

# Database- Day -2: MySQL

## MYSQL QUERIES

- **CREATE TABLE** - creates a new table
- **ALTER TABLE** - modifies a table
- **INSERT INTO** - inserts new data into a database
- **DROP COLUMN**- deletes a specified column in a table
- **SELECT** - extracts data from a database
- **INNER JOIN**: Returns records that have matching values in both tables
- **LEFT JOIN**: Returns all records from the left table, and the matched records from the right table
- **RIGHT JOIN**: Returns all records from the right table, and the matched records from the left table
- **CROSS JOIN**: Returns all records from both tables

```
CREATE TABLE Batch (Batch_id INT PRIMARY KEY, Batch_name VARCHAR(25));
```

```
create table Student (Stu_id INT PRIMARY KEY, Stu_name VARCHAR(25),Batch_id INT,
```

```
foreign key (Batch_id) references Batch(Batch_id),Batch_name VARCHAR(25));
```

```
ALTER TABLE Student change column Batch_name BatchTiming varchar(25);
```

```
INSERT INTO Batch(Batch_id,Batch_name)  
values(100,"WeekDay"),(101,"WeekDay"),(102,"WeekEnd"),(103,"WeekEnd");
```

```
INSERT INTO Student(Stu_id,Stu_name,Batch_id,BatchTiming)  
values(01,"A",100,"9am"),(02,"B",101,"9am"),(03,"C",102,"10am"),(04,"D",103,"10am");
```

```
-- DESC Batch;
```

```
-- DESC Student;
```

```
Select * from Student;
```

```
SELECT * FROM Batch;
```

```
CREATE TABLE Mentor (Mentor_id INT PRIMARY KEY, Mentor_name varchar(25),Batch_id INT,
```

```
foreign key (Batch_id) references Batch(Batch_id), Batch_name varchar (25));
```

## Database- Day -2: MySQL

```
CREATE TABLE ZENCLASS (Email_id VARCHAR(50) PRIMARY KEY, Stu_id INT, Attendance  
VARCHAR(25), Mentor_id INT,
```

```
foreign key (Mentor_id) references Mentor(Mentor_id),
```

```
foreign key (Stu_id) references Student(Stu_id));
```

```
INSERT INTO Mentor (Mentor_id, Mentor_name, Batch_id, Batch_name) values  
(001, "Staff1", 100, "WeekDay"), (002, "Staff2", 101, "WeekDay"), (003, "Staff3", 102, "WeekEnd"), (004, "Staff4", 103, "WeekEnd");
```

```
INSERT INTO ZENCLASS (Email_id, Stu_id, Attendance, Mentor_id) values  
("xxxx@gmail.com", 01, "Present", 001), ("yyyy@gmail.com", 02, "Absent", 002), ("zzzz@gmail.com", 03, "Present", 003), ("aaaa@gmail.com", 04, "Absent", 004);
```

```
Select * from Mentor;
```

```
SELECT * FROM ZENCLASS;
```

```
CREATE TABLE TASK (Task_id INT PRIMARY KEY, Task_name VARCHAR(25), Stu_id INT, Mentor_id INT,
```

```
foreign key (Stu_id) references Student(Stu_id));
```

```
ALTER TABLE TASK
```

```
DROP COLUMN Mentor_id;
```

```
INSERT INTO TASK (Task_id, Task_name, Stu_id) values  
(11, "HTML", 01), (12, "CSS", 02), (13, "BOOTSTRAP", 03), (14, "JS", 04);
```

```
Select * from Student;
```

```
SELECT * FROM Batch;
```

```
Select * from Mentor;
```

```
SELECT * FROM ZENCLASS;
```

```
SELECT * FROM TASK;
```

Created Table with Inserted Values:

# Database- Day -2: MySQL

Result Grid

Filter Rows:

Edit:

| Stu_id | Stu_name | Batch_id | BatchTiming |
|--------|----------|----------|-------------|
| 1      | A        | 100      | 9am         |
| 2      | B        | 101      | 9am         |
| 3      | C        | 102      | 10am        |
| 4      | D        | 103      | 10am        |
| NULL   | NULL     | NULL     | NULL        |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Mentor_id | Mentor_name | Batch_id | Batch_name |
|-----------|-------------|----------|------------|
| 1         | Staff1      | 100      | WeekDay    |
| 2         | Staff2      | 101      | WeekDay    |
| 3         | Staff3      | 102      | WeekEnd    |
| 4         | Staff4      | 103      | WeekEnd    |
| NULL      | NULL        | NULL     | NULL       |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Batch_id | Batch_name |
|----------|------------|
| 100      | WeekDay    |
| 101      | WeekDay    |
| 102      | WeekEnd    |
| 103      | WeekEnd    |
| NULL     | NULL       |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Email_id       | Stu_id | Attendance | Mentor_id |
|----------------|--------|------------|-----------|
| aaaa@gmail.com | 4      | Absent     | 4         |
| xxxx@gmail.com | 1      | Present    | 1         |
| yyyy@gmail.com | 2      | Absent     | 2         |
| zzzz@gmail.com | 3      | Present    | 3         |
| NULL           | NULL   | NULL       | NULL      |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Task_id | Task_name | Stu_id |
|---------|-----------|--------|
| 11      | HTML      | 1      |
| 12      | CSS       | 2      |
| 13      | BOOTSTRAP | 3      |
| 14      | JS        | 4      |
| NULL    | NULL      | NULL   |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Task_id | Task_name | Stu_id |
|---------|-----------|--------|
| 11      | HTML      | 1      |
| 12      | CSS       | 2      |
| 13      | BOOTSTRAP | 3      |
| 14      | JS        | 4      |
| NULL    | NULL      | NULL   |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Task_id | Task_name | Stu_id |
|---------|-----------|--------|
| 11      | HTML      | 1      |
| 12      | CSS       | 2      |
| 13      | BOOTSTRAP | 3      |
| 14      | JS        | 4      |
| NULL    | NULL      | NULL   |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Task_id | Task_name | Stu_id |
|---------|-----------|--------|
| 11      | HTML      | 1      |
| 12      | CSS       | 2      |
| 13      | BOOTSTRAP | 3      |
| 14      | JS        | 4      |
| NULL    | NULL      | NULL   |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Task_id | Task_name | Stu_id |
|---------|-----------|--------|
| 11      | HTML      | 1      |
| 12      | CSS       | 2      |
| 13      | BOOTSTRAP | 3      |
| 14      | JS        | 4      |
| NULL    | NULL      | NULL   |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Task_id | Task_name | Stu_id |
|---------|-----------|--------|
| 11      | HTML      | 1      |
| 12      | CSS       | 2      |
| 13      | BOOTSTRAP | 3      |
| 14      | JS        | 4      |
| NULL    | NULL      | NULL   |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Task_id | Task_name | Stu_id |
|---------|-----------|--------|
| 11      | HTML      | 1      |
| 12      | CSS       | 2      |
| 13      | BOOTSTRAP | 3      |
| 14      | JS        | 4      |
| NULL    | NULL      | NULL   |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Task_id | Task_name | Stu_id |
|---------|-----------|--------|
| 11      | HTML      | 1      |
| 12      | CSS       | 2      |
| 13      | BOOTSTRAP | 3      |
| 14      | JS        | 4      |
| NULL    | NULL      | NULL   |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Task_id | Task_name | Stu_id |
|---------|-----------|--------|
| 11      | HTML      | 1      |
| 12      | CSS       | 2      |
| 13      | BOOTSTRAP | 3      |
| 14      | JS        | 4      |
| NULL    | NULL      | NULL   |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Task_id | Task_name | Stu_id |
|---------|-----------|--------|
| 11      | HTML      | 1      |
| 12      | CSS       | 2      |
| 13      | BOOTSTRAP | 3      |
| 14      | JS        | 4      |
| NULL    | NULL      | NULL   |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Task_id | Task_name | Stu_id |
|---------|-----------|--------|
| 11      | HTML      | 1      |
| 12      | CSS       | 2      |
| 13      | BOOTSTRAP | 3      |
| 14      | JS        | 4      |
| NULL    | NULL      | NULL   |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Task_id | Task_name | Stu_id |
|---------|-----------|--------|
| 11      | HTML      | 1      |
| 12      | CSS       | 2      |
| 13      | BOOTSTRAP | 3      |
| 14      | JS        | 4      |
| NULL    | NULL      | NULL   |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Task_id | Task_name | Stu_id |
|---------|-----------|--------|
| 11      | HTML      | 1      |
| 12      | CSS       | 2      |
| 13      | BOOTSTRAP | 3      |
| 14      | JS        | 4      |
| NULL    | NULL      | NULL   |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Task_id | Task_name | Stu_id |
|---------|-----------|--------|
| 11      | HTML      | 1      |
| 12      | CSS       | 2      |
| 13      | BOOTSTRAP | 3      |
| 14      | JS        | 4      |
| NULL    | NULL      | NULL   |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Task_id | Task_name | Stu_id |
|---------|-----------|--------|
| 11      | HTML      | 1      |
| 12      | CSS       | 2      |
| 13      | BOOTSTRAP | 3      |
| 14      | JS        | 4      |
| NULL    | NULL      | NULL   |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Task_id | Task_name | Stu_id |
|---------|-----------|--------|
| 11      | HTML      | 1      |
| 12      | CSS       | 2      |
| 13      | BOOTSTRAP | 3      |
| 14      | JS        | 4      |
| NULL    | NULL      | NULL   |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Task_id | Task_name | Stu_id |
|---------|-----------|--------|
| 11      | HTML      | 1      |
| 12      | CSS       | 2      |
| 13      | BOOTSTRAP | 3      |
| 14      | JS        | 4      |
| NULL    | NULL      | NULL   |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Task_id | Task_name | Stu_id |
|---------|-----------|--------|
| 11      | HTML      | 1      |
| 12      | CSS       | 2      |
| 13      | BOOTSTRAP | 3      |
| 14      | JS        | 4      |
| NULL    | NULL      | NULL   |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Task_id | Task_name | Stu_id |
|---------|-----------|--------|
| 11      | HTML      | 1      |
| 12      | CSS       | 2      |
| 13      | BOOTSTRAP | 3      |
| 14      | JS        | 4      |
| NULL    | NULL      | NULL   |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Task_id | Task_name | Stu_id |
|---------|-----------|--------|
| 11      | HTML      | 1      |
| 12      | CSS       | 2      |
| 13      | BOOTSTRAP | 3      |
| 14      | JS        | 4      |
| NULL    | NULL      | NULL   |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Task_id | Task_name | Stu_id |
|---------|-----------|--------|
| 11      | HTML      | 1      |
| 12      | CSS       | 2      |
| 13      | BOOTSTRAP | 3      |
| 14      | JS        | 4      |
| NULL    | NULL      | NULL   |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Task_id | Task_name | Stu_id |
|---------|-----------|--------|
| 11      | HTML      | 1      |
| 12      | CSS       | 2      |
| 13      | BOOTSTRAP | 3      |
| 14      | JS        | 4      |
| NULL    | NULL      | NULL   |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Task_id | Task_name | Stu_id |
|---------|-----------|--------|
| 11      | HTML      | 1      |
| 12      | CSS       | 2      |
| 13      | BOOTSTRAP | 3      |
| 14      | JS        | 4      |
| NULL    | NULL      | NULL   |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Task_id | Task_name | Stu_id |
|---------|-----------|--------|
| 11      | HTML      | 1      |
| 12      | CSS       | 2      |
| 13      | BOOTSTRAP | 3      |
| 14      | JS        | 4      |
| NULL    | NULL      | NULL   |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Task_id | Task_name | Stu_id |
|---------|-----------|--------|
| 11      | HTML      | 1      |
| 12      | CSS       | 2      |
| 13      | BOOTSTRAP | 3      |
| 14      | JS        | 4      |
| NULL    | NULL      | NULL   |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Task_id | Task_name | Stu_id |
|---------|-----------|--------|
| 11      | HTML      | 1      |
| 12      | CSS       | 2      |
| 13      | BOOTSTRAP | 3      |
| 14      | JS        | 4      |
| NULL    | NULL      | NULL   |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Task_id | Task_name | Stu_id |
|---------|-----------|--------|
| 11      | HTML      | 1      |
| 12      | CSS       | 2      |
| 13      | BOOTSTRAP | 3      |
| 14      | JS        | 4      |
| NULL    | NULL      | NULL   |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Task_id | Task_name | Stu_id |
|---------|-----------|--------|
| 11      | HTML      | 1      |
| 12      | CSS       | 2      |
| 13      | BOOTSTRAP | 3      |
| 14      | JS        | 4      |
| NULL    | NULL      | NULL   |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Task_id | Task_name | Stu_id |
|---------|-----------|--------|
| 11      | HTML      | 1      |
| 12      | CSS       | 2      |
| 13      | BOOTSTRAP | 3      |
| 14      | JS        | 4      |
| NULL    | NULL      | NULL   |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Task_id | Task_name | Stu_id |
|---------|-----------|--------|
| 11      | HTML      | 1      |
| 12      | CSS       | 2      |
| 13      | BOOTSTRAP | 3      |
| 14      | JS        | 4      |
| NULL    | NULL      | NULL   |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Task_id | Task_name | Stu_id |
|---------|-----------|--------|
| 11      | HTML      | 1      |
| 12      | CSS       | 2      |
| 13      | BOOTSTRAP | 3      |
| 14      | JS        | 4      |
| NULL    | NULL      | NULL   |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Task_id | Task_name | Stu_id |
|---------|-----------|--------|
| 11      | HTML      | 1      |
| 12      | CSS       | 2      |
| 13      | BOOTSTRAP | 3      |
| 14      | JS        | 4      |
| NULL    | NULL      | NULL   |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Task_id | Task_name | Stu_id |
|---------|-----------|--------|
| 11      | HTML      | 1      |
| 12      | CSS       | 2      |
| 13      | BOOTSTRAP | 3      |
| 14      | JS        | 4      |
| NULL    | NULL      | NULL   |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid

Filter Rows:

Edit:

| Task_id | Task_name | Stu_id |
|---------|-----------|--------|
| 11      | HTML      | 1      |
| 12      | CSS       | 2      |
| 13      | BOOTSTRAP | 3      |
| 14      | JS        | 4      |
| NULL    | NULL      | NULL   |

Student 20

Batch 21

Mentor 22

ZENCLASS 23

TASK 24

Result Grid


Filter Rows:

Edit:

| Task_id | Task_name | Stu_id |
|---------|-----------|--------|
| 11      | HTML      | 1      |
| 12      | CSS       | 2      |
| 13      | BOOTSTRAP | 3      |

SELECT Student.Stu\_name,Student.BatchTiming, Batch.Batch\_name from Student inner join Batch on Student.Batch\_id = Batch.Batch\_id;

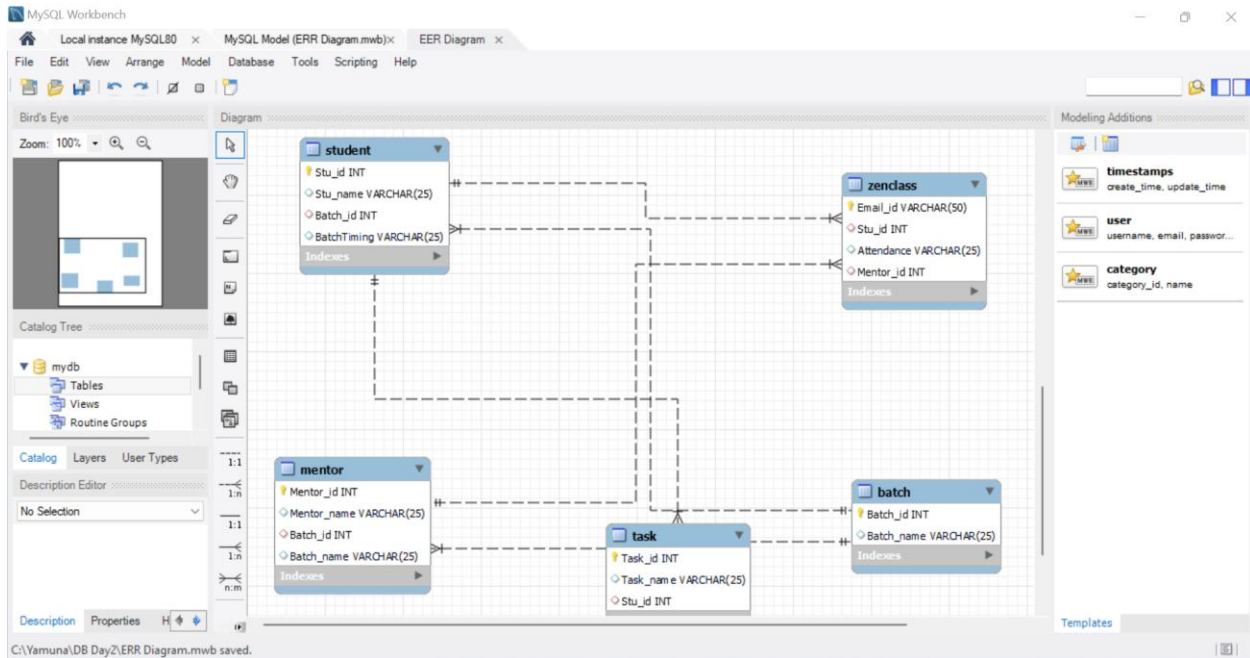
INNER JOIN Executed Output:

Result Grid |  Filter Rows:  | Exp

|   | Stu_name | BatchTiming | Batch_name |
|---|----------|-------------|------------|
|   | A        | 9am         | WeekDay    |
|   | B        | 9am         | WeekDay    |
| ▶ | C        | 10am        | WeekEnd    |
|   | D        | 10am        | WeekEnd    |

# Database- Day -2: MySQL

## EER Diagram



## MySQL LEFT JOIN

```
SELECT Mentor.Mentor_name,Mentor.Batch_name, Mentor.Batch_id,
ZENCLASS.Stu_id,ZENCLASS.Email_id,ZENCLASS.Attendance FROM Mentor LEFT JOIN ZENCLASS ON
Mentor.Mentor_id=ZENCLASS.Mentor_id;
```

|   | Mentor_name | Batch_name | Batch_id | Stu_id | Email_id       | Attendance |
|---|-------------|------------|----------|--------|----------------|------------|
| ▶ | Staff1      | WeekDay    | 100      | 1      | xxxx@gmail.com | Present    |
|   | Staff2      | WeekDay    | 101      | 2      | yyyy@gmail.com | Absent     |
|   | Staff3      | WeekEnd    | 102      | 3      | zzzz@gmail.com | Present    |
|   | Staff4      | WeekEnd    | 103      | 4      | aaaa@gmail.com | Absent     |

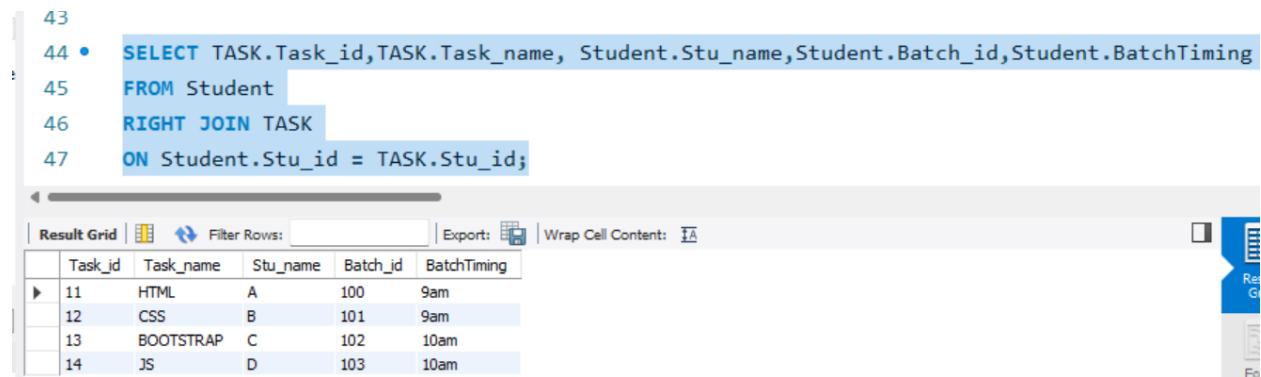
## MySQL RIGHT JOIN Keyword

```
SELECT TASK.Task_id,TASK.Task_name, Student.Stu_name,Student.Batch_id,Student.BatchTiming
FROM Student
RIGHT JOIN TASK
```

# Database- Day -2: MySQL

ON Student.Stu\_id = TASK.Stu\_id;

```
43
44 • SELECT TASK.Task_id,TASK.Task_name, Student.Stu_name,Student.Batch_id,Student.BatchTiming
45 FROM Student
46 RIGHT JOIN TASK
47 ON Student.Stu_id = TASK.Stu_id;
```



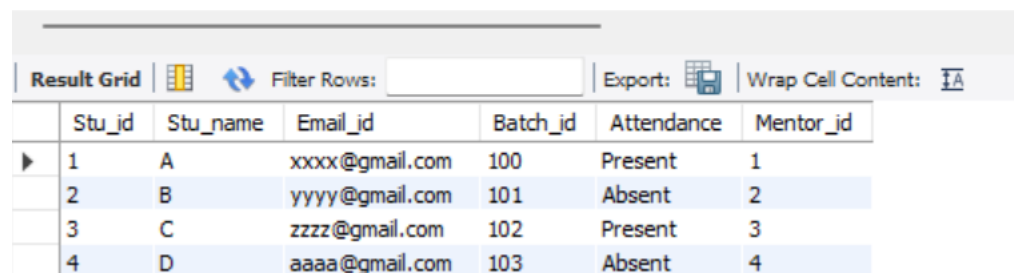
The screenshot shows a MySQL query editor with a query window and a result grid. The query is a RIGHT JOIN between the Student and TASK tables on the Stu\_id column. The result grid displays the following data:

| Task_id | Task_name | Stu_name | Batch_id | BatchTiming |
|---------|-----------|----------|----------|-------------|
| 11      | HTML      | A        | 100      | 9am         |
| 12      | CSS       | B        | 101      | 9am         |
| 13      | BOOTSTRAP | C        | 102      | 10am        |
| 14      | JS        | D        | 103      | 10am        |

## Full Join

```
SELECT Student.Stu_id, Student.Stu_name, ZENCLASS.Email_id,Student.Batch_id,ZENCLASS.Attendance
,ZENCLASS.Mentor_id FROM Student
```

```
JOIN ZENCLASS ON Student.Stu_id = ZENCLASS.Stu_id;
```



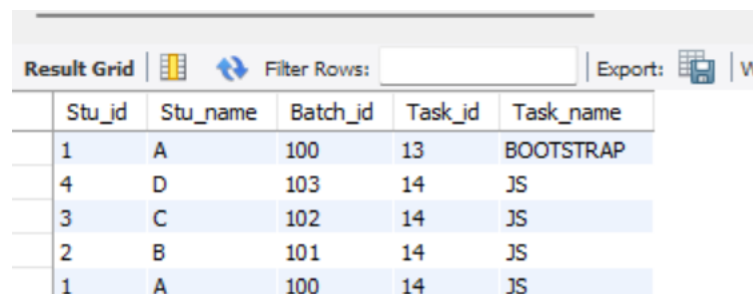
The screenshot shows a MySQL query editor with a query window and a result grid. The query is a FULL JOIN between the Student and ZENCLASS tables on the Stu\_id column. The result grid displays the following data:

| Stu_id | Stu_name | Email_id       | Batch_id | Attendance | Mentor_id |
|--------|----------|----------------|----------|------------|-----------|
| 1      | A        | xxxx@gmail.com | 100      | Present    | 1         |
| 2      | B        | yyyy@gmail.com | 101      | Absent     | 2         |
| 3      | C        | zzzz@gmail.com | 102      | Present    | 3         |
| 4      | D        | aaaa@gmail.com | 103      | Absent     | 4         |

## cross join

```
SELECT Student.Stu_id, Student.Stu_name, Student.Batch_id,TASK.Task_id,TASK.Task_name
```

```
FROM Student CROSS JOIN TASK;
```



The screenshot shows a MySQL query editor with a query window and a result grid. The query is a CROSS JOIN between the Student and TASK tables. The result grid displays the following data:

| Stu_id | Stu_name | Batch_id | Task_id | Task_name |
|--------|----------|----------|---------|-----------|
| 1      | A        | 100      | 13      | BOOTSTRAP |
| 4      | D        | 103      | 14      | JS        |
| 3      | C        | 102      | 14      | JS        |
| 2      | B        | 101      | 14      | JS        |
| 1      | A        | 100      | 14      | JS        |

## LIMIT AND OFFSET

# Database- Day -2: MySQL

```
SELECT * FROM Student
```

```
LIMIT 1 OFFSET 2;
```

| Result Grid |        |          |          |             |
|-------------|--------|----------|----------|-------------|
|             | Stu_id | Stu_name | Batch_id | BatchTiming |
| ▶           | 3      | C        | 102      | 10am        |
| ✱           | NULL   | NULL     | NULL     | NULL        |

## ORDER BY:

```
SELECT * FROM Student
```

```
order by Stu_id desc;
```

| Result Grid |        |          |          |             |
|-------------|--------|----------|----------|-------------|
|             | Stu_id | Stu_name | Batch_id | BatchTiming |
| ▶           | 4      | D        | 103      | 10am        |
|             | 3      | C        | 102      | 10am        |
|             | 2      | B        | 101      | 9am         |
|             | 1      | A        | 100      | 9am         |
| ✱           | NULL   | NULL     | NULL     | NULL        |

## GROUP BY

```
SELECT Batch_name FROM Batch group by Batch_name;
```

| Result Grid |            |
|-------------|------------|
|             | Batch_name |
| ▶           | WeekDay    |
|             | WeekEnd    |