

## ASSIGNMENT 5

### COLLEGE DATABASE

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Tables = Students , Faculty , Course ;

### Students Table :

The screenshot displays the MySQL Workbench interface. On the left, the 'SCHEMAS' pane shows a tree view with 'college\_database' expanded, revealing tables 'course', 'faculty', and 'students'. The 'Query' editor in the center contains the following SQL code:

```
1 • USE College_Database;
2
3 • SELECT * FROM Students ;
4
5
```

Below the query editor, the 'Result Grid' shows the data for the 'Students' table. The table has five columns: 'student\_ID', 'student\_Name', 'student\_Address', 'student\_MailID', and 'student\_PhoneNumber'. The data is as follows:

student_ID	student_Name	student_Address	student_MailID	student_PhoneNumber
1	Ashwin	Bangalore	ashwin@gmail.com	12345
2	Harsh	Hyderabad	harsh@gmail.com	56784
3	Naksh	Rajasthan	naksh@gmail.com	34890
4	Karthick	Dubai	karthick@gmail.com	28765
5	Naira	US	naira@gmail.com	36897
6	Jimmy	Hubli	jimmy@gmail.com	41235
7	John	Dharwad	john@gmail.com	9876
8	Shashi	Belgum	shashi@gmail.com	54321
9	Jaya	Chennai	jaya@gmail.com	65107
10	Rebekha	Punjab	rebekha@gmail.com	43289
*	N/A	N/A	N/A	N/A

The bottom of the interface shows the 'Query Completed' status and a Windows taskbar at the very bottom with the date '14-10-2020' and time '12:16'.

## Course Table :

The screenshot displays the MySQL Workbench interface. On the left, the 'SCHEMAS' pane shows a tree view of databases, with 'college\_database' expanded to show the 'course' table. The main query editor shows a SQL query: `USE College_Database;` followed by `SELECT * FROM Course ;`. Below the query, the 'Result Grid' displays the data from the 'course' table. The table has three columns: 'course\_ID', 'course\_Name', and 'student\_ID'. The data rows are as follows:

course_ID	course_Name	student_ID
11	English	3
12	Mathematics	5
13	Hindi	2
14	Kannada	1
15	Telugu	15
16	Science	7
17	General Knowledge	14
18	Social Studies	4
19	French	8
NULL	NULL	NULL

At the bottom of the interface, the Windows taskbar is visible, showing the system clock at 12:18 on 14-10-2020.

## Faculty Table :

MySQL Workbench

Local instance MySQL80 (college.x) Local instance MySQL80 (coll.x)

File Edit View Query Database Server Tools Scripting Help

Navigator

SCHEMAS

Filter objects

ankitha

college\_database

Tables

course

faculty

students

Views

Stored Procedures

Functions

collegedatabase

database1

employe

hello

joins

joins1

mysampled

sys

userlogin

Administration Schemas

Information

No object selected

Query 1 x employe employe dapartment employe dapartment employe employe ASSIGNMENT 3

1 USE College\_Database;

2

3 SELECT \* FROM Faculty ;

4

5

Result Grid

faculty_ID	faculty_Name	faculty_Address	faculty_MailID	faculty_PhoneNumber	student_ID
100	Suresh	Bangalore	suresh@gmail.com	1234	2
101	Saumya	Udaipur	saumya@gmail.com	5678	3
102	Mohnish	Ludnow	mohnish@gmail.com	2378	8
103	Styne	Punjab	strie@gmail.com	987	10
104	Den	Karnataka	den@gmail.com	5890	1
105	Roi	Hubli	roi@gmail.com	3876	5
106	Anusha	Raichur	anusha@gmail.com	4456	5
107	Gorgy	London	gorgy@gmail.com	5555	6
NULL	NULL	NULL	NULL	NULL	NULL

Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.

Result Grid

Form Editor

Field Types

Query Stats

Execution Plan

Faculty 3 x

Apply Revert Context Help Snippets

Output

Query Completed

Type here to search

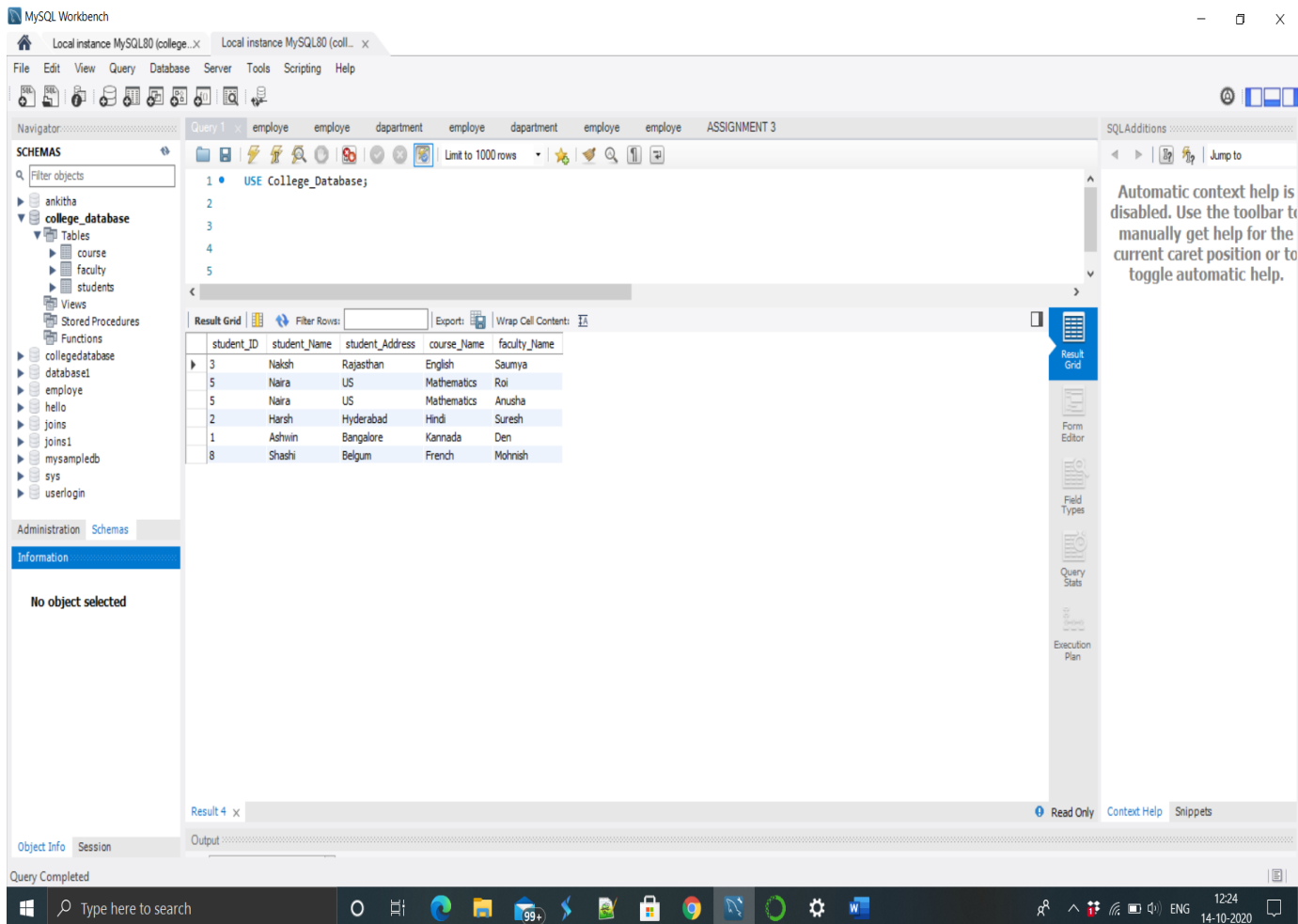
1220 14-10-2020

## 1) INNER JOIN :

Query:

```
a) SELECT Students.student_ID , Students.student_Name ,  
      Students.student_Address ,  
      Course.course_Name , Faculty.faculty_Name FROM Students  
      JOIN Course ON Course.student_ID = Students.student_ID  
      JOIN Faculty ON Faculty.student_ID = Students.student_ID ;
```

OUTPUT:



The screenshot shows the MySQL Workbench interface. The query editor contains the following SQL query:

```
USE College_Database;  
  
SELECT Students.student_ID , Students.student_Name ,  
       Students.student_Address ,  
       Course.course_Name , Faculty.faculty_Name  
FROM Students  
JOIN Course ON Course.student_ID = Students.student_ID  
JOIN Faculty ON Faculty.student_ID = Students.student_ID ;
```

The query is executed, and the result grid displays the following data:

student_ID	student_Name	student_Address	course_Name	faculty_Name
3	Naksh	Rajasthan	English	Saumya
5	Naira	US	Mathematics	Roi
5	Naira	US	Mathematics	Anusha
2	Harsh	Hyderabad	Hindi	Suresh
1	Ashwin	Bangalore	Kannada	Den
8	Shashi	Belgum	French	Mohnish

The interface also shows the Navigator pane on the left with the 'college\_database' schema selected, and the SQL Additions pane on the right with a message about automatic context help.

Query:

```
b) SELECT Students.student_Name , Course.course_Name FROM  
Students  
JOIN Course  
WHERE Students.student_ID = Course.student_ID ORDER BY  
Students.student_Name;
```

Output :

The screenshot displays the MySQL Workbench interface. The 'Query Editor' window shows the following SQL query:

```
1 • USE College_Database;  
2 • SELECT Students.student_Name , Course.course_Name FROM Students  
3 • JOIN Course  
4 • WHERE Students.student_ID = Course.student_ID ORDER BY Students.student_Name;  
5
```

The 'Result Grid' shows the output of the query:

student_Name	course_Name
Ashwin	Kannada
Harsh	Hindi
John	Science
Karthick	Social Studies
Naira	Mathematics
Naksh	English
Shashi	French

The 'Navigator' pane on the left shows the database structure, including the 'college\_database' and its tables: 'course', 'faculty', and 'students'. The 'Output' pane at the bottom shows 'Query Completed'.

c) `SELECT Students.student_Name , Students.student_Address,  
Faculty.faculty_Name FROM Faculty  
JOIN Students  
WHERE Students.student_ID = Faculty.student_ID GROUP BY  
Students.student_Address HAVING Students.student_Address =  
'Bangalore' ;`

Output :

The screenshot displays the MySQL Workbench interface. The 'Query Editor' window contains the following SQL query:

```
1 • USE College_Database;  
2 • SELECT Students.student_Name , Students.student_Address, Faculty.faculty_Name FROM Faculty  
3 JOIN Students  
4 WHERE Students.student_ID = Faculty.student_ID GROUP BY Students.student_Address HAVING Students.student_Address = 'Bangalore' ;  
5
```

The 'Result Grid' shows the output of the query:

student_Name	student_Address	faculty_Name
Ashwin	Bangalore	Den

The 'SCHEMAS' panel on the left shows the database structure, including the 'college\_database' and its tables: 'course', 'faculty', and 'students'. The 'Output' panel at the bottom shows the message 'Query Completed'.

## 2) LEFT OUTER JOIN :

Query:

```
a) SELECT Students.student_Name , Students.student_Address ,  
Course.course_Name FROM Students  
LEFT OUTER JOIN Course  
ON Students.student_ID = Course.student_ID ;
```

Output :

The screenshot shows the MySQL Workbench interface. The query editor contains the following SQL code:

```
1 • USE College_Database;  
2 • SELECT Students.student_Name , Students.student_Address , Course.course_Name FROM Students  
3 LEFT OUTER JOIN Course  
4 ON Students.student_ID = Course.student_ID ;  
5
```

The Results window displays the output of the query in a table format:

student_Name	student_Address	course_Name
Ashwin	Bangalore	Kannada
Harsh	Hyderabad	Hindi
Nalch	Rajasthan	English
Karthick	Dubai	Social Studies
Naira	US	Mathematics
Jimmy	Hubli	NULL
John	Dharwad	Science
Shashi	Belgum	French
Jaya	Chennai	NULL
Rebekha	Punjab	NULL

The interface also shows the Navigator pane on the left with the 'college\_database' selected, and the SQL Additions pane on the right with a message about automatic context help.

b) SELECT Faculty.faculty\_Name , Faculty.faculty\_Address ,  
Students.student\_Name FROM Faculty  
LEFT OUTER JOIN Students  
ON Faculty.student\_ID = Students.student\_ID WHERE  
Faculty.faculty\_Name LIKE '%a';

Output :

The screenshot displays the MySQL Workbench interface. The 'Query Editor' window contains the following SQL query:

```
1 • USE College_Database;
2 • SELECT Faculty.faculty_Name , Faculty.faculty_Address , Students.student_Name FROM Faculty
3 LEFT OUTER JOIN Students
4 ON Faculty.student_ID = Students.student_ID WHERE Faculty.faculty_Name LIKE '%a';
5
```

The 'Result Grid' shows the output of the query:

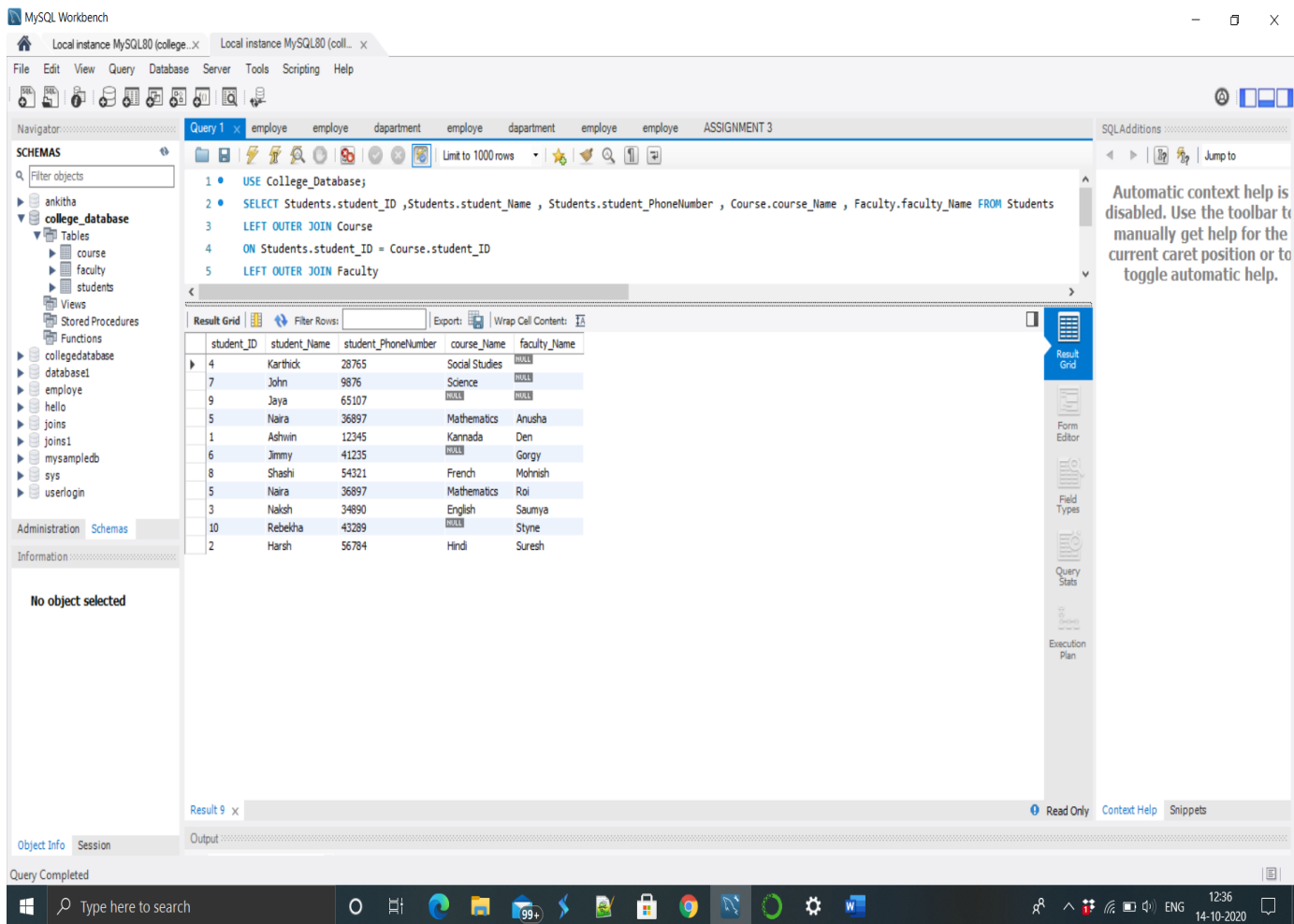
faculty_Name	faculty_Address	student_Name
Saumya	Udaipur	Naksh
Anusha	Raichur	Naira

The 'Navigator' pane on the left shows the database structure, including the 'college\_database' and its tables: 'course', 'faculty', and 'students'. The 'Output' pane at the bottom shows 'Query Completed'.



c) `SELECT Students.student_ID ,Students.student_Name ,  
 Students.student_PhoneNumber , Course.course_Name ,  
 Faculty.faculty_Name FROM Students  
 LEFT OUTER JOIN Course  
 ON Students.student_ID = Course.student_ID  
 LEFT OUTER JOIN Faculty  
 ON Students.student_ID = Faculty.student_ID ORDER BY  
 Faculty.faculty_Name ;`

Output :



MySQL Workbench interface showing the execution of a query. The query is as follows:

```

1 • USE College_Database;
2 • SELECT Students.student_ID ,Students.student_Name , Students.student_PhoneNumber , Course.course_Name , Faculty.faculty_Name FROM Students
3   LEFT OUTER JOIN Course
4   ON Students.student_ID = Course.student_ID
5   LEFT OUTER JOIN Faculty

```

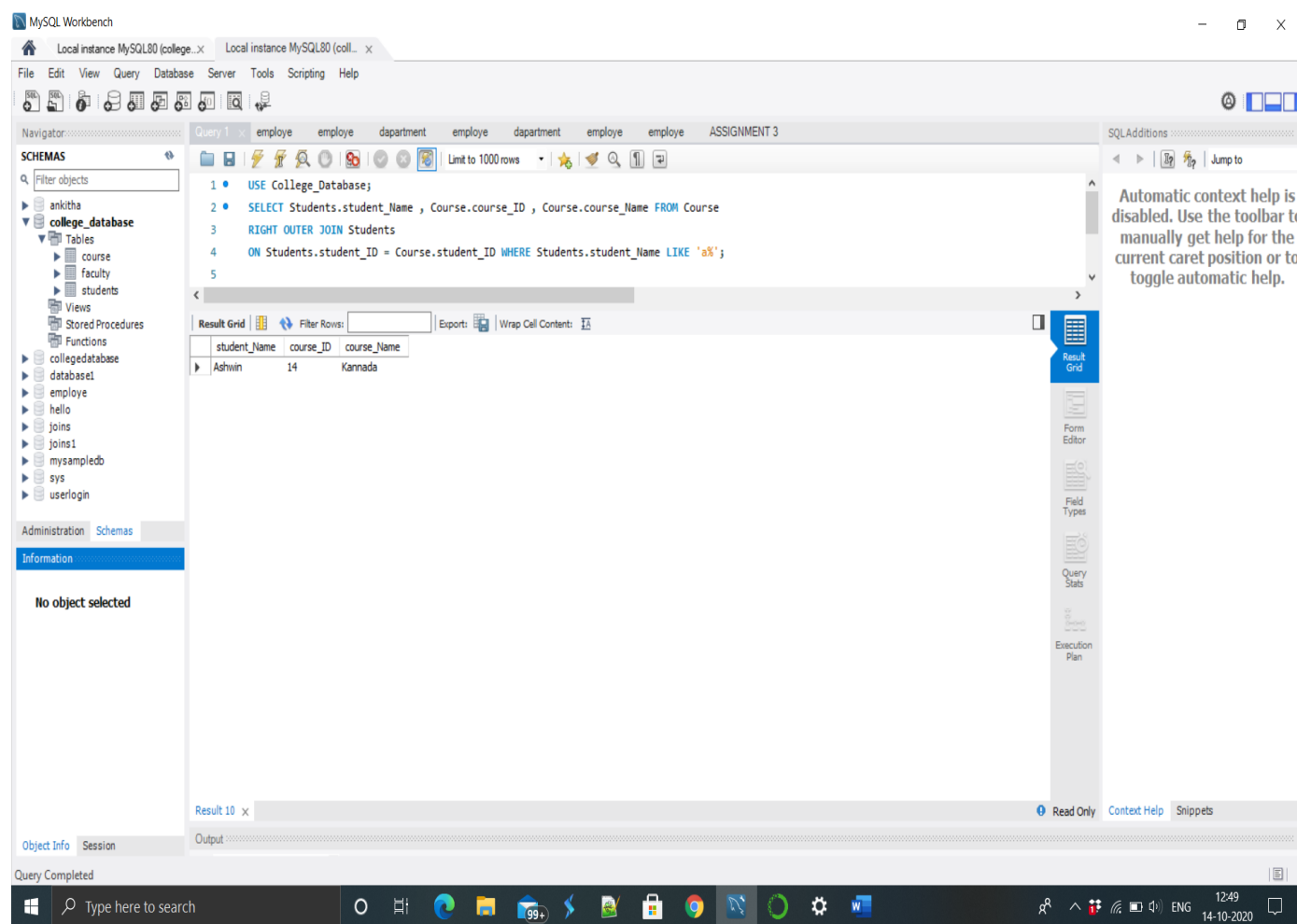
The result grid displays the following data:

student_ID	student_Name	student_PhoneNumber	course_Name	faculty_Name
4	Karthick	28765	Social Studies	NULL
7	John	9876	Science	NULL
9	Jaya	65107	NULL	NULL
5	Naira	36897	Mathematics	Anusha
1	Ashwin	12345	Kannada	Den
6	Jimmy	41235	NULL	Gorgy
8	Shashi	54321	French	Mohnish
5	Naira	36897	Mathematics	Roi
3	Naksh	34890	English	Saumya
10	Rebekha	43289	NULL	Styne
2	Harsh	56784	Hindi	Suresh

## RIGHT OUTER JOIN :

a) `SELECT Students.student_Name , Course.course_ID ,  
Course.course_Name FROM Course  
RIGHT OUTER JOIN Students  
ON Students.student_ID = Course.student_ID WHERE  
Students.student_Name LIKE 'a%';`

Output :



The screenshot displays the MySQL Workbench interface. The 'Query Editor' window contains the following SQL query:

```
1 • USE College_Database;  
2 • SELECT Students.student_Name , Course.course_ID , Course.course_Name FROM Course  
3   RIGHT OUTER JOIN Students  
4   ON Students.student_ID = Course.student_ID WHERE Students.student_Name LIKE 'a%';  
5
```

The 'Result Grid' shows the output of the query:

student_Name	course_ID	course_Name
Ashwin	14	Kannada

The 'Navigator' pane on the left shows the database structure, including the 'college\_database' and its tables: 'course', 'faculty', and 'students'. The 'Information' pane at the bottom left indicates 'No object selected'. The 'SQL Additions' pane on the right contains a message: 'Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.'

b) SELECT Students.student\_Name , Faculty.faculty\_Name ,  
Faculty.faculty\_MailID  
FROM Students  
RIGHT OUTER JOIN Faculty  
ON Students.student\_ID = Faculty.student\_ID GROUP BY  
Faculty.faculty\_MailID HAVING Faculty.faculty\_MailID =  
'stnle@gmail.com';

Output :

The screenshot displays the MySQL Workbench interface. The 'Query Editor' window contains the following SQL query:

```
1 • USE College_Database;  
2 • SELECT Students.student_Name , Faculty.faculty_Name , Faculty.faculty_MailID  
3 FROM Students  
4 RIGHT OUTER JOIN Faculty  
5 ON Students.student_ID = Faculty.student_ID GROUP BY Faculty.faculty_MailID HAVING Faculty.faculty_MailID = 'stnle@gmail.com';
```

The 'Result Grid' shows the output of the query:

student_Name	faculty_Name	faculty_MailID
Rebekha	Styne	stnle@gmail.com

The 'Navigator' pane on the left shows the database schema, including the 'college\_database' and its tables: 'course', 'faculty', and 'students'. The 'Information' pane at the bottom left indicates 'No object selected'. The 'Output' pane at the bottom right shows 'Query Completed'. A sidebar on the right contains a message: 'Automatic context help is disabled. Use the toolbar to manually get help for the current caret position or to toggle automatic help.'

c) SELECT Students.student\_Name , Faculty.faculty\_ID ,  
 Faculty.faculty\_Name , Course.course\_Name FROM Students  
 RIGHT OUTER JOIN Faculty  
 ON Students.student\_ID = Faculty.student\_ID  
 RIGHT OUTER JOIN Course  
 ON Students.student\_ID = Course.student\_ID ;

Output :

The screenshot shows the MySQL Workbench interface. The query editor contains the following SQL code:

```
1 USE College_Database;
2 SELECT Students.student_Name , Faculty.faculty_ID , Faculty.faculty_Name , Course.course_Name FROM Students
3 RIGHT OUTER JOIN Faculty
4 ON Students.student_ID = Faculty.student_ID
5 RIGHT OUTER JOIN Course
```

The Results Grid displays the output of the query, showing columns: student\_Name, faculty\_ID, faculty\_Name, and course\_Name. The data is as follows:

student_Name	faculty_ID	faculty_Name	course_Name
Naksh	101	Saumya	English
Naira	105	Roi	Mathematics
Naira	106	Anusha	Mathematics
Harsh	100	Suresh	Hindi
Ashwin	104	Den	Kannada
NULL	NULL	NULL	Telugu
NULL	NULL	NULL	Science
NULL	NULL	NULL	General Knowledge
NULL	NULL	NULL	Social Studies
Shashi	102	Mohnish	French

The interface also shows a sidebar with a schema tree on the left and a toolbar on the right. A status bar at the bottom indicates the query is completed.