	3	MATH 121	2
4	5	CSE-323	6
5	7	CSE-313	9

Task- 9: Query:

```
SELECT
  st.id AS student_id,
  st.name AS student_name
FROM
  student_course_registration AS scr
JOIN
  students AS st ON scr.student_id = st.id
GROUP BY
  st.id
HAVING COUNT(scr.course_wise_teacher_id) > 1;
```

Result :

The screenshot shows the HeidiSQL interface with the following components:

- Database filter:** MySQL, db_assessment (176.0 KiB)
- Table filter:** courses (16.0 KiB), course_wise_teacher (64.0 KiB), semesters (16.0 KiB), students (16.0 KiB), student_course_registration (48.0 KiB), teachers (16.0 KiB)
- Query editor:** The SQL query is displayed and formatted.
- Query results:** The results are shown in a table with 4 rows and 2 columns: student_id and student_name.
- Bottom status bar:** Shows connection details and system information.

#	student_id	student_name
1	1	Khalid Hossain
2	2	Ahmed
3	12	Safi Ahmad
4	13	Krishna Rahman

326 /* Code reformatted in 00:00:00.000, using formatter #0 */

Connected: 03:40 h MariaDB 10.4.32 Uptime: 03:48 h Server time: 2:52 AM Idle.

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Task- 10: Query:

```
SELECT
  st.name AS person_name
FROM
  students AS st UNION
SELECT
  t.name AS person_name
FROM
  teachers AS t;
```

Result:

The screenshot shows the HeidiSQL interface with a MySQL database named 'db_assessment'. The query editor displays the following SQL query:

```
1 SELECT
2   st.name AS person_name
3 FROM
4   students AS st UNION
5 SELECT
6   t.name AS person_name
7 FROM
8   teachers AS t;
9
```

The results pane shows the output of the query, displaying a list of names from the 'students' and 'teachers' tables. The results are as follows:

#	person_name
1	Khalid Hossain
2	Ahmed
3	Sanyoko Choudhury
4	Javanbai Andris
5	Shayar Choudhury Ambo
6	Hazima Gaskawa Falton
7	Kast Fareroa
8	Tibshar Ahmed Chowdhury
9	Altair Rahman Khan
10	Harima Tahera Ongs
11	Ananda Aal

The interface also shows the database structure on the left, including tables like 'course_wise_teacher', 'semesters', 'students', 'student_course_registration', and 'teachers'. The status bar at the bottom indicates the connection is active and the server is idle.

Task- 11: Query:

```
SELECT DISTINCT
  st.email AS unique_email
FROM
  students AS st UNION
SELECT DISTINCT
  t.email AS unique_email
FROM
  teachers AS t;
```

Result:

The screenshot shows the HeidiSQL interface with a MySQL database named 'db_assessment'. The 'courses' table is selected in the database filter. The query editor displays the following SQL query:

```
1 SELECT DISTINCT
2   st.email AS unique_email
3 FROM
4   students AS st UNION
5 SELECT DISTINCT
6   t.email AS unique_email
7 FROM
8   teachers AS t;
```

The results pane shows the output of the query, displaying a list of unique email addresses from the 'students' and 'teachers' tables. The results are as follows:

#	unique_email
1	Khalid@gmail.com
2	Rehmeda@gmail.com
3	sanyoko@gmail.com
4	javanbai@gmail.com
5	ambo@gmail.com
6	Hazima@gmail.com
7	kastfengmail.com
8	Tibshar@gmail.com
9	Khahangmail.com
10	sanhangmail.com
11	alal@gmail.com

The status bar at the bottom indicates the connection is to 'r9: c1 (142 B)' with 'Connected: 03:50 h' and 'MariaDB 10.4.32'. The server uptime is '03:58 h' and the server time is '3:02 AM'. The interface also shows a 'Filter' section with a 'Regular expression' filter applied.

Task- 12: Query:

```
SELECT
  st.name AS NAME
FROM
  students AS st
WHERE
  st.name LIKE 'A%' UNION
SELECT
  t.name AS NAME
FROM
  teachers AS t
WHERE
  t.name LIKE 'A%';
```

Result:

The screenshot shows the HeidiSQL interface with a MySQL database named 'db_assessment'. The 'courses' table is selected in the left sidebar. The main window displays a SQL query that unions results from the 'students' and 'teachers' tables, filtering for names starting with 'A'. The query is as follows:

```
1 SELECT
2   st.name AS NAME
3 FROM
4   students AS st
5 WHERE
6   st.name LIKE 'A%' UNION
7 SELECT
8   t.name AS NAME
9 FROM
10  teachers AS t
11 WHERE
12  t.name LIKE 'A%';
13
```

The results pane shows the output of the query, which is a list of names starting with 'A':

#	NAME
1	Altair Rahman Khan
2	Ananda Aal
3	Amran Hasan

The status bar at the bottom indicates that 3 rows were affected and 3 rows were found. The server time is 3:04 AM, and the server is idle.