# Practical No: 3

Enter password: \*\*\*\*\*\*\*

Welcome to the MySQL monitor. Commands end with ; or \g.

Your MySQL connection id is 17

Server version: 8.0.43 MySQL Community Server - GPL

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owners.

Type 'help;' or '\h' for help. Type '\c' to clear the current input statement.

mysql> create database college\_db;

Query OK, 1 row affected (0.01 sec)

mysql> use college\_db;

Database changed

mysql> create table student (student\_id int primary key, name varchar(20), major varchar(20), cgpa float);

Query OK, 0 rows affected (0.06 sec)

mysql> create table enrollment (enrollment\_id int primary key, student\_id int, course varchar(20), grade varchar(5), credits int);

Query OK, 0 rows affected (0.07 sec)

mysql> insert into student (student\_id, name, major, cgpa) values (1, 'alice', 'computer science', 3.8), (2, 'bob', 'mathematics', 3.2), (3, 'sarthak', 'physics', 3.9), (4, 'heramb', 'computer science', 3.5), (5, 'ritesh', 'mathematics', 3.7);

Query OK, 5 rows affected (0.00 sec)

Records: 5 Duplicates: 0 Warnings: 0

mysql> insert into enrollment (enrollment\_id, student\_id, course, grade, credits) values (101, 1, 'dbms', 'A', 3), (102, 1, 'spos', 'B', 4), (103, 2, 'toc', 'A', 4), (104, 3, 'cns', 'A', 3), (105, 4, 'iotes', 'B', 3);

Query OK, 5 rows affected (0.01 sec)

Records: 5 Duplicates: 0 Warnings: 0

mysql> select \* from student where cgpa > (select cgpa from student where name = 'bob');

+------------+---------+------------------+------+

| student\_id | name | major | cgpa |

+------------+---------+------------------+------+

| 1 | alice | computer science | 3.8 |

| 3 | sarthak | physics | 3.9 |

| 4 | heramb | computer science | 3.5 |

| 5 | ritesh | mathematics | 3.7 |

+------------+---------+------------------+------+

4 rows in set (0.00 sec)

mysql> select course from enrollment where student\_id in (select student\_id from student where major = 'computer science');

+--------+

| course |

+--------+

| dbms |

| spos |

| iotes |

+--------+

3 rows in set (0.00 sec)

mysql> select \* from enrollment student\_id = (select student\_id from student where cgpa = (select max(cgpa) from student));

ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near '= (select student\_id from student where cgpa = (select max(cgpa) from student))' at line 1

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ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near '= (select student\_id from student where cgpa = (select max(cgpa) from student))' at line 1

mysql> select \* from enrollment where student\_id = (select student\_id from student where cgpa = (select max(cgpa) from student));

+---------------+------------+--------+-------+---------+

| enrollment\_id | student\_id | course | grade | credits |

+---------------+------------+--------+-------+---------+

| 104 | 3 | cns | A | 3 |

+---------------+------------+--------+-------+---------+

1 row in set (0.00 sec)

mysql> select \* from student where student\_id in (select student\_id from enrollment group by student\_id having count(\*) > 1);

+------------+-------+------------------+------+

| student\_id | name | major | cgpa |

+------------+-------+------------------+------+

| 1 | alice | computer science | 3.8 |

+------------+-------+------------------+------+

1 row in set (0.00 sec)

mysql> select \* from student s where exists (select 1 from enrollment e where e.student\_id = s.student\_id);

+------------+---------+------------------+------+

| student\_id | name | major | cgpa |

+------------+---------+------------------+------+

| 1 | alice | computer science | 3.8 |

| 2 | bob | mathematics | 3.2 |

| 3 | sarthak | physics | 3.9 |

| 4 | heramb | computer science | 3.5 |

+------------+---------+------------------+------+

4 rows in set (0.00 sec)

mysql> select \* from student s where not exists (select 1 from enrollment e where student\_id = student\_id);

Empty set (0.00 sec)

mysql> select \* from student s where exists (select 1 from enrollment e where e.student\_id = s.student\_id);

+------------+---------+------------------+------+

| student\_id | name | major | cgpa |

+------------+---------+------------------+------+

| 1 | alice | computer science | 3.8 |

| 2 | bob | mathematics | 3.2 |

| 3 | sarthak | physics | 3.9 |

| 4 | heramb | computer science | 3.5 |

+------------+---------+------------------+------+

4 rows in set (0.00 sec)

mysql> select name, (select cont(\*) from enrollment e where e.student\_id = s.student\_id) as course\_count student s;

ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near '\*) from enrollment e where e.student\_id = s.student\_id) as course\_count student ' at line 1

mysql> select name, (select count(\*) from enrollment e where e.student\_id = s.student\_id) as course\_count from student s;

+---------+--------------+

| name | course\_count |

+---------+--------------+

| alice | 2 |

| bob | 1 |

| sarthak | 1 |

| heramb | 1 |

| ritesh | 0 |

+---------+--------------+

5 rows in set (0.00 sec)

mysql> select \* from student s where cgpa > (select avg(cgpa) from student where major = s.major);

+------------+--------+------------------+------+

| student\_id | name | major | cgpa |

+------------+--------+------------------+------+

| 1 | alice | computer science | 3.8 |

| 5 | ritesh | mathematics | 3.7 |

+------------+--------+------------------+------+

2 rows in set (0.00 sec)

mysql> select \* from student s where (select sum(credits) from enrollment e where e.student\_id = s.student\_id) > (select avg(total\_credits) from (select student\_id, sum(credits) as total\_credits from enrollment group by student\_id) as t);

+------------+-------+------------------+------+

| student\_id | name | major | cgpa |

+------------+-------+------------------+------+

| 1 | alice | computer science | 3.8 |

+------------+-------+------------------+------+

1 row in set (0.00 sec)

mysql> select \* from student where major = computer science and cgpa > (select avg(cgpa) from student);

ERROR 1064 (42000): You have an error in your SQL syntax; check the manual that corresponds to your MySQL server version for the right syntax to use near 'science and cgpa > (select avg(cgpa) from student)' at line 1

mysql> select \* from student where major = 'computer science' and cgpa > (select avg(cgpa) from student);

+------------+-------+------------------+------+

| student\_id | name | major | cgpa |

+------------+-------+------------------+------+

| 1 | alice | computer science | 3.8 |

+------------+-------+------------------+------+

1 row in set (0.00 sec)

mysql>