**DATABASE ASSIGNMENT:**

CREATE TABLE student (

student\_id INT PRIMARY KEY,

first\_name VARCHAR(50) NOT NULL,

last\_name VARCHAR(50) NOT NULL,

birthdate DATE NOT NULL,

department\_id INT,

address\_id INT,

FOREIGN KEY (department\_id) REFERENCES department(department\_id),

FOREIGN KEY (address\_id) REFERENCES address(address\_id)

);

CREATE TABLE address(

address\_id INT PRIMARY KEY,

street\_address varchar(100),

city VARCHAR(50),

state varchar(50),

postal\_code varchar(20)

);

create table department(

department\_id INT PRIMARY KEY,

department\_name VARCHAR(50)

);

**INSERTING THE VALUES:**

**DEPARTMENT TABLE:**

INSERT INTO department VALUES (1, 'Computer Science');

INSERT INTO department VALUES (2, 'Mechanical Engineering');

INSERT INTO department VALUES (3, 'Electrical Engineering');

INSERT INTO department VALUES (4, 'Civil Engineering');

INSERT INTO department VALUES (5, 'Mathematics');

INSERT INTO department VALUES (6, 'Biology');

**ADDRESS TABLE:**

INSERT INTO address VALUES (1, '123 Elm St', 'Springfield', 'IL', '62701');

INSERT INTO address VALUES (2, '456 Oak St', 'Decatur', 'IL', '62521');

INSERT INTO address VALUES (3, '789 Pine St', 'Champaign', 'IL', '61820');

INSERT INTO address VALUES (4, '102 Birch Rd', 'Peoria', 'IL', '61602');

INSERT INTO address VALUES (5, '205 Cedar Ave', 'Chicago', 'IL', '60601');

INSERT INTO address VALUES (6, '310 Maple Dr', 'Urbana', 'IL', '61801');

INSERT INTO address VALUES (7, '415 Oak Blvd', 'Champaign', 'IL', '61821');

INSERT INTO address VALUES (8, '520 Pine Rd', 'Carbondale', 'IL', '62901');

**STUDENT TABLE:**

INSERT INTO student VALUES (1, 'John', 'Doe', '1995-04-15', 1, 1);

INSERT INTO student VALUES (2, 'Jane', 'Smith', '1996-07-22', 2, 2);

INSERT INTO student VALUES (3, 'Alice', 'Johnson', '1994-11-30', 3, 3);

INSERT INTO student VALUES (4, 'Michael', 'Brown', '1997-02-19', 4, 4);

INSERT INTO student VALUES (5, 'Sophia', 'Davis', '1998-01-05', 5, 5);

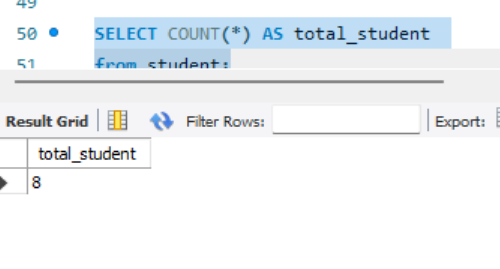
INSERT INTO student VALUES (6, 'Daniel', 'Wilson', '1995-06-10', 6, 6);

INSERT INTO student VALUES (7, 'Olivia', 'Martinez', '1997-11-25', 1, 7);

INSERT INTO student VALUES (8, 'Ethan', 'Miller', '1996-03-30', 2, 8);

3.) SELECT COUNT(\*) AS total\_students

FROM student;

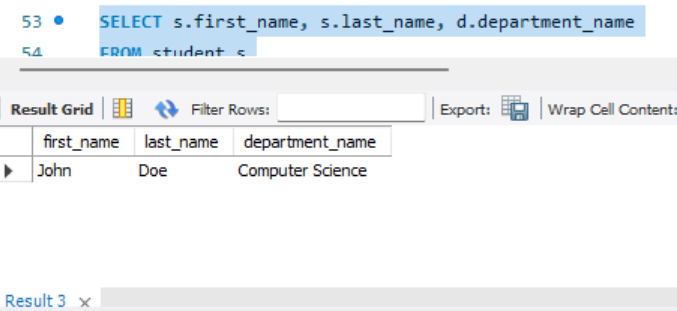


4.) SELECT s.first\_name, s.last\_name, d.department\_name

FROM student s

JOIN department d ON s.department\_id = d.department\_id

WHERE s.first\_name = 'John';

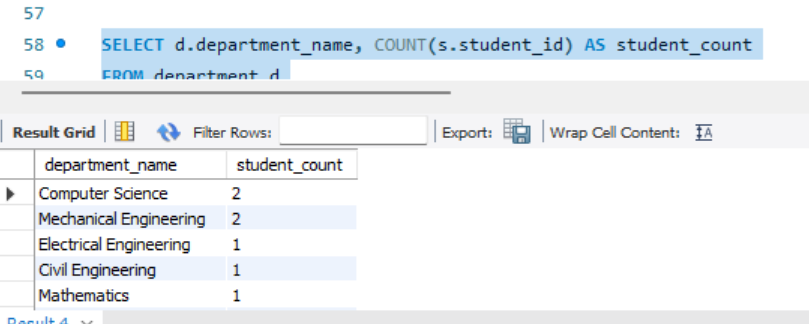


5.) SELECT d.department\_name, COUNT(s.student\_id) AS student\_count

FROM department d

LEFT JOIN student s ON d.department\_id = s.department\_id

GROUP BY d.department\_name;



6.) SELECT

s.student\_id,

s.first\_name,

s.last\_name,

s.birthdate,

d.department\_name,

a.street\_address,

a.city,

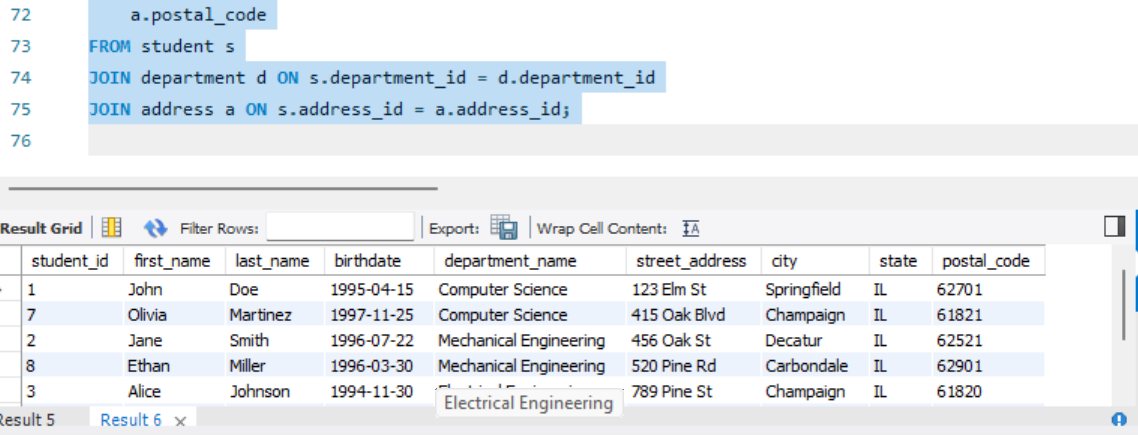
a.state,

a.postal\_code

FROM student s

JOIN department d ON s.department\_id = d.department\_id

JOIN address a ON s.address\_id = a.address\_id;



7.) SELECT

s.student\_id,

s.first\_name,

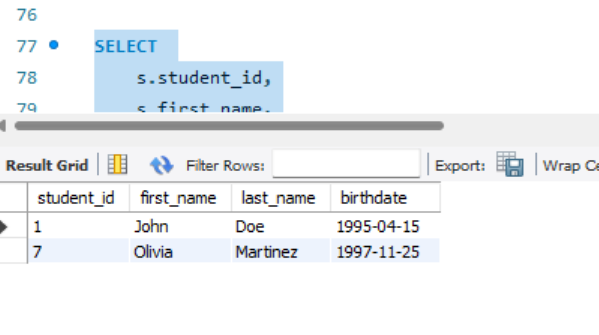
s.last\_name,

s.birthdate

FROM student s

JOIN department d ON s.department\_id = d.department\_id

WHERE d.department\_name = 'Computer Science';



8.) UPDATE address

SET city = 'New York'

WHERE address\_id = (

SELECT address\_id

FROM student

WHERE first\_name = 'Jane' AND last\_name = 'Smith'

LIMIT 1

);

9.) DELETE FROM student

WHERE student\_id = 123;

10.) SELECT

s.student\_id,

s.first\_name,

s.last\_name,

s.birthdate,

d.department\_name,

a.street\_address,

a.city,

a.state,

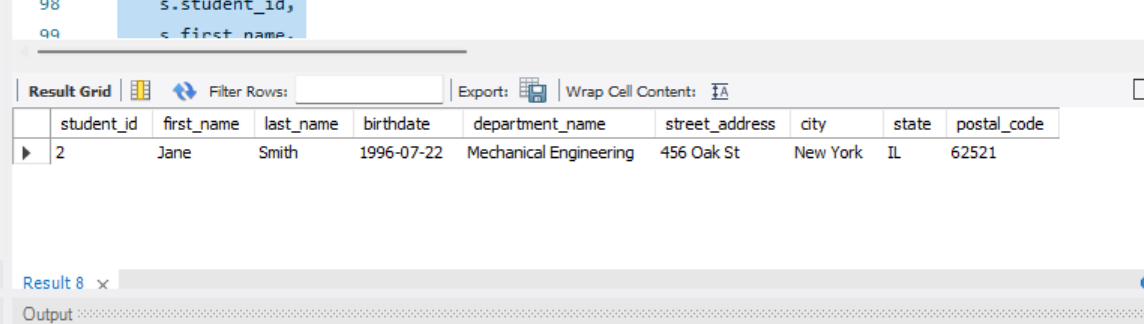
a.postal\_code

FROM student s

JOIN department d ON s.department\_id = d.department\_id

JOIN address a ON s.address\_id = a.address\_id

WHERE a.city = 'New York';



11.) SELECT

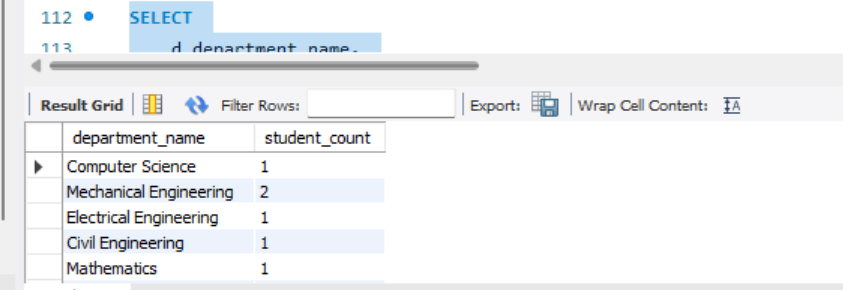
d.department\_name,

COUNT(s.student\_id) AS student\_count

FROM department d

LEFT JOIN student s ON d.department\_id = s.department\_id

GROUP BY d.department\_name;



12.) SELECT

s.student\_id,

s.first\_name,

s.last\_name,

s.birthdate,

a.street\_address,

a.city,

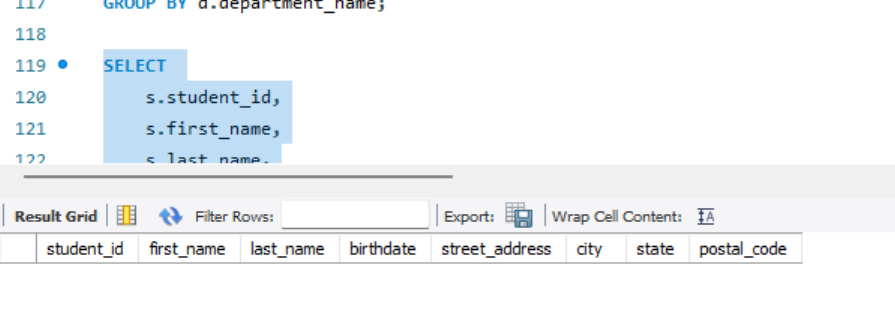
a.state,

a.postal\_code

FROM student s

JOIN address a ON s.address\_id = a.address\_id

WHERE a.city = 'Springfield';



13.) SELECT

student\_id,

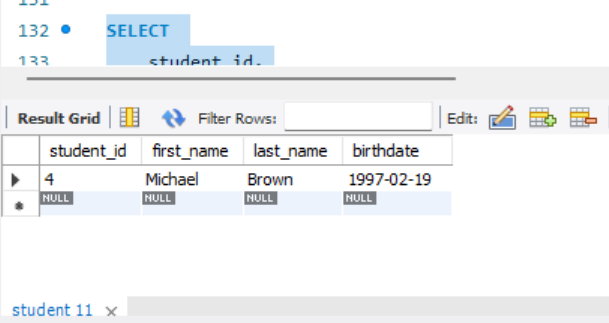
first\_name,

last\_name,

birthdate

FROM student

WHERE MONTH(birthdate) = 2;



14.) SELECT

s.student\_id,

s.first\_name,

s.last\_name,

d.department\_name,

a.street\_address,

a.city,

a.state,

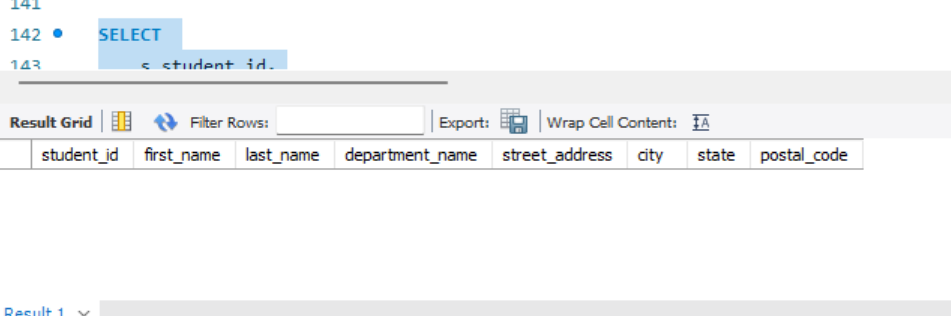
a.postal\_code

FROM student s

JOIN department d ON s.department\_id = d.department\_id

JOIN address a ON s.address\_id = a.address\_id

WHERE s.first\_name = 'John';



15.) SELECT

student\_id,

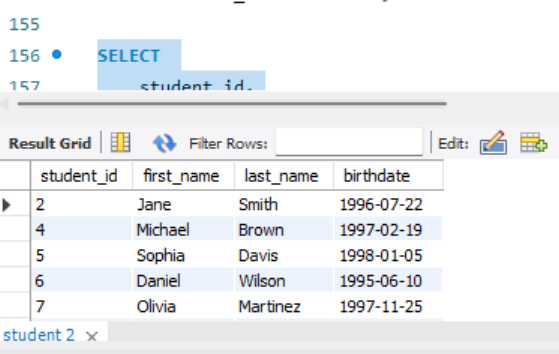
first\_name,

last\_name,

birthdate

FROM student

WHERE birthdate BETWEEN '1995-01-01' AND '1998-12-31';



16.) SELECT

s.student\_id,

s.first\_name,

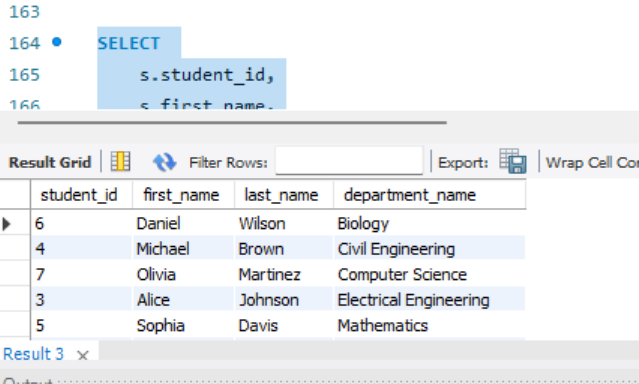
s.last\_name,

d.department\_name

FROM student s

JOIN department d ON s.department\_id = d.department\_id

ORDER BY d.department\_name;



17.) SELECT

d.department\_name,

COUNT(s.student\_id) AS student\_count

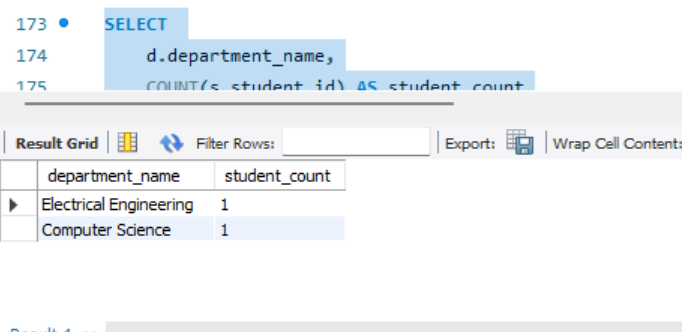
FROM student s

JOIN department d ON s.department\_id = d.department\_id

JOIN address a ON s.address\_id = a.address\_id

WHERE a.city = 'Champaign'

GROUP BY d.department\_name;



18.) SELECT

s.first\_name,

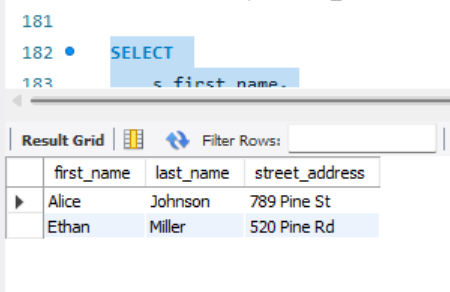
s.last\_name,

a.street\_address

FROM student s

JOIN address a ON s.address\_id = a.address\_id

WHERE a.street\_address LIKE '%Pine%';



19.) SELECT

s.student\_id,

s.first\_name,

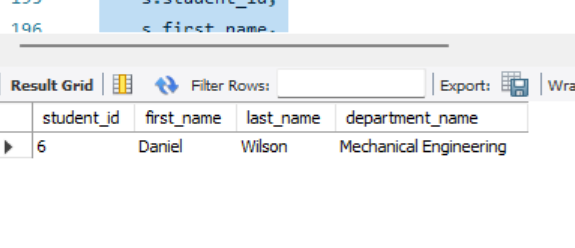
s.last\_name,

d.department\_name

FROM student s

JOIN department d ON s.department\_id = d.department\_id

WHERE s.student\_id = 6;



20.) SELECT

s.student\_id,

s.first\_name,

s.last\_name,

d.department\_name,

a.city

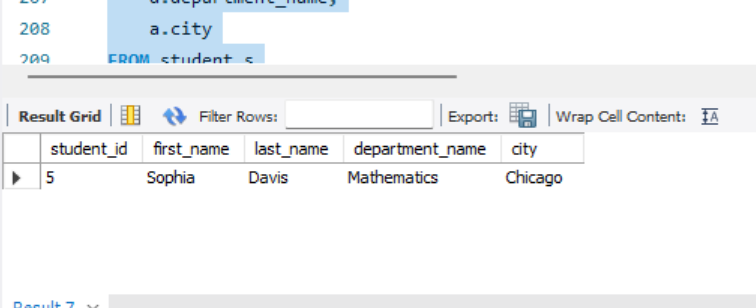
FROM student s

JOIN address a ON s.address\_id = a.address\_id

JOIN department d ON s.department\_id = d.department\_id

WHERE a.city = 'Chicago'

AND d.department\_name = 'Mathematics';



21.) SELECT

s.student\_id,

s.first\_name,

s.last\_name,

a.street\_address,

a.city,

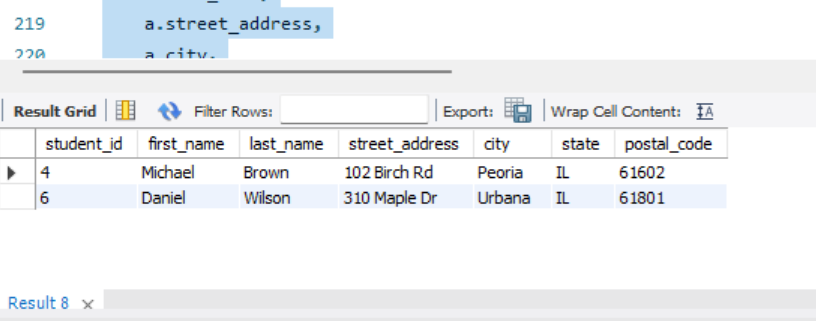
a.state,

a.postal\_code

FROM student s

JOIN address a ON s.address\_id = a.address\_id

WHERE a.city IN ('Urbana', 'Peoria');



22.) SELECT

student\_id,

first\_name,

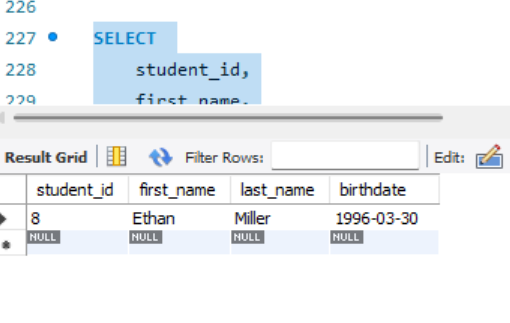
last\_name,

birthdate

FROM student

ORDER BY student\_id DESC

LIMIT 1;



23.) SELECT

s.student\_id,

s.first\_name,

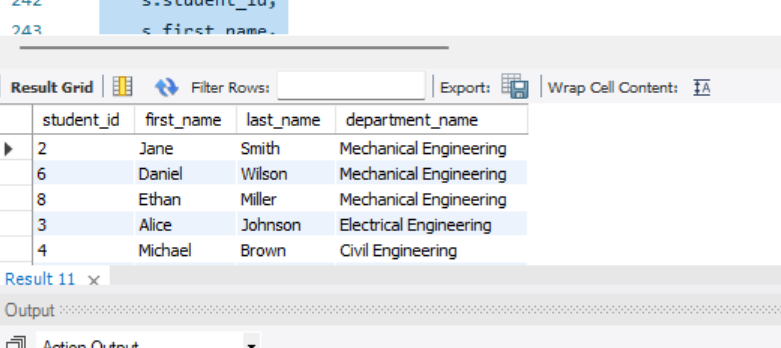
s.last\_name,

d.department\_name

FROM student s

JOIN department d ON s.department\_id = d.department\_id

WHERE d.department\_name <> 'Computer Science';

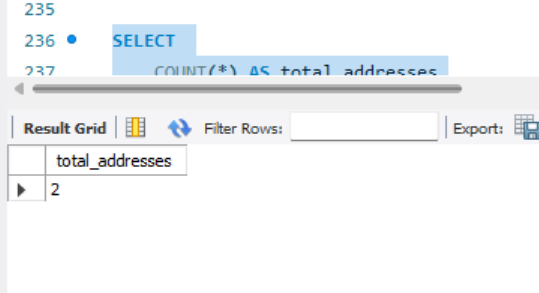


24.) SELECT

COUNT(\*) AS total\_addresses

FROM address

WHERE city = 'Champaign';



25.) SELECT

s.first\_name,

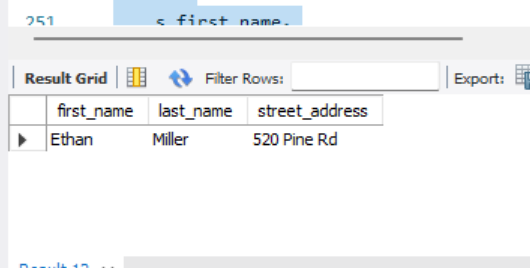
s.last\_name,

a.street\_address

FROM student s

JOIN address a ON s.address\_id = a.address\_id

WHERE a.street\_address = '520 Pine Rd';



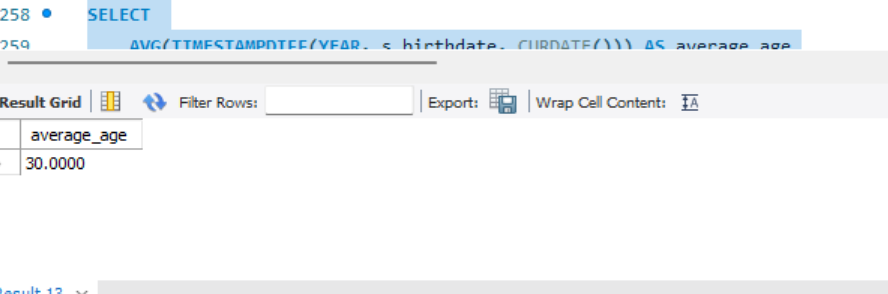
26.) SELECT

AVG(TIMESTAMPDIFF(YEAR, s.birthdate, CURDATE())) AS average\_age

FROM student s

JOIN department d ON s.department\_id = d.department\_id

WHERE d.department\_name = 'Electrical Engineering';



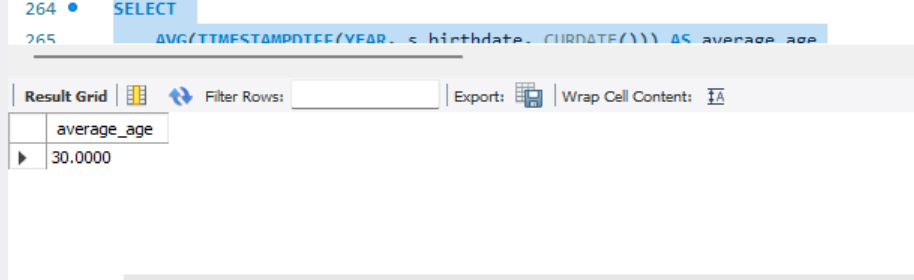
27.) SELECT

AVG(TIMESTAMPDIFF(YEAR, s.birthdate, CURDATE())) AS average\_age

FROM student s

JOIN department d ON s.department\_id = d.department\_id

WHERE d.department\_name = 'Electrical Engineering';



28.) DELETE FROM student

WHERE department\_id = (

SELECT department\_id

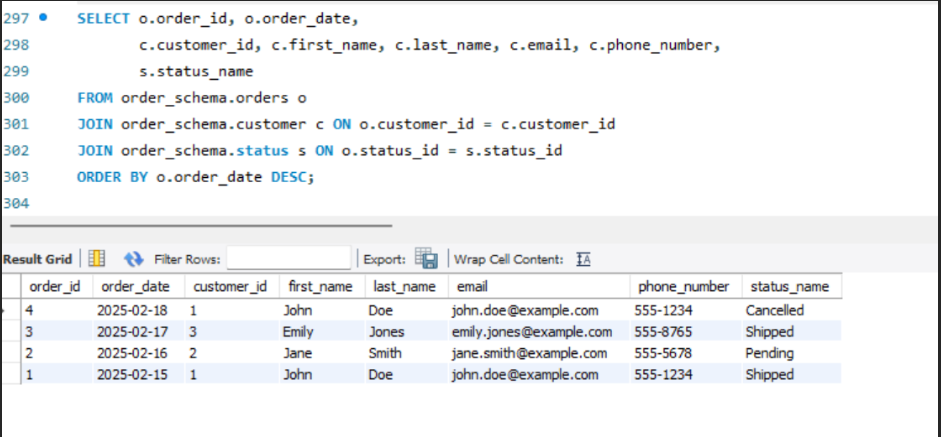
FROM department

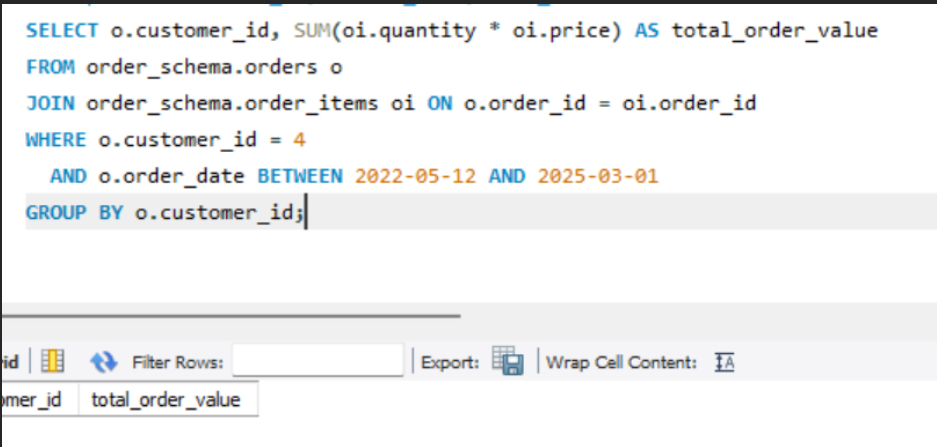
WHERE department\_name = 'Mechanical Engineering'

)

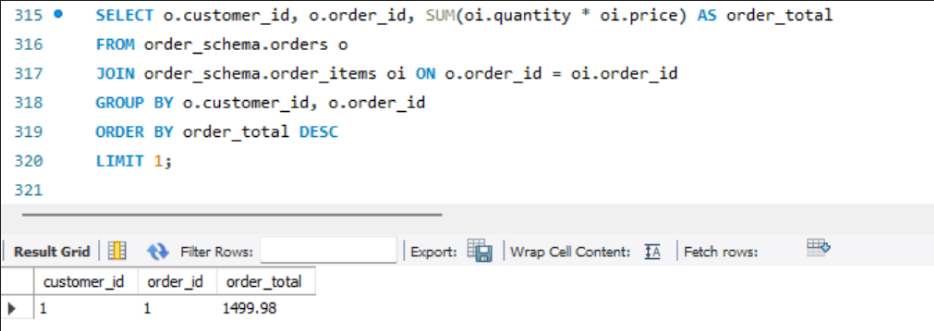
LIMIT 1;

**Part-2:**

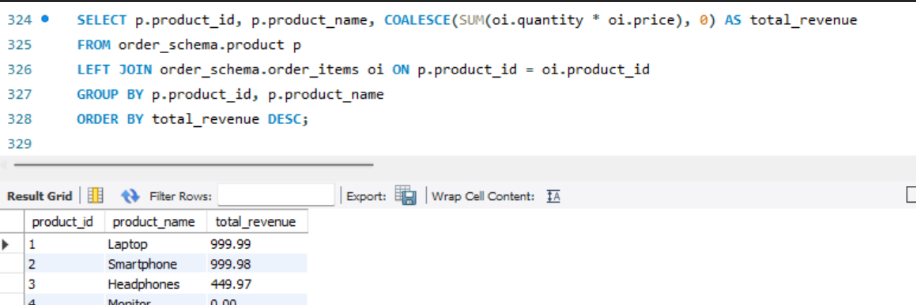
1.) 

2.) 

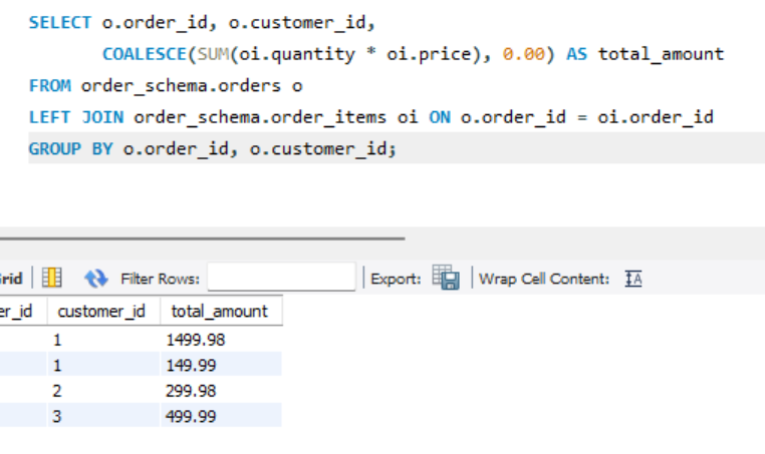
3.)



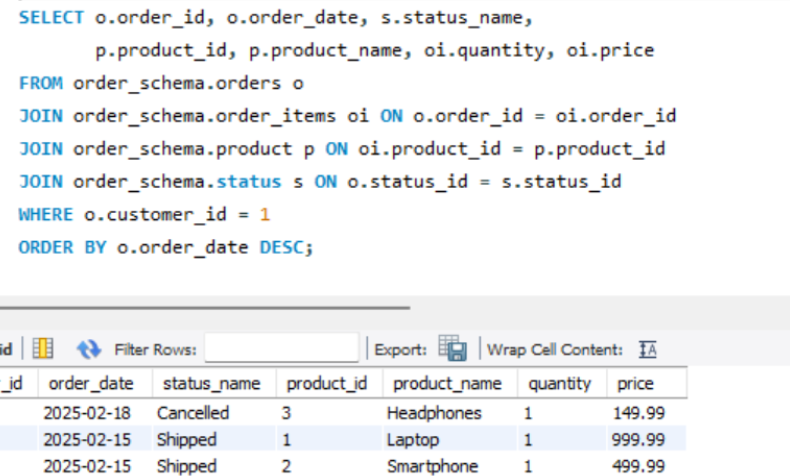
4.)



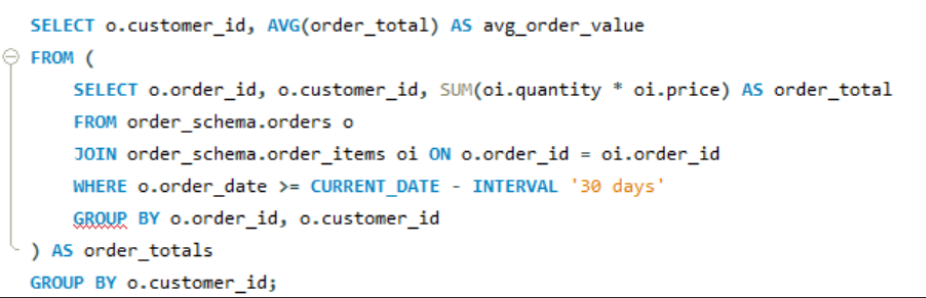
5.)



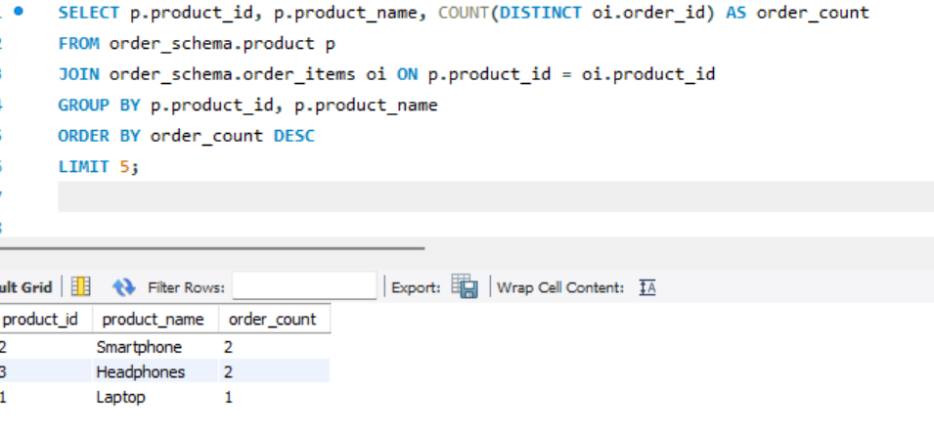
6.)

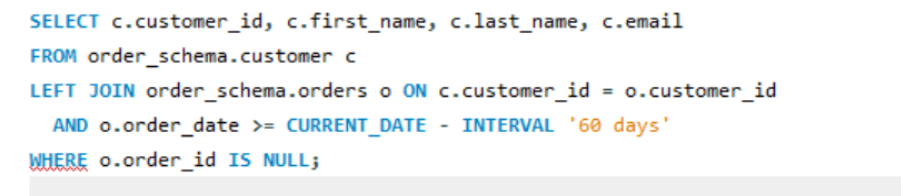


7.)

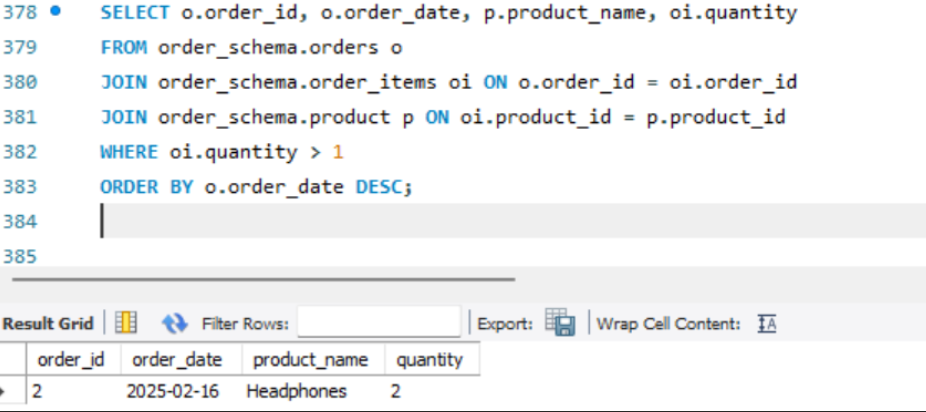


8.)

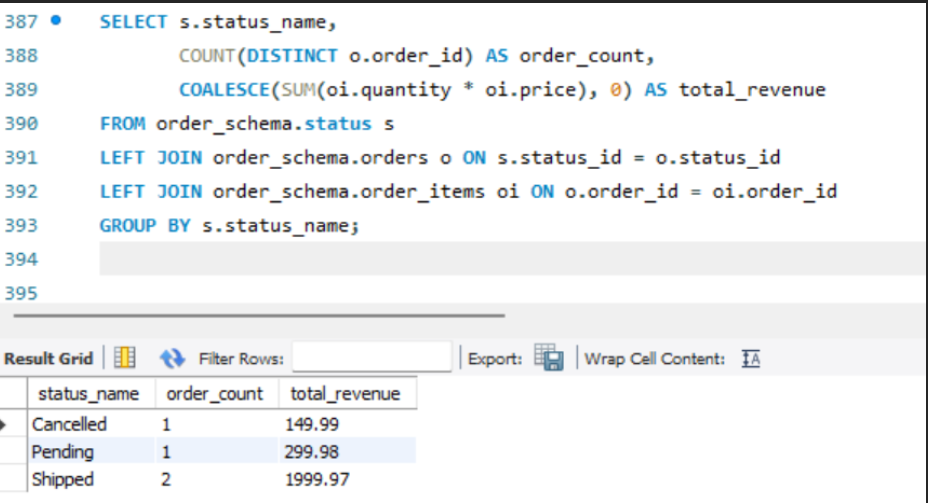


9.) 

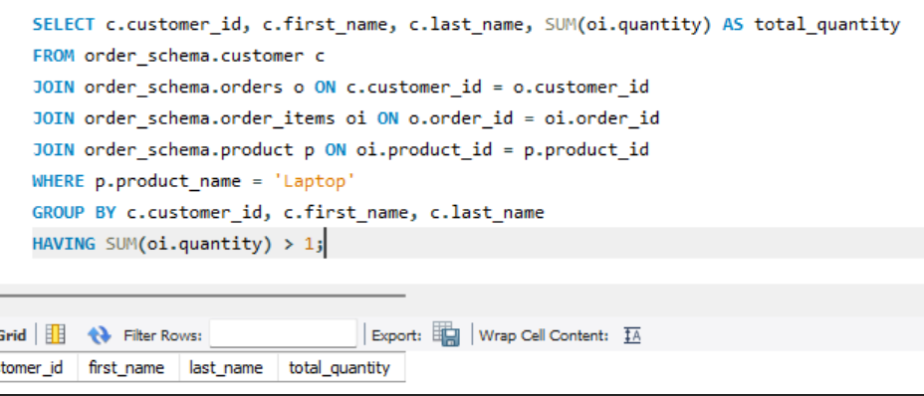
10.)



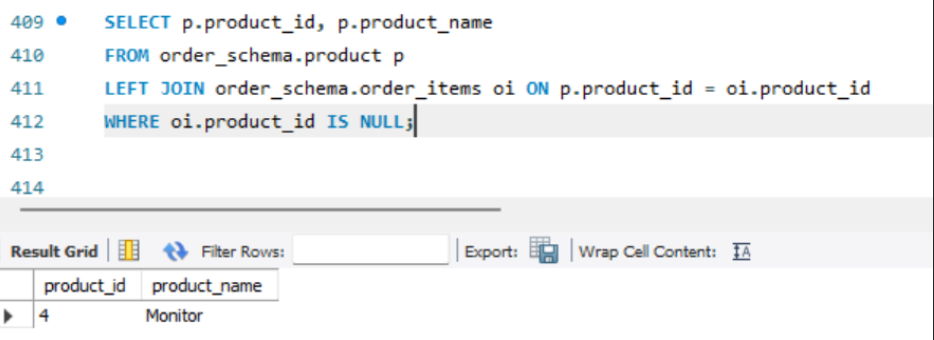
11.)



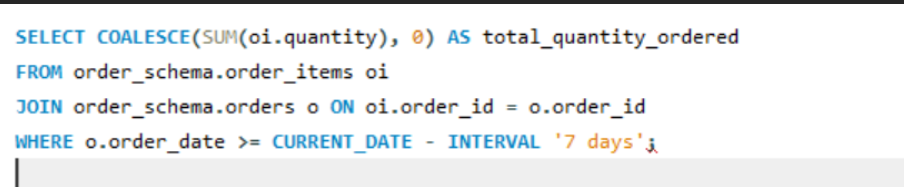
12.)



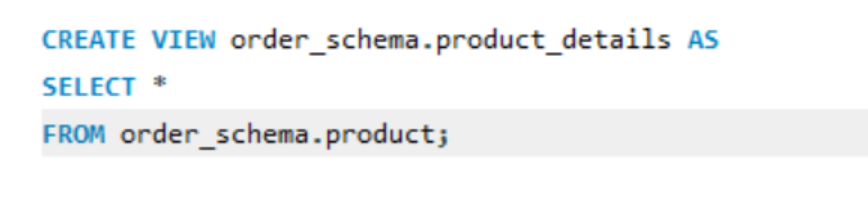
13.)



14.)



15.)



16.)

