Student Information System (SIS)

Database Tables:

The SIS database consists of the following tables:

1. **Students**
   - student_id (Primary Key)
   - first_name
   - last_name
   - date_of_birth
   - email
   - phone_number

2. **Courses**
   - course_id (Primary Key)
   - course_name
   - credits
   - teacher_id (Foreign Key)

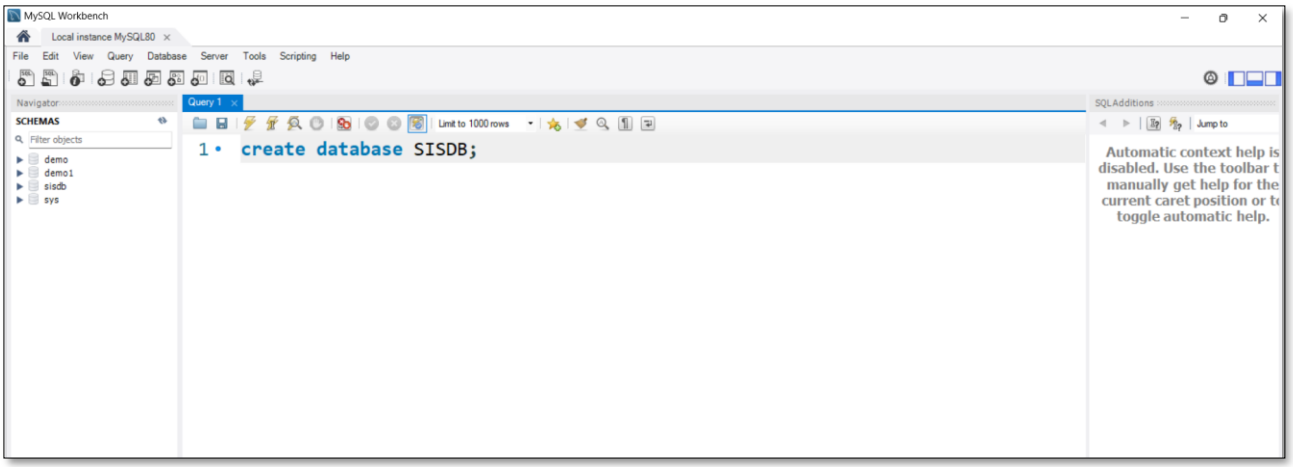
3. **Enrollments**
   - enrollment_id (Primary Key)
   - student_id (Foreign Key)
   - course_id (Foreign Key)
   - enrollment_date

4. **Teacher**
   - teacher_id (Primary Key)
   - first_name
   - last_name
   - email

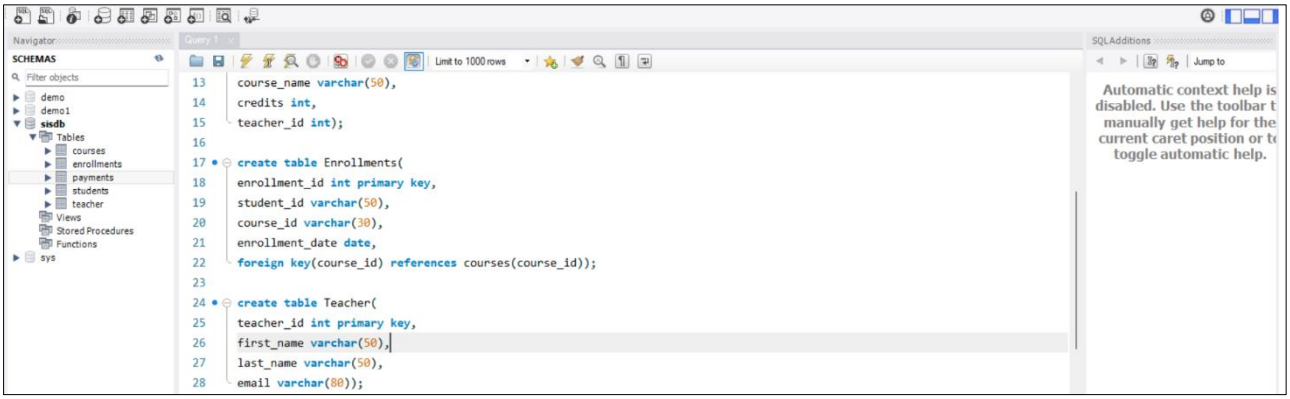
5. **Payments**
   - payment_id (Primary Key)
   - student_id (Foreign Key)
   - amount
   - payment_date

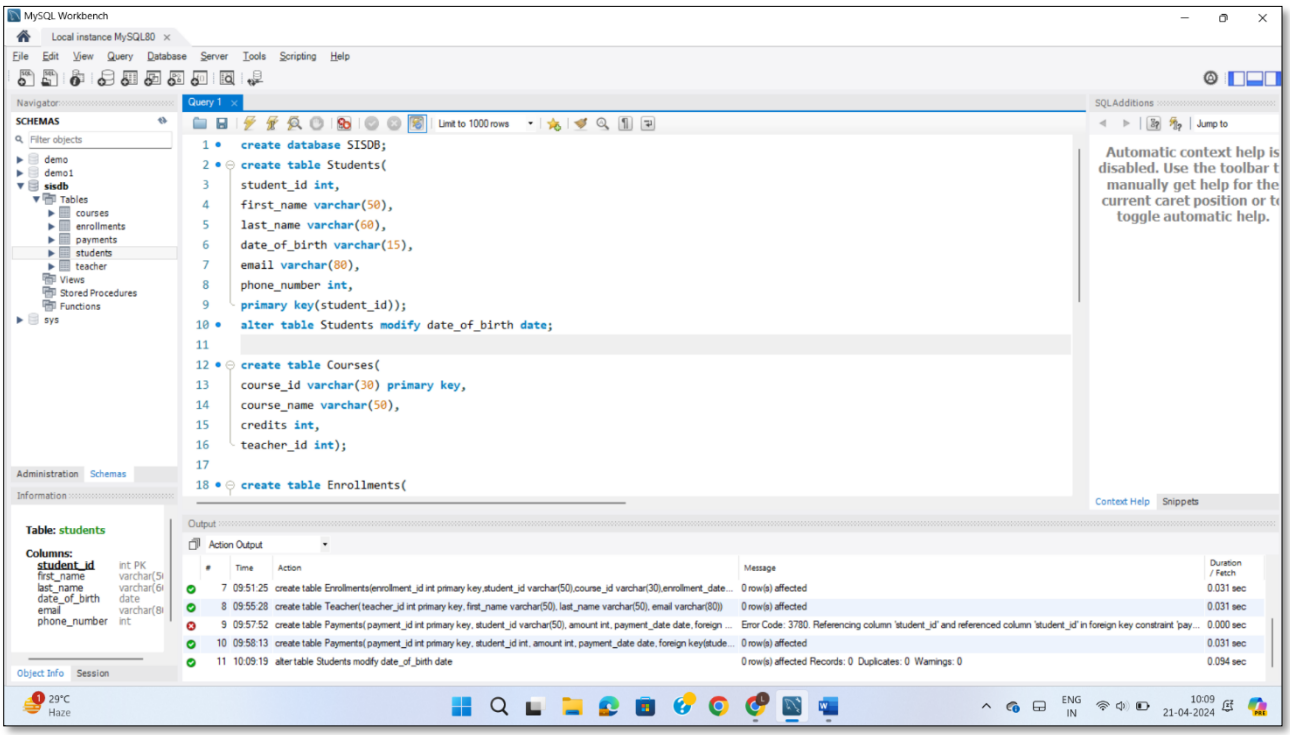
Task 1. Database Design:

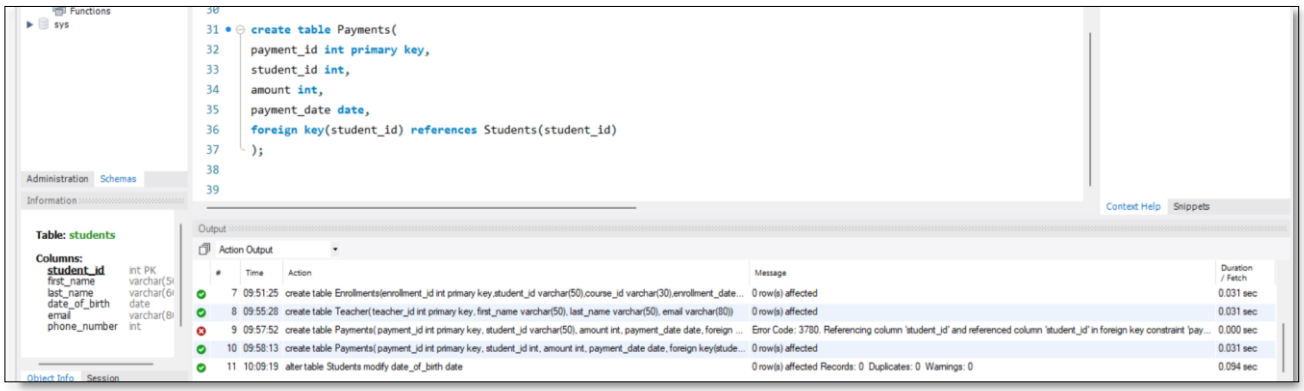
1. Create the database named "SISDB"



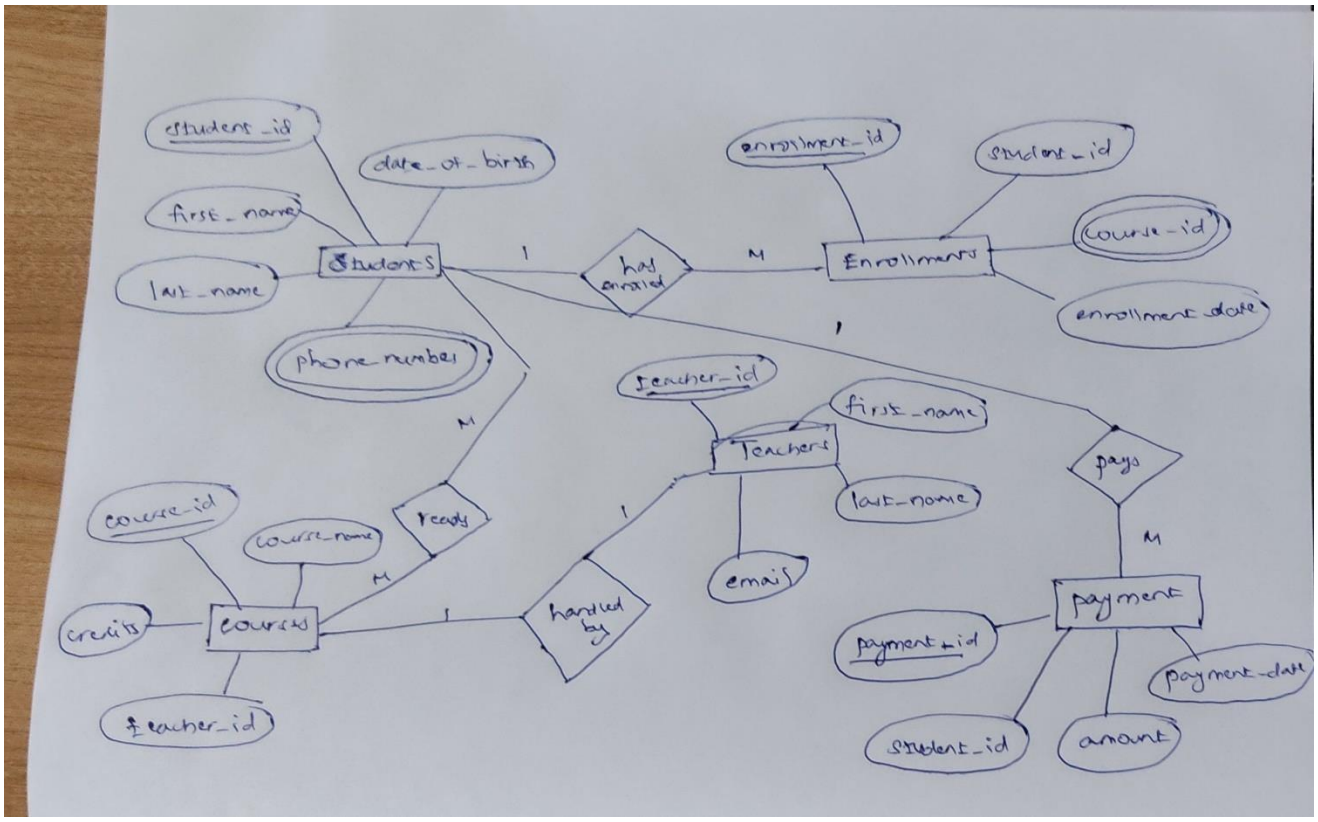
2. Define the schema for the Students, Courses, Enrollments, Teacher, and Payments tables based on the provided schema. Write SQL scripts to create the mentioned tables with appropriate data types, constraints, and relationships.
    a. Students
    b. Courses
    c. Enrollments
    d. Teacher
    e. Payments







3. Create an ERD (Entity Relationship Diagram) for the database.



4. Create appropriate Primary Key and Foreign Key constraints for referential integrity.

```
38
39 • alter table courses add constraint fk foreign key(teacher_id) references Teacher(teacher_id);
40
41
```

5. Insert at least 10 sample records into each of the following tables.
    i. Students
    ii. Courses
    iii. Enrollments
    iv. Teacher
    v. Payments

```
52      values(101,'Rani','K','2009-11-2','swaze@gmail.com',7658901265);
53
54      insert into Students
55      values(146,'Swetha','Ram','2012-6-2','ss1234@gmail.com',7658952165);
56
57      insert into Students
58      values
59      (111,'Vani','Sambath','2005-04-3','vanis@gmail.com',1248901261),
60      (117,'Surya','Murthy','1978-3-1','surya@yahoo.com',9996754312),
61      (124,'Vikram','Anderson','1890-3-8','vikramrst45@gmail.com',8236782165),
62      (130,'Madhu','Ram','2012-8-3','mdram345@gmail.com',7658954321),
63      (115,'Kavin','Singh','2016-8-6','ss1234@gmail.com',7658952165),
64      (143,'Alad','Khan','2017-5-1','khanaala@yahoo.com',9465123216);
65
66
67      insert into Teacher
68      values
69      (123,'Vara','Lakshmi','vj20@gmail.com'),
```

```
80
81      insert into courses
82      values
83      ('19CB101','Digital marketing', 15 ,112 ),
84      ('19CB105','Operating System', 17 ,133 ),
85      ('201CS224','Networking', 30 , 150),
86      ('202CS134','Automata Theory', 20 , 123),
87      ('201IS134','Financial Management', 10 , 174),
88      ('201IS568','IT Project Management', 35 , 160),
89      ('201ME134','CAD Modelling', 25 , 128),
90      ('201ME136','Statistics', 35 , 124),
91      ('18CB145','Boolean Algebra', 25 , 132),
92      ('19CB111','Data Structures and Algorithms', 50 , 137),
93      ('19EE678','Principles of Electronic Engineering', 15 , 118);
94
95      insert into Enrollments
```

Output

```
104
105     insert into Enrollments values
106     (301889,130,'18CB145','2001-10-01'),
107     (435612,124,'201IS568','2002-07-31');
108
109     insert into Enrollments values
110     (456765,115,'201CS224','2001-09-01');
111
112     insert into Enrollments values
113     (45765,146,'19CB105','2001-09-01');
114
115     insert into Enrollments values
116     (455765,80,'201ME134','2000-12-11');
117
118     insert into Enrollments values
119     (345123,100,'19CB105','2004-05-01');
```

```
(455765,80,'201ME134','2000-12-11');

insert into Enrollments values
(345123,100,'19CB105','2004-05-01');


insert into payments
values (123456,100,1000,'2004-05-02'),
(123457,80,2000,'2000-12-12'),
(123500,130,1500,'2001-11-01'),
(123459,100,3000,'2004-05-02'),
(123501,124,1500,'2003-07-1'),
(123600,117,2000,'2007-07-05'),
(123455,111,3500,'2001-08-02');
```

```
insert into Teacher
values
(123,'Vara','Lakshmi','vj20@gmail.com'),
(124,'Swarna','Latha','Swarnal342@gmail.com'),
(128,'Rama','Swamy','Rs1234@gmail.com'),
(133,'Jay','Shetty','jswere34@gmail.com'),
(132,'Keerthi','Pandian','kpkp20202@gmail.com'),
(137,'Srinikethan','M','srinik@yahoo.com'),
(150,'Manoj','Kumar','heromj@gmail.com'),
(118,'Saravana','Moorthy','sv20sv@gmail.com'),
(160,'Rani Lakshmi','Bhai','bhai1987@gmail.com'),
(174,'Cheran','K','chek99@yahoo.com'),
(112,'Sri','Ram','srm198@gmail.com');
```

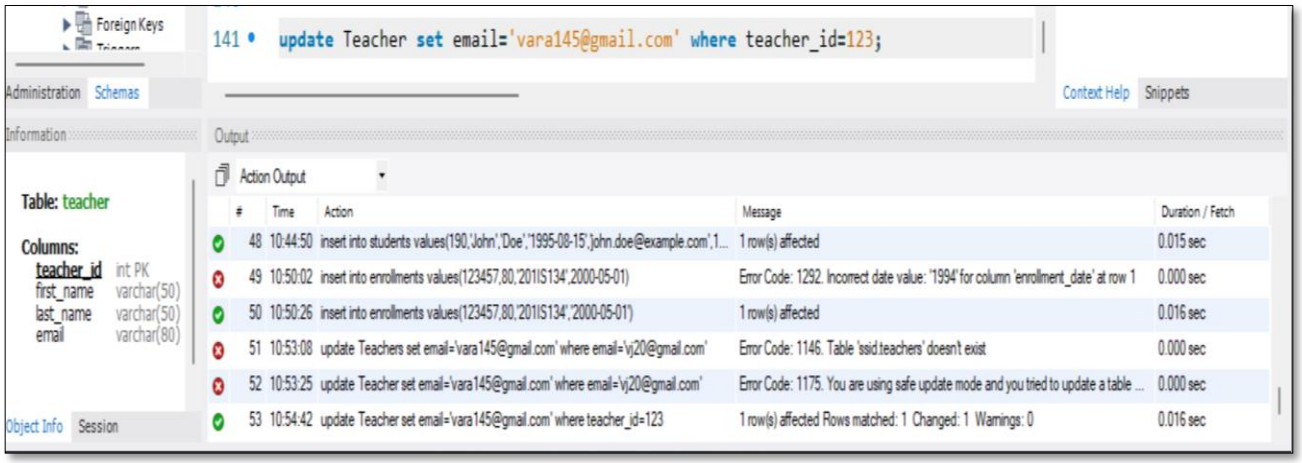
Tasks 2: Select, Where, Between, AND, LIKE:

1. Write an SQL query to insert a new student into the "Students" table with the following details:
    a. First Name: John
    b. Last Name: Doe
    c. Date of Birth: 1995-08-15
    d. Email: john.doe@example.com
    e. Phone Number: 1234567890

```
insert into students values(190,'John','Doe','1995-08-15','john.doe@example.com',1234567890);
```

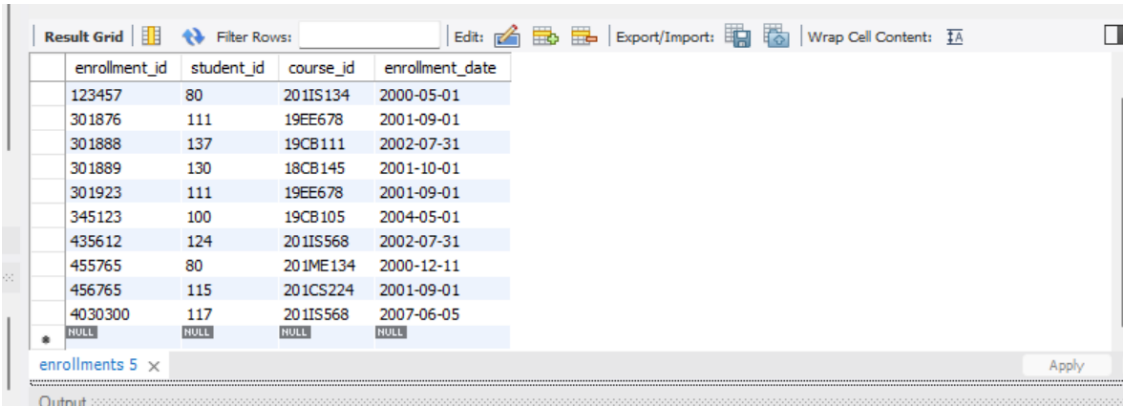
2. Write an SQL query to enroll a student in a course. Choose an existing student and course and insert a record into the "Enrollments" table with the enrollment date.

3. Update the email address of a specific teacher in the "Teacher" table. Choose any teacher and modify their email address.



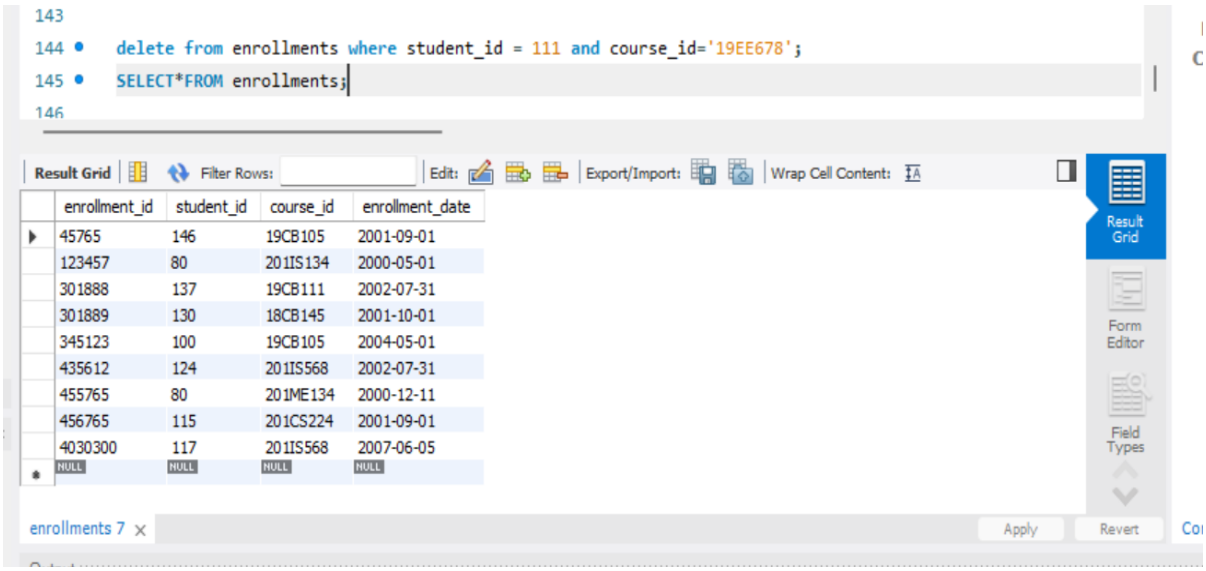
4. Write an SQL query to delete a specific enrollment record from the "Enrollments" table. Select an enrollment record based on the student and course.

   Before deleting:



enrollment_id	student_id	course_id	enrollment_date
123457	80	201IS134	2000-05-01
301876	111	19EE678	2001-09-01
301888	137	19CB111	2002-07-31
301889	130	18CB145	2001-10-01
301923	111	19EE678	2001-09-01
345123	100	19CB105	2004-05-01
435612	124	201IS568	2002-07-31
455765	80	201ME134	2000-12-11
456765	115	201CS224	2001-09-01
4030300	117	201IS568	2007-06-05

   After deleting

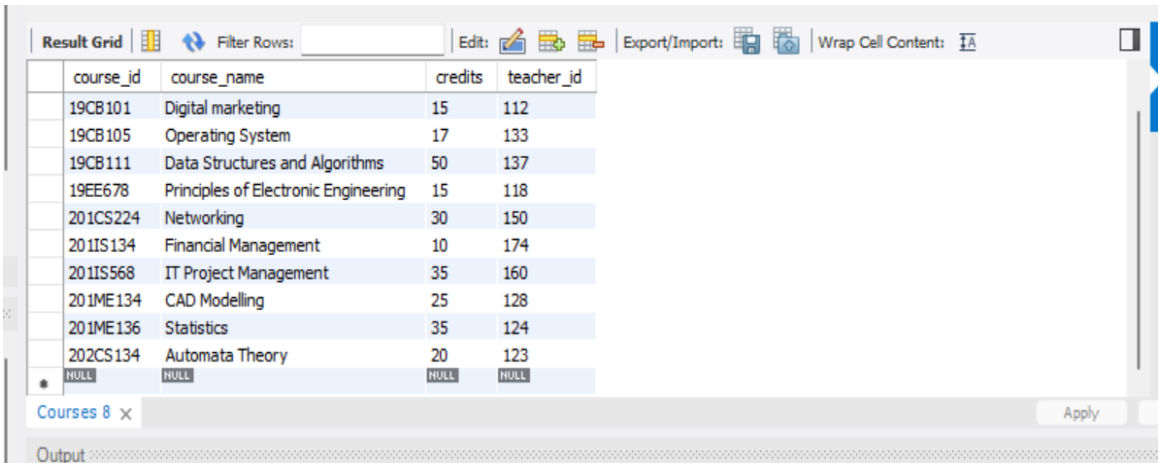


```
delete from enrollments where student_id = 111 and course_id='19EE678';
SELECT*FROM enrollments;
```

enrollment_id	student_id	course_id	enrollment_date
45765	146	19CB105	2001-09-01
123457	80	201IS134	2000-05-01
301888	137	19CB111	2002-07-31
301889	130	18CB145	2001-10-01
345123	100	19CB105	2004-05-01
435612	124	201IS568	2002-07-31
455765	80	201ME134	2000-12-11
456765	115	201CS224	2001-09-01
4030300	117	201IS568	2007-06-05

5. Update the "Courses" table to assign a specific teacher to a course. Choose any course and teacher from the respective tables.

   Before updating

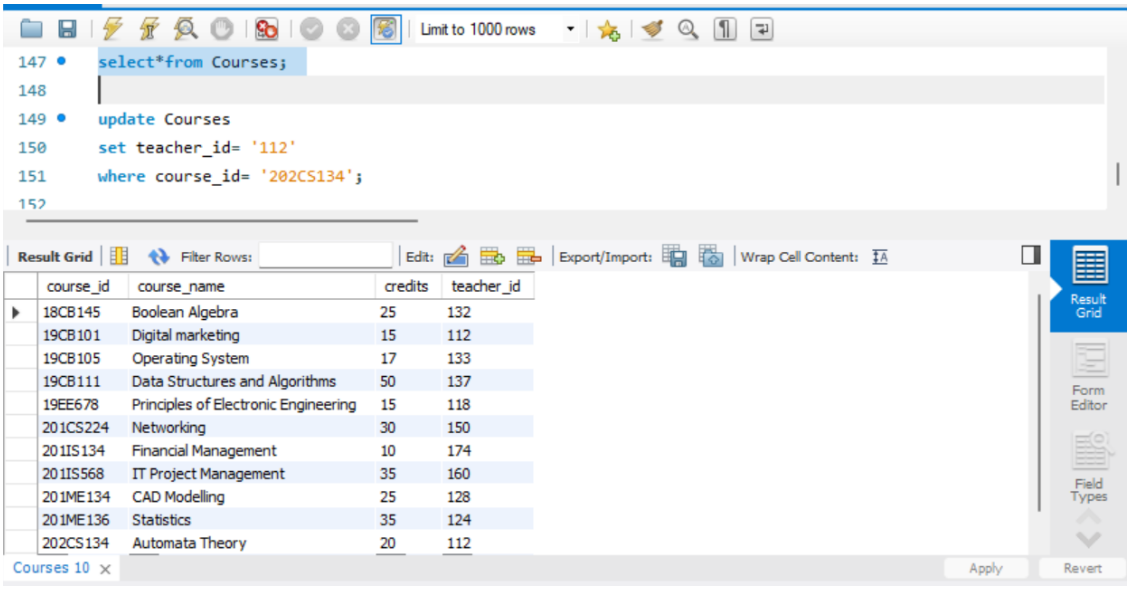


Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

course_id	course_name	credits	teacher_id
19CB101	Digital marketing	15	112
19CB105	Operating System	17	133
19CB111	Data Structures and Algorithms	50	137
19EE678	Principles of Electronic Engineering	15	118
201CS224	Networking	30	150
201IS134	Financial Management	10	174
201IS568	IT Project Management	35	160
201ME134	CAD Modelling	25	128
201ME136	Statistics	35	124
202CS134	Automata Theory	20	123
NULL	NULL	NULL	NULL

Courses 8 | Apply | Output

After updating



```
147  select*from Courses;
148
149  update Courses
150  set teacher_id= '112'
151  where course_id= '202CS134';
152
```

Limit to 1000 rows

Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

course_id	course_name	credits	teacher_id
18CB145	Boolean Algebra	25	132
19CB101	Digital marketing	15	112
19CB105	Operating System	17	133
19CB111	Data Structures and Algorithms	50	137
19EE678	Principles of Electronic Engineering	15	118
201CS224	Networking	30	150
201IS134	Financial Management	10	174
201IS568	IT Project Management	35	160
201ME134	CAD Modelling	25	128
201ME136	Statistics	35	124
202CS134	Automata Theory	20	112

Result Grid | Form Editor | Field Types

Courses 10 | Apply | Revert

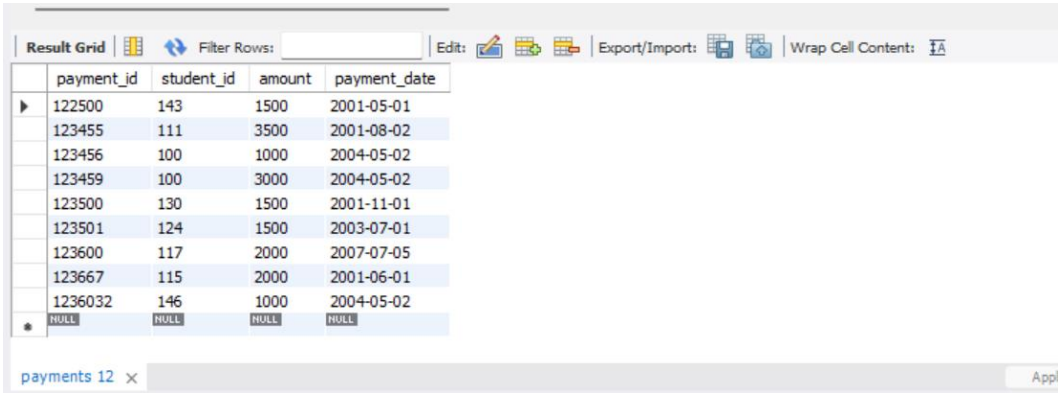
6. Delete a specific student from the "Students" table and remove all their enrollment records from the "Enrollments" table. Be sure to maintain referential integrity.

To maintain referential integrity, I have modified the foreign key constraint.

```
159
160 •  alter table payments
161    drop foreign key payments_ibfk_1;
162
163 •  alter table payments
164    add constraint payments_ibfk_2
165    foreign key (student_id)
166    references students(student_id)
167    on delete cascade;
168
169 •  delete from students
170    where student_id = 80;
171
172
173
174
175
```

After deleting

Payments table

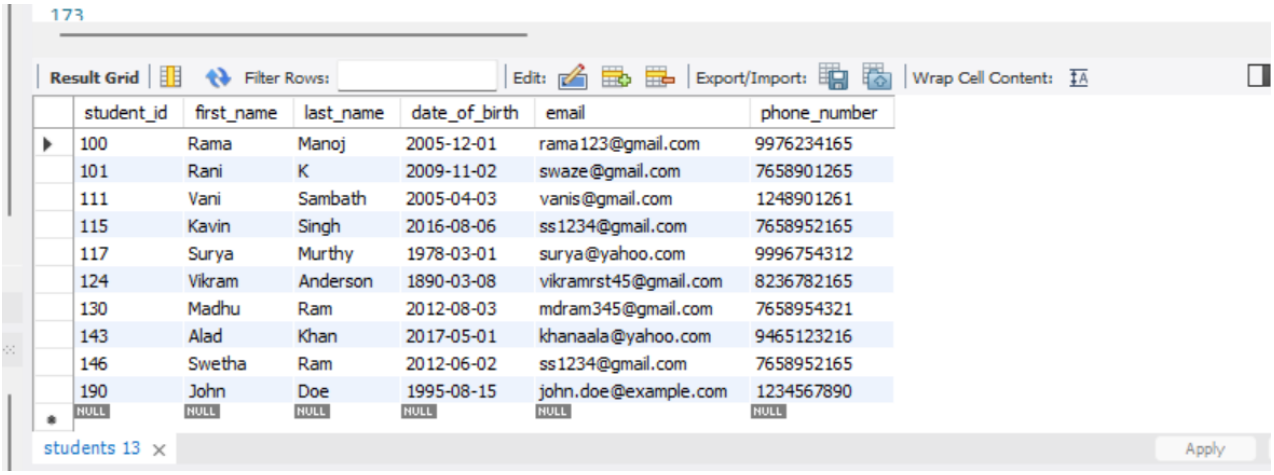


Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

payment_id	student_id	amount	payment_date
122500	143	1500	2001-05-01
123455	111	3500	2001-08-02
123456	100	1000	2004-05-02
123459	100	3000	2004-05-02
123500	130	1500	2001-11-01
123501	124	1500	2003-07-01
123600	117	2000	2007-07-05
123667	115	2000	2001-06-01
1236032	146	1000	2004-05-02
NULL	NULL	NULL	NULL

payments 12

Students table



173

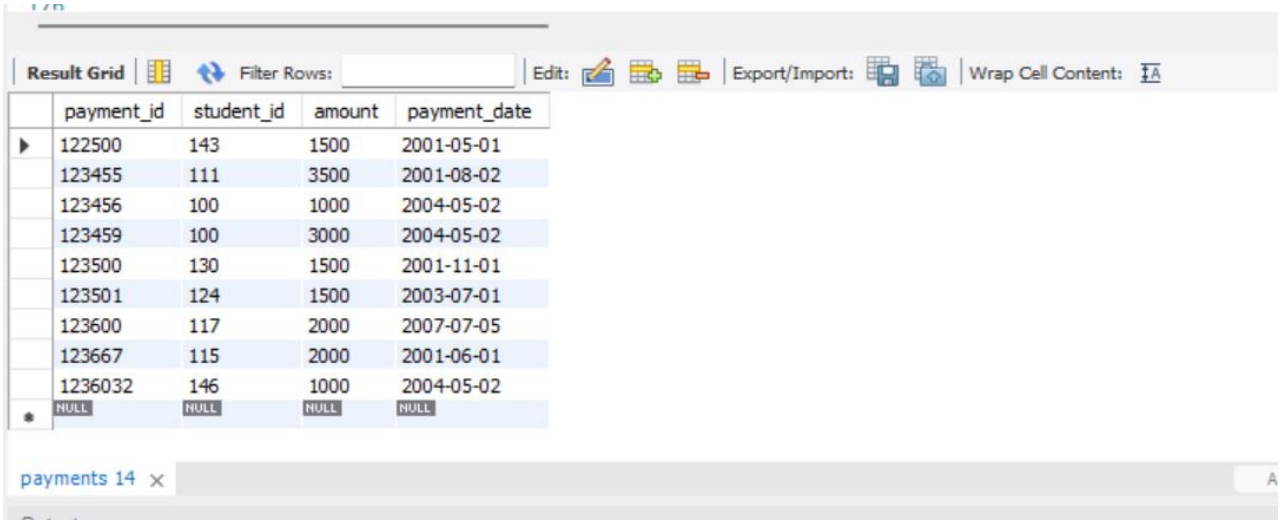
Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

student_id	first_name	last_name	date_of_birth	email	phone_number
100	Rama	Manoj	2005-12-01	rama123@gmail.com	9976234165
101	Rani	K	2009-11-02	swaze@gmail.com	7658901265
111	Vani	Sambath	2005-04-03	vanis@gmail.com	1248901261
115	Kavin	Singh	2016-08-06	ss1234@gmail.com	7658952165
117	Surya	Murthy	1978-03-01	surya@yahoo.com	9996754312
124	Vikram	Anderson	1890-03-08	vikramrst45@gmail.com	8236782165
130	Madhu	Ram	2012-08-03	mdram345@gmail.com	7658954321
143	Alad	Khan	2017-05-01	khanaala@yahoo.com	9465123216
146	Swetha	Ram	2012-06-02	ss1234@gmail.com	7658952165
190	John	Doe	1995-08-15	john.doe@example.com	1234567890
NULL	NULL	NULL	NULL	NULL	NULL

students 13 | Apply

7. Update the payment amount for a specific payment record in the "Payments" table. Choose any payment record and modify the payment amount.

Before updating

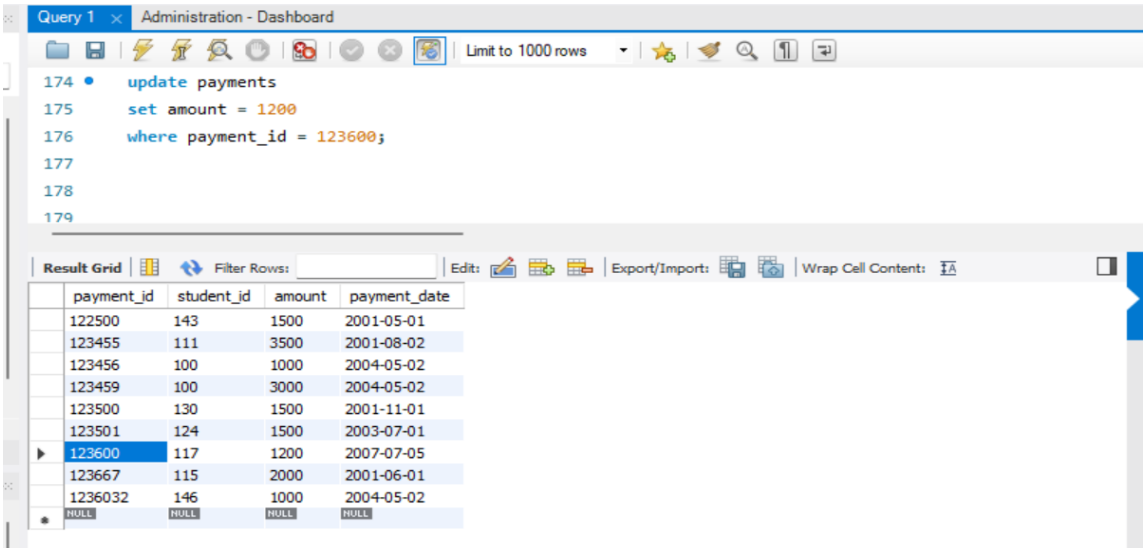


Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

payment_id	student_id	amount	payment_date
122500	143	1500	2001-05-01
123455	111	3500	2001-08-02
123456	100	1000	2004-05-02
123459	100	3000	2004-05-02
123500	130	1500	2001-11-01
123501	124	1500	2003-07-01
123600	117	2000	2007-07-05
123667	115	2000	2001-06-01
1236032	146	1000	2004-05-02
NULL	NULL	NULL	NULL

payments 14

After updating



Query 1 | Administration - Dashboard

Limit to 1000 rows

```
174 •  update payments
175    set amount = 1200
176    where payment_id = 123600;
177
178
179
```

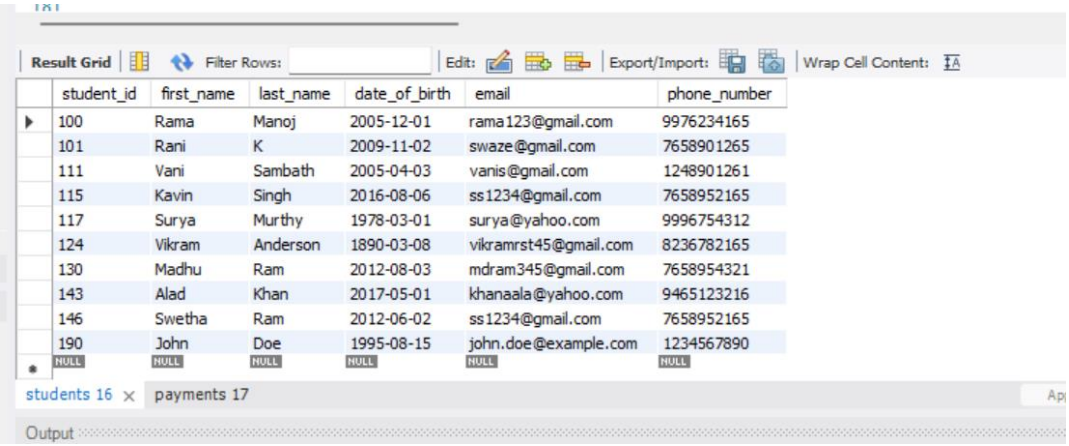
Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

payment_id	student_id	amount	payment_date
122500	143	1500	2001-05-01
123455	111	3500	2001-08-02
123456	100	1000	2004-05-02
123459	100	3000	2004-05-02
123500	130	1500	2001-11-01
123501	124	1500	2003-07-01
123600	117	1200	2007-07-05
123667	115	2000	2001-06-01
1236032	146	1000	2004-05-02
NULL	NULL	NULL	NULL

Task 3. Aggregate functions, Having, Order By, GroupBy and Joins:

1. Write an SQL query to calculate the total payments made by a specific student. You will need to join the "Payments" table with the "Students" table based on the student's ID.

Students table



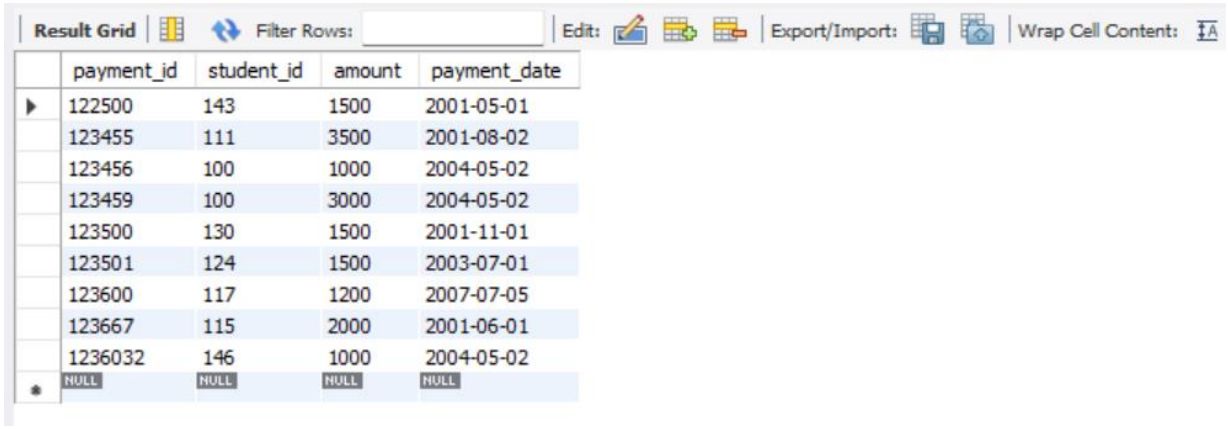
Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

student_id	first_name	last_name	date_of_birth	email	phone_number
100	Rama	Manoj	2005-12-01	rama123@gmail.com	9976234165
101	Rani	K	2009-11-02	swaze@gmail.com	7658901265
111	Vani	Sambath	2005-04-03	vanis@gmail.com	1248901261
115	Kavin	Singh	2016-08-06	ss1234@gmail.com	7658952165
117	Surya	Murthy	1978-03-01	surya@yahoo.com	9996754312
124	Vikram	Anderson	1890-03-08	vikramrst45@gmail.com	8236782165
130	Madhu	Ram	2012-08-03	mdram345@gmail.com	7658954321
143	Alad	Khan	2017-05-01	khanaala@yahoo.com	9465123216
146	Swetha	Ram	2012-06-02	ss1234@gmail.com	7658952165
190	John	Doe	1995-08-15	john.doe@example.com	1234567890
NULL	NULL	NULL	NULL	NULL	NULL

students 16 | payments 17

Output

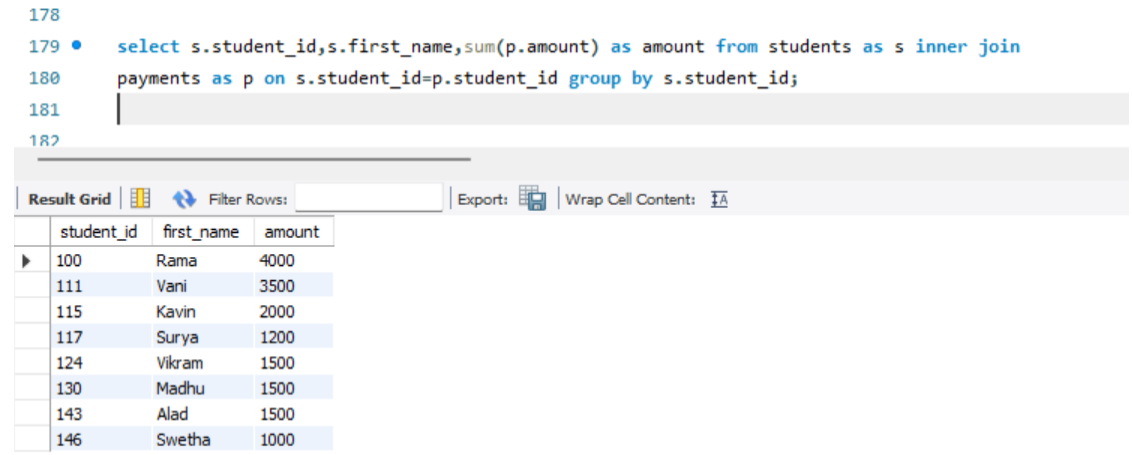
Payments table



Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

payment_id	student_id	amount	payment_date
122500	143	1500	2001-05-01
123455	111	3500	2001-08-02
123456	100	1000	2004-05-02
123459	100	3000	2004-05-02
123500	130	1500	2001-11-01
123501	124	1500	2003-07-01
123600	117	1200	2007-07-05
123667	115	2000	2001-06-01
1236032	146	1000	2004-05-02
NULL	NULL	NULL	NULL

After join operation



```
178
179 •  select s.student_id,s.first_name,sum(p.amount) as amount from students as s inner join
180    payments as p on s.student_id=p.student_id group by s.student_id;
181
182
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

student_id	first_name	amount
100	Rama	4000
111	Vani	3500
115	Kavin	2000
117	Surya	1200
124	Vikram	1500
130	Madhu	1500
143	Alad	1500
146	Swetha	1000

2. Write an SQL query to retrieve a list of courses along with the count of students enrolled in each course. Use a JOIN operation between the "Courses" table and the "Enrollments" table.

```
235
236 •  select c.course_name,count(e.student_id) as number_of_students
237    from courses as c
238    inner join enrollments as e
239    on c.course_id = e.course_id
240    group by c.course_id;
241
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

course_name	number_of_students
Operating System	2
Financial Management	1
Data Structures and Algorithms	1
Boolean Algebra	1
IT Project Management	2
CAD Modelling	1
Networking	1

Result 7

3. Write an SQL query to find the names of students who have not enrolled in any course. Use a LEFT JOIN between the "Students" table and the "Enrollments" table to identify students without enrollments.

```
186 •  select students.first_name, students.last_name
187    from Students
188    left join Enrollments ON Students.student_id = Enrollments.student_id
189    where Enrollments.student_id IS NULL;
190
191
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

first_name	last_name
Rani	K
Vani	Sambath
Alad	Khan
John	Doe
Kili	M
Sanjeev	Kumar

Result 1 | Read Only

4. Write an SQL query to retrieve the first name, last name of students, and the names of the courses they are enrolled in. Use JOIN operations between the "Students" table and the "Enrollments" and "Courses" tables.

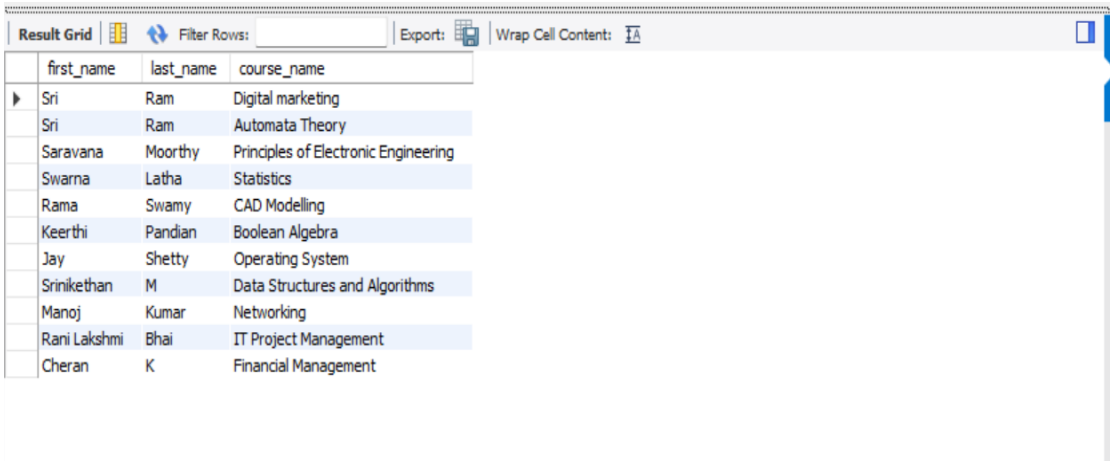
```
191 •  select s.first_name,s.last_name,c.course_name
192    from  students as s
193    inner join enrollments as e
194    on e.student_id=s.student_id
195    inner join Courses as c
196    on c.course_id = e.course_id;
197
198
199
```

Result Grid | Filter Rows:

first_name	last_name	course_name
Swetha	Ram	Operating System
Madhu	Ram	Boolean Algebra
Rama	Manoj	Operating System
Vikram	Anderson	IT Project Management
Kavin	Singh	Networking
Surya	Murthy	IT Project Management

5. Create a query to list the names of teachers and the courses they are assigned to. Join the "Teacher" table with the "Courses" table.

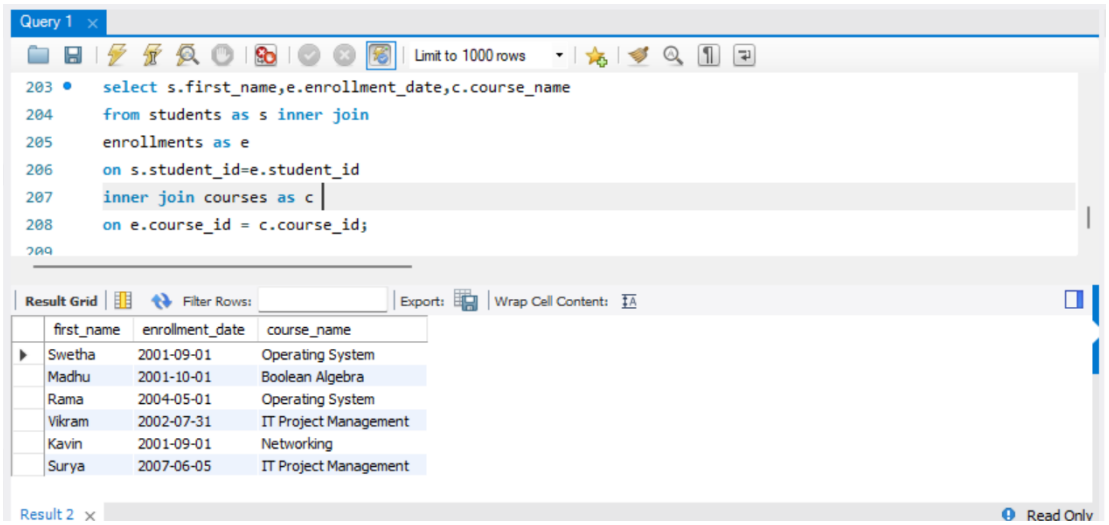
```
197
198 •  select t.first_name,t.last_name,c.course_name
199    from teacher as t
200    inner join courses as c
201    on c.teacher_id = t.teacher_id;
202
203
204
```



Result Grid | Filter Rows: | Export: | Wrap Cell Content:

first_name	last_name	course_name
Sri	Ram	Digital marketing
Sri	Ram	Automata Theory
Saravana	Moorthy	Principles of Electronic Engineering
Swarna	Latha	Statistics
Rama	Swamy	CAD Modelling
Keerthi	Pandian	Boolean Algebra
Jay	Shetty	Operating System
Srinikethan	M	Data Structures and Algorithms
Manoj	Kumar	Networking
Rani Lakshmi	Bhai	IT Project Management
Cheran	K	Financial Management

6. Retrieve a list of students and their enrollment dates for a specific course. You'll need to join the "Students" table with the "Enrollments" and "Courses" tables.



Query 1 | Limit to 1000 rows

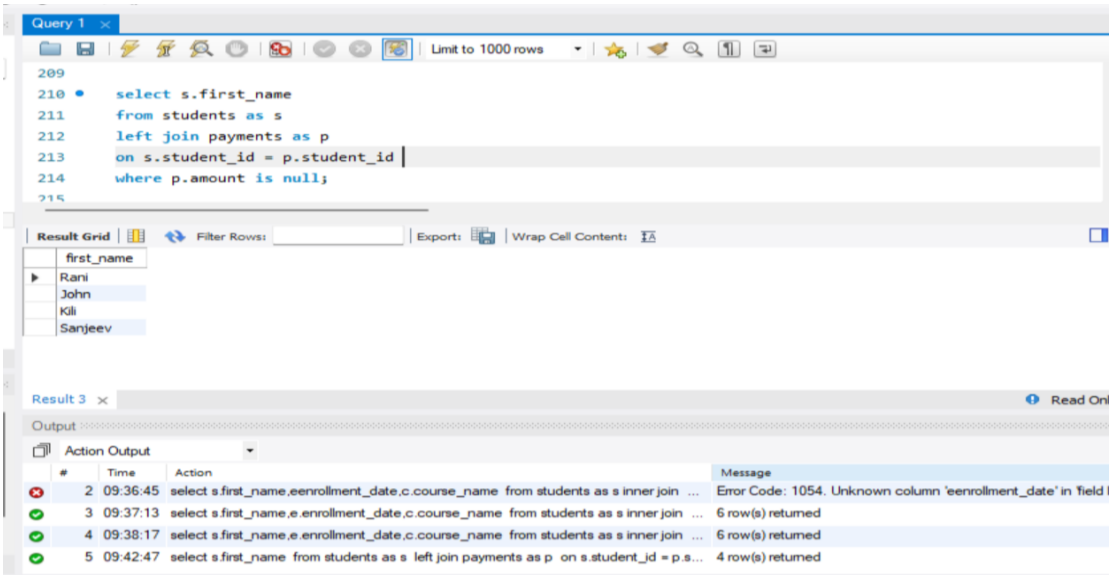
```
203 • select s.first_name,e.enrollment_date,c.course_name
204   from students as s inner join
205   enrollments as e
206   on s.student_id=e.student_id
207   inner join courses as c
208   on e.course_id = c.course_id;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

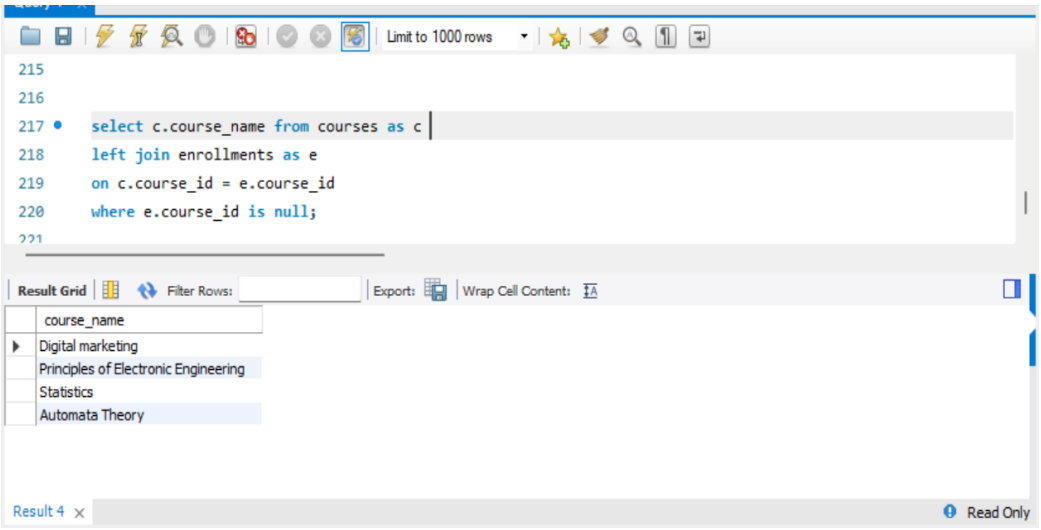
first_name	enrollment_date	course_name
Swetha	2001-09-01	Operating System
Madhu	2001-10-01	Boolean Algebra
Rama	2004-05-01	Operating System
Vikram	2002-07-31	IT Project Management
Kavin	2001-09-01	Networking
Surya	2007-06-05	IT Project Management

Result 2 | Read Only

7. Find the names of students who have not made any payments. Use a LEFT JOIN between the "Students" table and the "Payments" table and filter for students with NULL payment records.



8. Write a query to identify courses that have no enrollments. You'll need to use a LEFT JOIN between the "Courses" table and the "Enrollments" table and filter for courses with NULL enrollment records.



9. Identify students who are enrolled in more than one course. Use a self-join on the "Enrollments" table to find students with multiple enrollment records.

```
select e1.student_id, count(e1.course_id) as num_courses_enrolled
from enrollments as e1
inner join enrollments as e2 on e1.student_id = e2.student_id
where e1.course_id <> e2.course_id
group by e1.student_id
having count(e1.course_id) > 1;
```

student_id	num_courses_enrolled
80	2

10. Find teachers who are not assigned to any courses. Use a LEFT JOIN between the "Teacher"table and the "Courses" table and filter for teachers with NULL course assignments.

```
select t.first_name
from teacher as t
left join courses as c
on t.teacher_id = c.teacher_id
where c.course_id is null;
```

first_name
Vara

Task 4. Subquery and its type:

1. Write an SQL query to calculate the average number of students enrolled in each course. Use aggregate functions and subqueries to achieve this.

```
241
242 •  select course_id, avg(student_count) as average_count
243    from (
244        select course_id, count(student_id) as student_count
245        from enrollments
246        group  by  course_id
247    ) as course_counts
248    group by course_id;
249
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

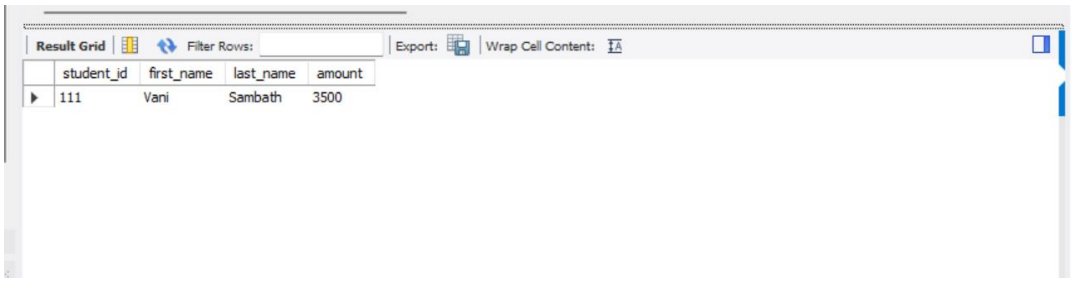
course_id	average_count
18CB145	1.0000
19CB105	2.0000
19CB111	1.0000
201CS224	1.0000
201IS134	1.0000
201IS568	2.0000
201ME134	1.0000

Result 15 | Read Only

Avg returns values in decimal point. Here 1 is denoted as 1.0000

2. Identify the student(s) who made the highest payment. Use a subquery to find the maximum payment amount and then retrieve the student(s) associated with that amount.

```
1
2 •  select s.student_id, s.first_name, s.last_name,p.amount
3    from students as s
4    inner join payments as p on s.student_id = p.student_id
5    where p.amount = (
6        select MAX(amount)
7        from payments
8    );
9
0
1
```



student_id	first_name	last_name	amount
111	Vani	Sambath	3500

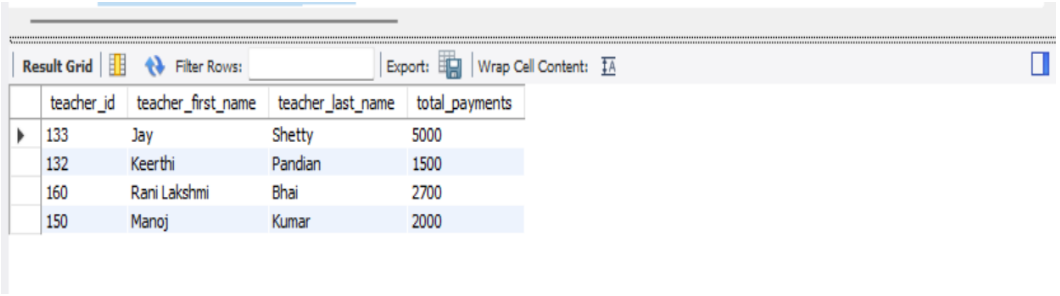
3. Retrieve a list of courses with the highest number of enrollments. Use subqueries to find the course(s) with the maximum enrollment count.

```
select c.course_name, max(e.enroll) as max_enroll
from courses as c inner join (
    select course_id, count(*) as enroll
    from enrollments
    group by course_id
) as e on c.course_id = e.course_id
group by c.course_name
having max(e.enroll) = (
    select max(enroll_count)
    from (
        select count(*) as enroll_count
        from enrollments
        group by course_id
    ) as subquery
);
```

course_name	max_enroll
Operating System	2
IT Project Management	2

4. Calculate the total payments made to courses taught by each teacher. Use subqueries to sum payments for each teacher's courses.

```
select  t.teacher_id, t.first_name as teacher_first_name,
t.last_name as teacher_last_name,sum(p.amount) as total_payments
from teacher t
inner join courses c
on t.teacher_id = c.teacher_id
inner join enrollments e
on c.course_id = e.course_id
inner join payments p
on e.student_id = p.student_id
group by t.teacher_id, t.first_name, t.last_name;
```

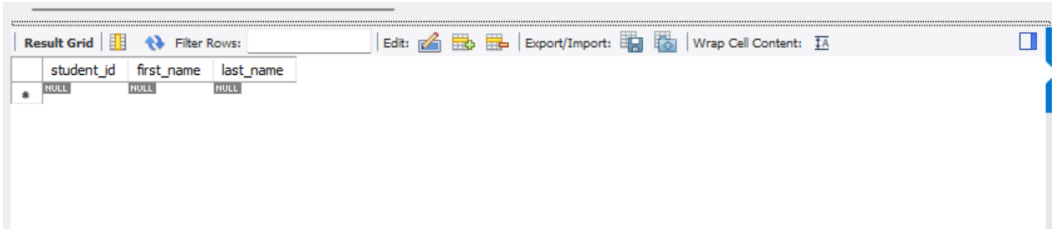


Result Grid | Filter Rows: | Export: | Wrap Cell Content:

teacher_id	teacher_first_name	teacher_last_name	total_payments
133	Jay	Shetty	5000
132	Keerthi	Pandian	1500
160	Rani Lakshmi	Bhai	2700
150	Manoj	Kumar	2000

5. Identify students who are enrolled in all available courses. Use subqueries to compare a student's enrollments with the total number of courses.

```
258
259 •  select
260        s.student_id,
261        s.first_name,
262        s.last_name
263    from
264        students s
265    where
266        (select count(distinct course_id) from courses) =
267        (select count(distinct course_id)
268         from enrollments e
269         where e.student_id = s.student_id);
270
271
272
```

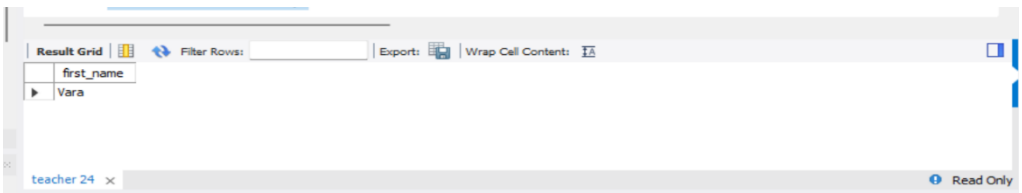


Result Grid | Filter Rows: | Edit: | Export/Import: | Wrap Cell Content:

student_id	first_name	last_name
NULL	NULL	NULL

6. Retrieve the names of teachers who have not been assigned to any courses. Use subqueries to find teachers with no course assignments.

```
•  select t.first_name
   from teacher as t
   where t.teacher_id not in
   (    select c.teacher_id
        from courses as c);
```

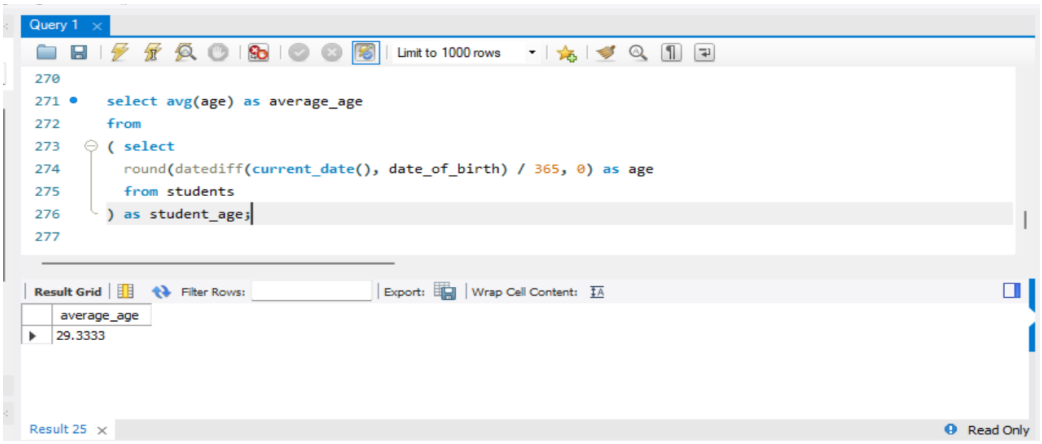


Result Grid | Filter Rows: | Export: | Wrap Cell Content:

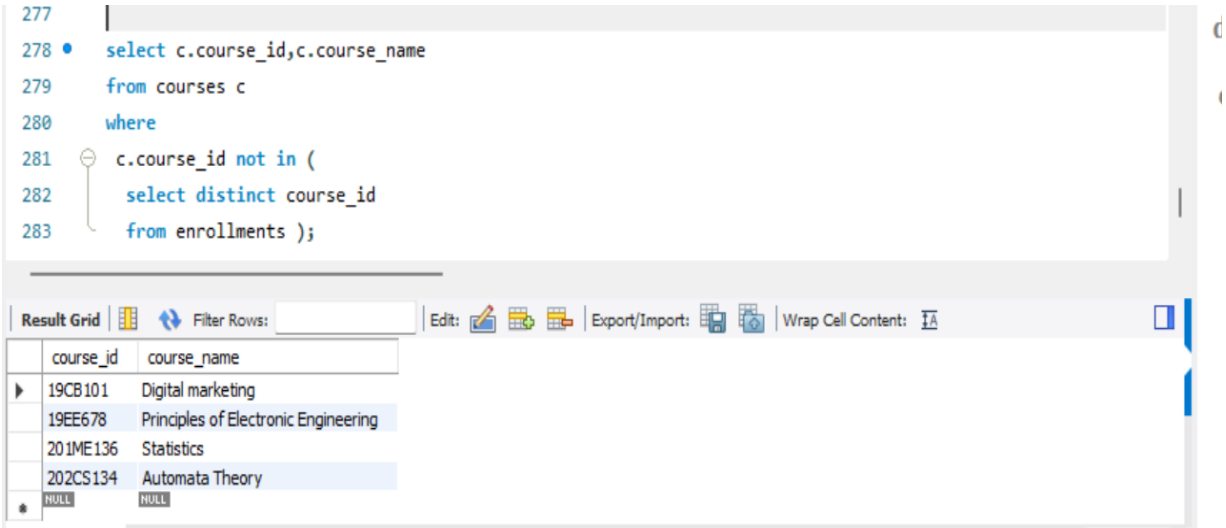
first_name
Vara

teacher 24 | Read Only

7. Calculate the average age of all students. Use subqueries to calculate the age of each student based on their date of birth.

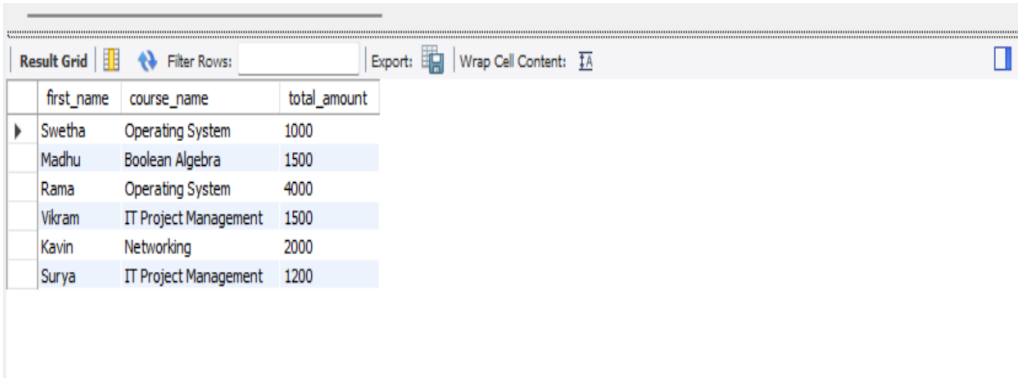


8. Identify courses with no enrollments. Use subqueries to find courses without enrollment records.



9. Calculate the total payments made by each student for each course they are enrolled in. Use subqueries and aggregate functions to sum payments.

```
    select s.first_name, c.course_name,
(  select sum(p.amount)
    from payments p
    where p.student_id = s.student_id
    and e.course_id = c.course_id
    ) as total_amount
from students s
inner join
    enrollments e on s.student_id = e.student_id
inner join
    courses c on e.course_id = c.course_id;
```

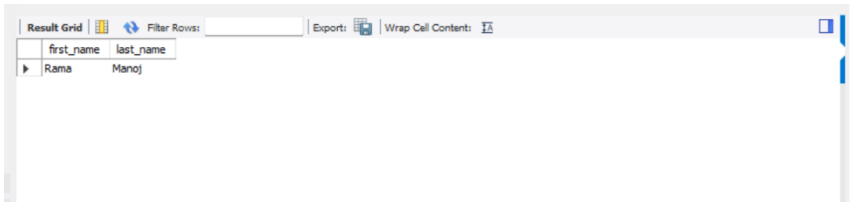


Result Grid | Filter Rows: | Export: | Wrap Cell Content:

first_name	course_name	total_amount
Swetha	Operating System	1000
Madhu	Boolean Algebra	1500
Rama	Operating System	4000
Vikram	IT Project Management	1500
Kavin	Networking	2000
Surya	IT Project Management	1200

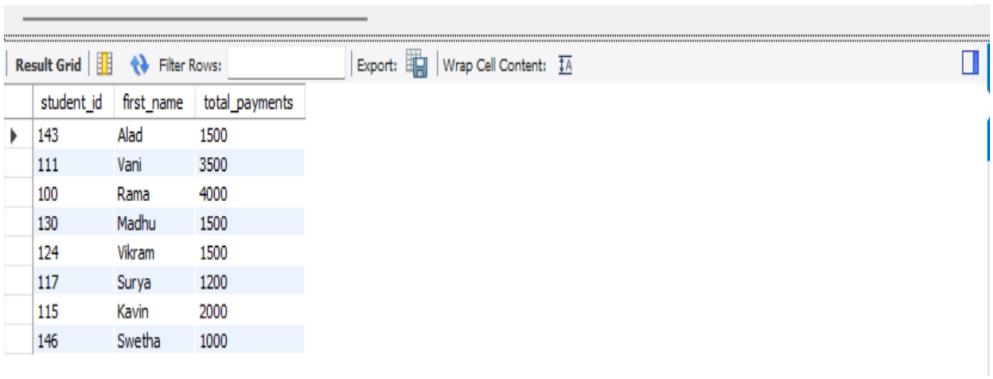
10. Identify students who have made more than one payment. Use subqueries and aggregate functions to count payments per student and filter for those with counts greater than one.

```
select first_name,last_name
from students
where student_id in (
  select student_id
  from payments
  group by student_id
  having count(*) > 1 );
```



11. Write an SQL query to calculate the total payments made by each student. Join the "Students" table with the "Payments" table and use GROUP BY to calculate the sum of payments for each student.

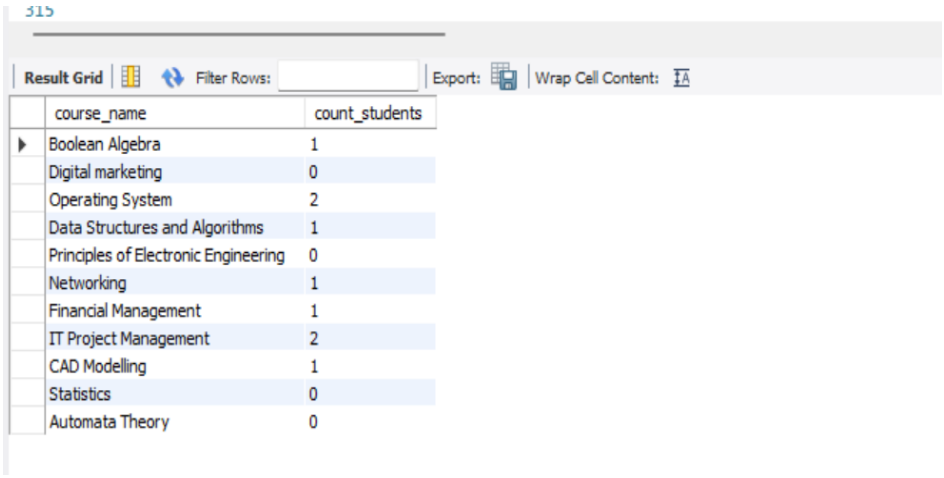
```
select s.student_id, s.first_name, sum(p.amount) as total_payments
from students s join payments p on s.student_id = p.student_id
group by s.student_id, s.first_name;
```



student_id	first_name	total_payments
143	Alad	1500
111	Vani	3500
100	Rama	4000
130	Madhu	1500
124	Vikram	1500
117	Surya	1200
115	Kavin	2000
146	Swetha	1000

12. Retrieve a list of course names along with the count of students enrolled in each course. Use JOIN operations between the "Courses" table and the "Enrollments" table and GROUP BY to count enrollments.

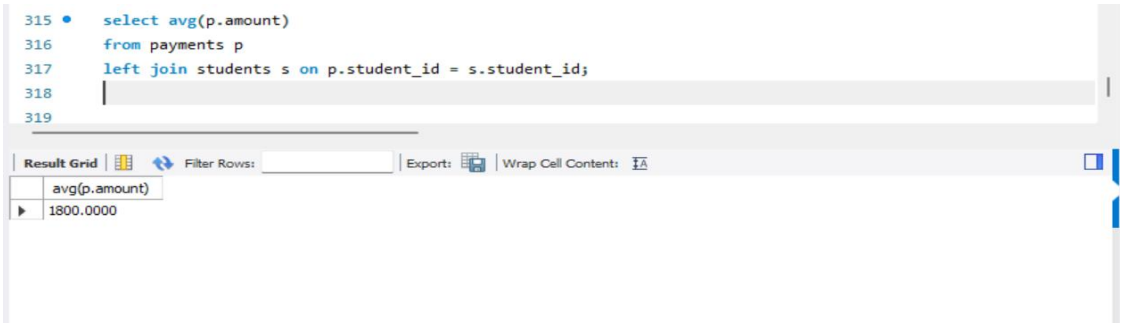
```
308
309  select c.course_name, count(e.student_id) as count_students
310  from courses as c
311  left join enrollments as e
312  on c.course_id = e.course_id
313  group by course_name;
314
315
316
```



Result Grid | Filter Rows: | Export: | Wrap Cell Content:

course_name	count_students
Boolean Algebra	1
Digital marketing	0
Operating System	2
Data Structures and Algorithms	1
Principles of Electronic Engineering	0
Networking	1
Financial Management	1
IT Project Management	2
CAD Modelling	1
Statistics	0
Automata Theory	0

13. Calculate the average payment amount made by students. Use JOIN operations between the "Students" table and the "Payments" table and GROUP BY to calculate the average.



```
315 •   select avg(p.amount)
316     from payments p
317     left join students s on p.student_id = s.student_id;
318
319
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content:

avg(p.amount)
1800.0000