```
mysql> use speedup_db;
Database changed


mysql> create table students(student_id int primary key auto_increment, name
varchar(50) not null, age int not null, gender enum('male','female') not null,
course varchar(50) not null, admission_date date not null, fees_paid decimal(10,2)
not null);
Query OK, 0 rows affected (0.03 sec)



mysql> describe students;
+----------------+----------------------+------+-----+---------+----------------+
| Field          | Type                 | Null | Key | Default | Extra          |
+----------------+----------------------+------+-----+---------+----------------+
| student_id     | int(11)              | NO   | PRI | NULL    | auto_increment |
| name           | varchar(50)          | NO   |     | NULL    |                |
| age            | int(11)              | NO   |     | NULL    |                |
| gender         | enum('male','female')| NO   |     | NULL    |                |
| course         | varchar(50)          | NO   |     | NULL    |                |
| admission_date | date                 | NO   |     | NULL    |                |
| fees_paid      | decimal(10,2)        | NO   |     | NULL    |                |
+----------------+----------------------+------+-----+---------+----------------+
7 rows in set (0.03 sec)



mysql> insert into students (name, age, gender, course, admission_date, fees_paid)
values
    -> ('Amit Sharma', 22, 'male', 'B.Tech', '2024-01-10', 50000.00),
    -> ('Priya Singh', 21, 'female', 'MCA', '2024-02-15', 60000.00),
    -> ('Rahul Verma', 23, 'male', 'MBA', '2023-12-20', 55000.00),
    -> ('Neha Patil', 20, 'female', 'B.Sc', '2024-03-05', 45000.00),
    -> ('Suresh Reddy', 24, 'male', 'B.Tech', '2023-11-10', 52000.00),
    -> ('Divya Nair', 22, 'female', 'MCA', '2024-04-12', 65000.00),
    -> ('Vikas Mehta', 25, 'male', 'BBA', '2023-10-05', 40000.00),
    -> ('Ananya Rao', 21, 'female', 'B.Tech', '2024-01-25', 53000.00),
    -> ('Rohan Das', 23, 'male', 'MBA', '2023-09-15', 57000.00),
    -> ('Megha Jain', 22, 'female', 'B.Sc', '2024-02-20', 48000.00);
Query OK, 10 rows affected (0.07 sec)
Records: 10  Duplicates: 0  Warnings: 0



mysql> select * from students;
+------------+--------------+-----+--------+--------+----------------+-----------+
| student_id | name         | age | gender | course | admission_date | fees_paid |
```

```
+-----------+--------------+-----+--------+--------+----------------+----------+
|         1 | Amit Sharma  | 22  | male   | B.Tech | 2024-01-10     | 50000.00 |
|         2 | Priya Singh  | 21  | female | MCA    | 2024-02-15     | 60000.00 |
|         3 | Rahul Verma  | 23  | male   | MBA    | 2023-12-20     | 55000.00 |
|         4 | Neha Patil   | 20  | female | B.Sc   | 2024-03-05     | 45000.00 |
|         5 | Suresh Reddy | 24  | male   | B.Tech | 2023-11-10     | 52000.00 |
|         6 | Divya Nair   | 22  | female | MCA    | 2024-04-12     | 65000.00 |
|         7 | Vikas Mehta  | 25  | male   | BBA    | 2023-10-05     | 40000.00 |
|         8 | Ananya Rao   | 21  | female | B.Tech | 2024-01-25     | 53000.00 |
|         9 | Rohan Das    | 23  | male   | MBA    | 2023-09-15     | 57000.00 |
|        10 | Megha Jain   | 22  | female | B.Sc   | 2024-02-20     | 48000.00 |
+-----------+--------------+-----+--------+--------+----------------+----------+
10 rows in set (0.00 sec)


mysql> select name, course, fees_paid from students;
+--------------+--------+-----------+
| name         | course | fees_paid |
+--------------+--------+-----------+
| Amit Sharma  | B.Tech | 50000.00  |
| Priya Singh  | MCA    | 60000.00  |
| Rahul Verma  | MBA    | 55000.00  |
| Neha Patil   | B.Sc   | 45000.00  |
| Suresh Reddy | B.Tech | 52000.00  |
| Divya Nair   | MCA    | 65000.00  |
| Vikas Mehta  | BBA    | 40000.00  |
| Ananya Rao   | B.Tech | 53000.00  |
| Rohan Das    | MBA    | 57000.00  |
| Megha Jain   | B.Sc   | 48000.00  |
+--------------+--------+-----------+
10 rows in set (0.00 sec)


mysql> select * from students where age > 21;
+-----------+--------------+-----+--------+--------+----------------+----------+
| student_id | name        | age | gender | course | admission_date | fees_paid |
+-----------+--------------+-----+--------+--------+----------------+----------+
|         1 | Amit Sharma  | 22  | male   | B.Tech | 2024-01-10     | 50000.00 |
|         3 | Rahul Verma  | 23  | male   | MBA    | 2023-12-20     | 55000.00 |
|         5 | Suresh Reddy | 24  | male   | B.Tech | 2023-11-10     | 52000.00 |
|         6 | Divya Nair   | 22  | female | MCA    | 2024-04-12     | 65000.00 |
|         7 | Vikas Mehta  | 25  | male   | BBA    | 2023-10-05     | 40000.00 |
|         9 | Rohan Das    | 23  | male   | MBA    | 2023-09-15     | 57000.00 |
|        10 | Megha Jain   | 22  | female | B.Sc   | 2024-02-20     | 48000.00 |
+-----------+--------------+-----+--------+--------+----------------+----------+
7 rows in set (0.01 sec)
```

```
mysql> select * from students where course = 'B.Tech';
+------------+--------------+------+--------+---------+----------------+------------+
| student_id | name         | age  | gender | course  | admission_date | fees_paid  |
+------------+--------------+------+--------+---------+----------------+------------+
|          1 | Amit Sharma  |   22 | male   | B.Tech  | 2024-01-10     |   50000.00 |
|          5 | Suresh Reddy |   24 | male   | B.Tech  | 2023-11-10     |   52000.00 |
|          8 | Ananya Rao   |   21 | female | B.Tech  | 2024-01-25     |   53000.00 |
+------------+--------------+------+--------+---------+----------------+------------+
3 rows in set (0.00 sec)


mysql> select * from students where fees_paid > 50000;
+------------+--------------+------+--------+---------+----------------+------------+
| student_id | name         | age  | gender | course  | admission_date | fees_paid  |
+------------+--------------+------+--------+---------+----------------+------------+
|          2 | Priya Singh  |   21 | female | MCA     | 2024-02-15     |   60000.00 |
|          3 | Rahul Verma  |   23 | male   | MBA     | 2023-12-20     |   55000.00 |
|          5 | Suresh Reddy |   24 | male   | B.Tech  | 2023-11-10     |   52000.00 |
|          6 | Divya Nair   |   22 | female | MCA     | 2024-04-12     |   65000.00 |
|          8 | Ananya Rao   |   21 | female | B.Tech  | 2024-01-25     |   53000.00 |
|          9 | Rohan Das    |   23 | male   | MBA     | 2023-09-15     |   57000.00 |
+------------+--------------+------+--------+---------+----------------+------------+
6 rows in set (0.01 sec)


mysql> select * from students where admission_date like '2024%';
+------------+--------------+------+--------+---------+----------------+------------+
| student_id | name         | age  | gender | course  | admission_date | fees_paid  |
+------------+--------------+------+--------+---------+----------------+------------+
|          1 | Amit Sharma  |   22 | male   | B.Tech  | 2024-01-10     |   50000.00 |
|          2 | Priya Singh  |   21 | female | MCA     | 2024-02-15     |   60000.00 |
|          4 | Neha Patil   |   20 | female | B.Sc    | 2024-03-05     |   45000.00 |
|          6 | Divya Nair   |   22 | female | MCA     | 2024-04-12     |   65000.00 |
|          8 | Ananya Rao   |   21 | female | B.Tech  | 2024-01-25     |   53000.00 |
|         10 | Megha Jain   |   22 | female | B.Sc    | 2024-02-20     |   48000.00 |
+------------+--------------+------+--------+---------+----------------+------------+
6 rows in set (0.01 sec)


mysql> select * from students where fees_paid between 45000 AND 55000;
+------------+--------------+------+--------+---------+----------------+------------+
| student_id | name         | age  | gender | course  | admission_date | fees_paid  |
+------------+--------------+------+--------+---------+----------------+------------+
|          1 | Amit Sharma  |   22 | male   | B.Tech  | 2024-01-10     |   50000.00 |
|          3 | Rahul Verma  |   23 | male   | MBA     | 2023-12-20     |   55000.00 |
|          4 | Neha Patil   |   20 | female | B.Sc    | 2024-03-05     |   45000.00 |
```

```
|           5 | Suresh Reddy  |  24 | male   | B.Tech | 2023-11-10      |    52000.00 |
|           8 | Ananya Rao   |  21 | female | B.Tech | 2024-01-25      |    53000.00 |
|          10 | Megha Jain   |  22 | female | B.Sc   | 2024-02-20      |    48000.00 |
+-------------+--------------+-----+--------+--------+-----------------+-------------+
6 rows in set (0.00 sec)


mysql> select * from students where age between 21 AND 23;
+-------------+--------------+-----+--------+--------+-----------------+-------------+
| student_id  | name         | age | gender | course | admission_date  | fees_paid   |
+-------------+--------------+-----+--------+--------+-----------------+-------------+
|           1 | Amit Sharma  |  22 | male   | B.Tech | 2024-01-10      |    50000.00 |
|           2 | Priya Singh  |  21 | female | MCA    | 2024-02-15      |    60000.00 |
|           3 | Rahul Verma  |  23 | male   | MBA    | 2023-12-20      |    55000.00 |
|           6 | Divya Nair   |  22 | female | MCA    | 2024-04-12      |    65000.00 |
|           8 | Ananya Rao   |  21 | female | B.Tech | 2024-01-25      |    53000.00 |
|           9 | Rohan Das    |  23 | male   | MBA    | 2023-09-15      |    57000.00 |
|          10 | Megha Jain   |  22 | female | B.Sc   | 2024-02-20      |    48000.00 |
+-------------+--------------+-----+--------+--------+-----------------+-------------+
7 rows in set (0.00 sec)


mysql> select * from students order by fees_paid;
+-------------+--------------+-----+--------+--------+-----------------+-------------+
| student_id  | name         | age | gender | course | admission_date  | fees_paid   |
+-------------+--------------+-----+--------+--------+-----------------+-------------+
|           7 | Vikas Mehta  |  25 | male   | BBA    | 2023-10-05      |    40000.00 |
|           4 | Neha Patil   |  20 | female | B.Sc   | 2024-03-05      |    45000.00 |
|          10 | Megha Jain   |  22 | female | B.Sc   | 2024-02-20      |    48000.00 |
|           1 | Amit Sharma  |  22 | male   | B.Tech | 2024-01-10      |    50000.00 |
|           5 | Suresh Reddy |  24 | male   | B.Tech | 2023-11-10      |    52000.00 |
|           8 | Ananya Rao   |  21 | female | B.Tech | 2024-01-25      |    53000.00 |
|           3 | Rahul Verma  |  23 | male   | MBA    | 2023-12-20      |    55000.00 |
|           9 | Rohan Das    |  23 | male   | MBA    | 2023-09-15      |    57000.00 |
|           2 | Priya Singh  |  21 | female | MCA    | 2024-02-15      |    60000.00 |
|           6 | Divya Nair   |  22 | female | MCA    | 2024-04-12      |    65000.00 |
+-------------+--------------+-----+--------+--------+-----------------+-------------+
10 rows in set (0.00 sec)


mysql> select * from students order by admission_date desc;
+-------------+--------------+-----+--------+--------+-----------------+-------------+
| student_id  | name         | age | gender | course | admission_date  | fees_paid   |
+-------------+--------------+-----+--------+--------+-----------------+-------------+
|           6 | Divya Nair   |  22 | female | MCA    | 2024-04-12      |    65000.00 |
|           4 | Neha Patil   |  20 | female | B.Sc   | 2024-03-05      |    45000.00 |
|          10 | Megha Jain   |  22 | female | B.Sc   | 2024-02-20      |    48000.00 |
```

```
|          2 | Priya Singh   |  21 | female | MCA    | 2024-02-15      |  60000.00 |
|          8 | Ananya Rao    |  21 | female | B.Tech | 2024-01-25      |  53000.00 |
|          1 | Amit Sharma   |  22 | male   | B.Tech | 2024-01-10      |  50000.00 |
|          3 | Rahul Verma   |  23 | male   | MBA    | 2023-12-20      |  55000.00 |
|          5 | Suresh Reddy  |  24 | male   | B.Tech | 2023-11-10      |  52000.00 |
|          7 | Vikas Mehta   |  25 | male   | BBA    | 2023-10-05      |  40000.00 |
|          9 | Rohan Das     |  23 | male   | MBA    | 2023-09-15      |  57000.00 |
+------------+---------------+-----+--------+--------+-----------------+-----------+
10 rows in set (0.00 sec)


mysql> select * from students order by fees_paid limit 3;
+------------+---------------+-----+--------+--------+-----------------+-----------+
| student_id | name          | age | gender | course | admission_date  | fees_paid |
+------------+---------------+-----+--------+--------+-----------------+-----------+
|          7 | Vikas Mehta   |  25 | male   | BBA    | 2023-10-05      |  40000.00 |
|          4 | Neha Patil    |  20 | female | B.Sc   | 2024-03-05      |  45000.00 |
|         10 | Megha Jain    |  22 | female | B.Sc   | 2024-02-20      |  48000.00 |
+------------+---------------+-----+--------+--------+-----------------+-----------+
3 rows in set (0.00 sec)


mysql> select * from students order by fees_paid desc limit 3;
+------------+---------------+-----+--------+--------+-----------------+-----------+
| student_id | name          | age | gender | course | admission_date  | fees_paid |
+------------+---------------+-----+--------+--------+-----------------+-----------+
|          6 | Divya Nair    |  22 | female | MCA    | 2024-04-12      |  65000.00 |
|          2 | Priya Singh   |  21 | female | MCA    | 2024-02-15      |  60000.00 |
|          9 | Rohan Das     |  23 | male   | MBA    | 2023-09-15      |  57000.00 |
+------------+---------------+-----+--------+--------+-----------------+-----------+
3 rows in set (0.00 sec)


mysql> select * from students order by admission_date limit 2;
+------------+---------------+-----+--------+--------+-----------------+-----------+
| student_id | name          | age | gender | course | admission_date  | fees_paid |
+------------+---------------+-----+--------+--------+-----------------+-----------+
|          9 | Rohan Das     |  23 | male   | MBA    | 2023-09-15      |  57000.00 |
|          7 | Vikas Mehta   |  25 | male   | BBA    | 2023-10-05      |  40000.00 |
+------------+---------------+-----+--------+--------+-----------------+-----------+
2 rows in set (0.00 sec)


mysql> update students set course='M.Tech' where name='Amit Sharma';
Query OK, 1 row affected (0.02 sec)
Rows matched: 1  Changed: 1  Warnings: 0
```

```
mysql> select * from students;
+------------+--------------+-----+--------+--------+----------------+------------+
| student_id | name         | age | gender | course | admission_date | fees_paid  |
+------------+--------------+-----+--------+--------+----------------+------------+
|          1 | Amit Sharma  |  22 | male   | M.Tech | 2024-01-10     |   50000.00 |
|          2 | Priya Singh  |  21 | female | MCA    | 2024-02-15     |   60000.00 |
|          3 | Rahul Verma  |  23 | male   | MBA    | 2023-12-20     |   55000.00 |
|          4 | Neha Patil   |  20 | female | B.Sc   | 2024-03-05     |   45000.00 |
|          5 | Suresh Reddy |  24 | male   | B.Tech | 2023-11-10     |   52000.00 |
|          6 | Divya Nair   |  22 | female | MCA    | 2024-04-12     |   65000.00 |
|          7 | Vikas Mehta  |  25 | male   | BBA    | 2023-10-05     |   40000.00 |
|          8 | Ananya Rao   |  21 | female | B.Tech | 2024-01-25     |   53000.00 |
|          9 | Rohan Das    |  23 | male   | MBA    | 2023-09-15     |   57000.00 |
|         10 | Megha Jain   |  22 | female | B.Sc   | 2024-02-20     |   48000.00 |
+------------+--------------+-----+--------+--------+----------------+------------+
10 rows in set (0.00 sec)


mysql> update students set fees_paid = fees_paid + 5000 where course='B.Tech';
Query OK, 2 rows affected (0.02 sec)
Rows matched: 2  Changed: 2  Warnings: 0

mysql> select * from students;
+------------+--------------+-----+--------+--------+----------------+------------+
| student_id | name         | age | gender | course | admission_date | fees_paid  |
+------------+--------------+-----+--------+--------+----------------+------------+
|          1 | Amit Sharma  |  22 | male   | M.Tech | 2024-01-10     |   50000.00 |
|          2 | Priya Singh  |  21 | female | MCA    | 2024-02-15     |   60000.00 |
|          3 | Rahul Verma  |  23 | male   | MBA    | 2023-12-20     |   55000.00 |
|          4 | Neha Patil   |  20 | female | B.Sc   | 2024-03-05     |   45000.00 |
|          5 | Suresh Reddy |  24 | male   | B.Tech | 2023-11-10     |   57000.00 |
|          6 | Divya Nair   |  22 | female | MCA    | 2024-04-12     |   65000.00 |
|          7 | Vikas Mehta  |  25 | male   | BBA    | 2023-10-05     |   40000.00 |
|          8 | Ananya Rao   |  21 | female | B.Tech | 2024-01-25     |   58000.00 |
|          9 | Rohan Das    |  23 | male   | MBA    | 2023-09-15     |   57000.00 |
|         10 | Megha Jain   |  22 | female | B.Sc   | 2024-02-20     |   48000.00 |
+------------+--------------+-----+--------+--------+----------------+------------+
10 rows in set (0.00 sec)


mysql> delete from students where student_id = 3;
Query OK, 1 row affected (0.02 sec)

mysql> select * from students;
+------------+--------------+-----+--------+--------+----------------+------------+
| student_id | name         | age | gender | course | admission_date | fees_paid  |
+------------+--------------+-----+--------+--------+----------------+------------+
```

```
|           1 | Amit Sharma   |    22 | male   | M.Tech | 2024-01-10      |  50000.00 |
|           2 | Priya Singh  |    21 | female | MCA    | 2024-02-15      |  60000.00 |
|           4 | Neha Patil   |    20 | female | B.Sc   | 2024-03-05      |  45000.00 |
|           5 | Suresh Reddy |    24 | male   | B.Tech | 2023-11-10      |  57000.00 |
|           6 | Divya Nair   |    22 | female | MCA    | 2024-04-12      |  65000.00 |
|           7 | Vikas Mehta  |    25 | male   | BBA    | 2023-10-05      |  40000.00 |
|           8 | Ananya Rao   |    21 | female | B.Tech | 2024-01-25      |  58000.00 |
|           9 | Rohan Das    |    23 | male   | MBA    | 2023-09-15      |  57000.00 |
|          10 | Megha Jain   |    22 | female | B.Sc   | 2024-02-20      |  48000.00 |
+-----------+--------------+-----+--------+--------+----------------+----------+
9 rows in set (0.00 sec)


mysql> delete from students where fees_paid < 50000;
Query OK, 3 rows affected (0.02 sec)

mysql> select * from students;
+-----------+--------------+-----+--------+--------+----------------+----------+
| student_id | name        | age | gender | course | admission_date | fees_paid |
+-----------+--------------+-----+--------+--------+----------------+----------+
|           1 | Amit Sharma   |    22 | male   | M.Tech | 2024-01-10      |  50000.00 |
|           2 | Priya Singh  |    21 | female | MCA    | 2024-02-15      |  60000.00 |
|           5 | Suresh Reddy |    24 | male   | B.Tech | 2023-11-10      |  57000.00 |
|           6 | Divya Nair   |    22 | female | MCA    | 2024-04-12      |  65000.00 |
|           8 | Ananya Rao   |    21 | female | B.Tech | 2024-01-25      |  58000.00 |
|           9 | Rohan Das    |    23 | male   | MBA    | 2023-09-15      |  57000.00 |
+-----------+--------------+-----+--------+--------+----------------+----------+
6 rows in set (0.00 sec)


mysql> select course, sum(fees_paid) as total_fees_per_course from students group
by course;
+--------+-----------------------+
| course | total_fees_per_course |
+--------+-----------------------+
| B.Tech |             115000.00 |
| M.Tech |              50000.00 |
| MBA    |              57000.00 |
| MCA    |             125000.00 |
+--------+-----------------------+
4 rows in set (0.00 sec)


mysql> select course,count(*) from students group by course;
+--------+----------+
| course | count(*) |
+--------+----------+
```

```
| B.Tech |        2 |
| M.Tech |        1 |
| MBA    |        1 |
| MCA    |        2 |
+--------+----------+
4 rows in set (0.00 sec)


mysql> select avg(fees_paid) from students;
+-----------------+
| avg(fees_paid)  |
+-----------------+
|   57833.333333  |
+-----------------+
1 row in set (0.00 sec)
```