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DEPARTMENT: **B.Tech(ECE)**

COLLEGE: **Netaji**

Subhash

Engineering College

STUDENT ID: **AF0453862**

Given code:

-- Create the students table

CREATE TABLE students (

student_id INT PRIMARY KEY,

student_name VARCHAR(50),

age INT,

course_id INT

);

-- Insert records into the students table

INSERT INTO students (student_id, student_name, age, course_id)

VALUES

(1, 'John Smith', 22, 1),

(2, 'Jane Doe', 20, 2),

(3, 'Robert Johnson', 25, 1),

(4, 'Lisa Wang', 21, 3),

(5, 'Michael Brown', 32, 2);

-- Create the courses table

CREATE TABLE courses (

course_id INT PRIMARY KEY,

course_name VARCHAR(50)

);

-- Insert records into the courses table

INSERT INTO courses (course_id, course_name)

VALUES

(1, 'Math'),

(2, 'History'),

(3, 'Science');

MySQL Workbench

Local instance MySQL80

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SQL Editor

```
181 CREATE DATABASE studentdb;
182 USE studentdb;
183 -- Create the students table
184
185 CREATE TABLE students (
186
187     student_id INT PRIMARY KEY,
188
189     student_name VARCHAR(50),
190
191     age INT,
192
193     course_id INT
194 );
```

Result Grid

Course_Name	Total_Students
Math	2

Output

#	Time	Action	Message	Duration / Fetch
28	21:31:17	CREATE DATABASE studentdb	1 row(s) affected	0.359 sec
29	21:31:17	USE studentdb	0 row(s) affected	0.047 sec
30	21:31:17	CREATE TABLE students (student_id INT PRIMARY KEY, student_name VARCHAR(50), age INT, course_id INT)	0 row(s) affected	0.937 sec
31	21:31:18	INSERT INTO students (student_id, student_name, age, course_id) VALUES (1, 'John Smith', 22, 1), (2, 'Jane Doe', 20, 2);	5 row(s) affected Records: 5 Duplicates: 0 Warnings: 0	0.109 sec
32	21:31:18	CREATE TABLE courses (course_id INT PRIMARY KEY, course_name VARCHAR(50))	0 row(s) affected	0.391 sec
33	21:31:18	INSERT INTO courses (course_id, course_name) VALUES (1, 'Math'), (2, 'History'), (3, 'Science');	3 row(s) affected Records: 3 Duplicates: 0 Warnings: 0	0.032 sec

Object Info

No object selected

SQLAdditions

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

MySQL Workbench

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SQL Editor

```
193
194
195
196
197 -- Insert records into the students table
198
199 INSERT INTO students (student_id, student_name, age, course_id)
200
201 VALUES
202
203 (1, 'John Smith', 22, 1),
204
205 (2, 'Jane Doe', 20, 2),
206
207
208
209
210
211
212
213
214
215
216
217
218
```

Result Grid

Course_Name	Total_Students
Math	2

Output

#	Time	Action	Message	Duration / Fetch
33	21:31:18	INSERT INTO courses (course_id, course_name) VALUES (1, 'Math'), (2, 'History'), (3, 'Science');	3 row(s) affected Records: 3 Duplicates: 0 Warnings: 0	0.032 sec
34	21:31:18	SELECT students.student_name AS Student_Name, courses.course_name AS Course_Name FROM students JOIN courses ON students.course_id = courses.course_id	5 row(s) returned	0.000 sec / 0.000 sec
35	21:31:19	SELECT courses.course_name AS Course_Name, COUNT(students.student_id) AS Total_Students FROM students JOIN courses ON students.course_id = courses.course_id	3 row(s) returned	0.031 sec / 0.000 sec
36	21:31:19	SELECT student_name FROM students WHERE age > 21 LIMIT 0, 1000	3 row(s) returned	0.000 sec / 0.000 sec
37	21:31:19	SELECT courses.course_name AS Course_Name, AVG(students.age) AS Average_Age FROM students JOIN courses ON students.course_id = courses.course_id	3 row(s) returned	0.000 sec / 0.000 sec
38	21:31:19	SELECT courses.course_name AS Course_Name, COUNT(students.student_id) AS Total_Students FROM students JOIN courses ON students.course_id = courses.course_id	1 row(s) returned	0.000 sec / 0.000 sec

Object Info

No object selected

SQLAdditions

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MySQL Workbench

Local instance MySQL80

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SQL Editor

```
206
207
208
209
210
211
212
213
214
215 -- Create the courses table
216
217 CREATE TABLE courses (
218
219     course_id INT PRIMARY KEY,
220
221     course_name VARCHAR(50),
222
223     age INT,
224
225     student_id INT
226 );
```

Result Grid

Course_Name	Total_Students
Math	2

Output

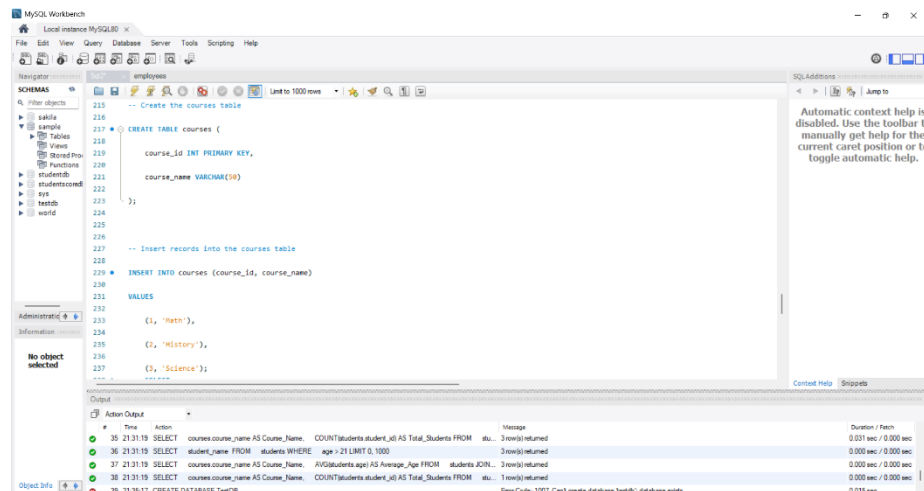
#	Time	Action	Message	Duration / Fetch
33	21:31:18	INSERT INTO courses (course_id, course_name) VALUES (1, 'Math'), (2, 'History'), (3, 'Science');	3 row(s) affected Records: 3 Duplicates: 0 Warnings: 0	0.032 sec
34	21:31:18	SELECT students.student_name AS Student_Name, courses.course_name AS Course_Name FROM students JOIN courses ON students.course_id = courses.course_id	5 row(s) returned	0.000 sec / 0.000 sec
35	21:31:19	SELECT courses.course_name AS Course_Name, COUNT(students.student_id) AS Total_Students FROM students JOIN courses ON students.course_id = courses.course_id	3 row(s) returned	0.031 sec / 0.000 sec
36	21:31:19	SELECT student_name FROM students WHERE age > 21 LIMIT 0, 1000	3 row(s) returned	0.000 sec / 0.000 sec
37	21:31:19	SELECT courses.course_name AS Course_Name, AVG(students.age) AS Average_Age FROM students JOIN courses ON students.course_id = courses.course_id	3 row(s) returned	0.000 sec / 0.000 sec
38	21:31:19	SELECT courses.course_name AS Course_Name, COUNT(students.student_id) AS Total_Students FROM students JOIN courses ON students.course_id = courses.course_id	1 row(s) returned	0.000 sec / 0.000 sec

Object Info

No object selected

SQLAdditions

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Solution:

1)

SELECT

students.student_name AS Student_Name,

courses.course_name AS Course_Name

FROM

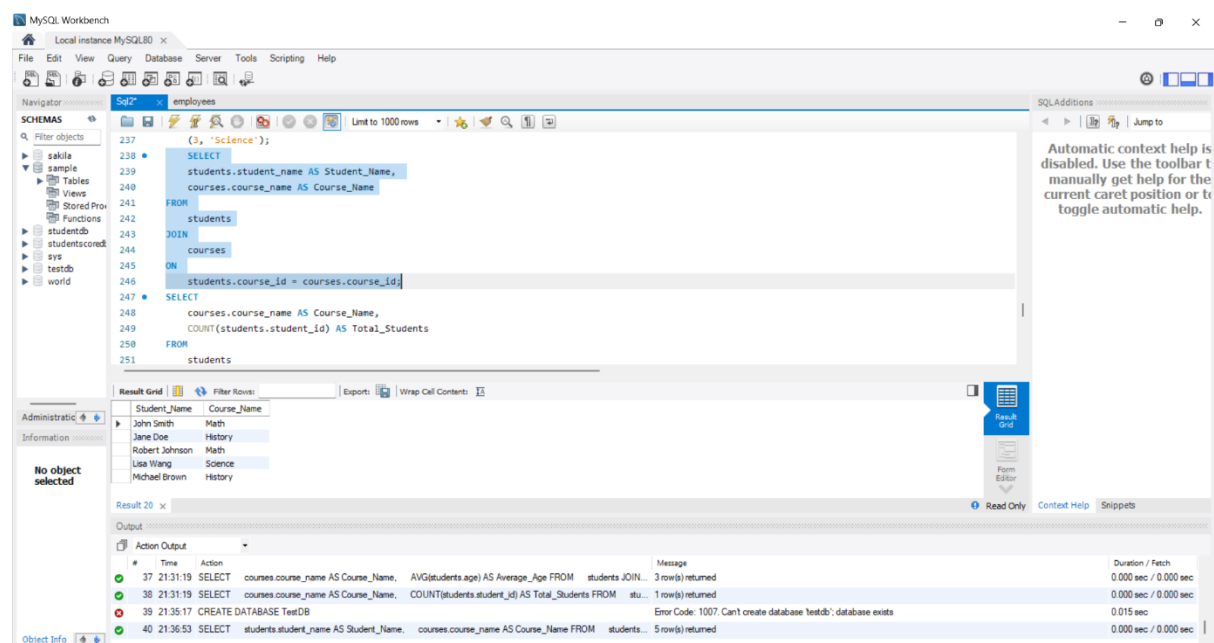
students

JOIN

courses

ON

students.course_id = courses.course_id;



2)

SELECT

```
courses.course_name AS Course_Name,  
COUNT(students.student_id) AS Total_Students
```

FROM

```
students
```

JOIN

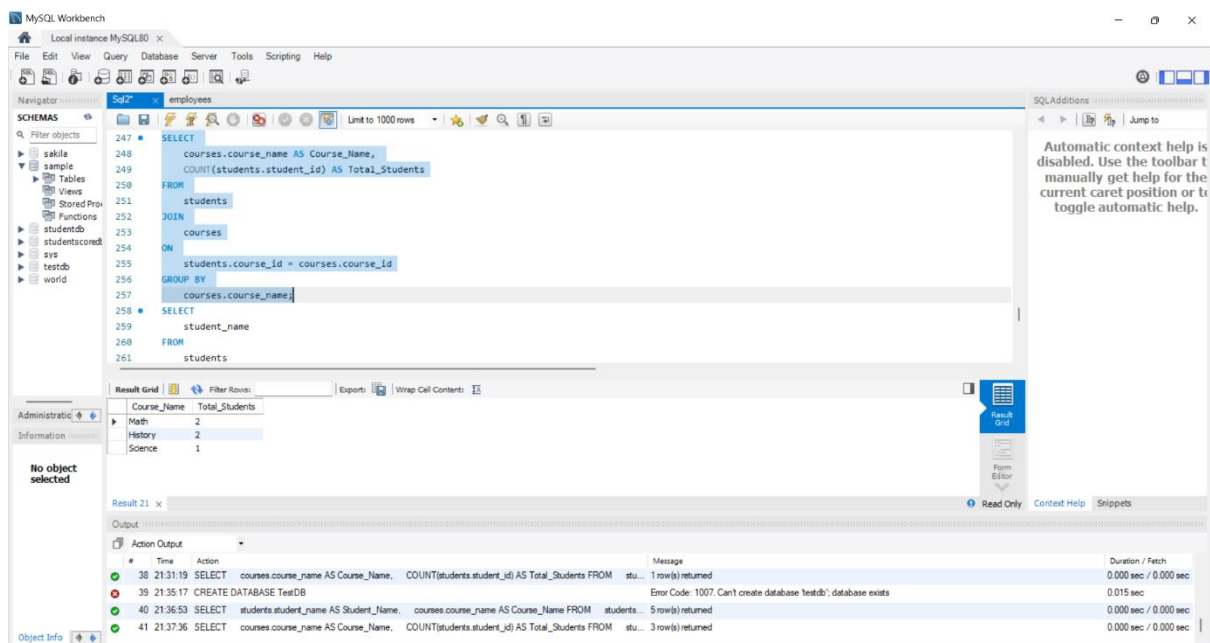
```
courses
```

ON

```
students.course_id = courses.course_id
```

GROUP BY

```
courses.course_name;
```



3)

SELECT

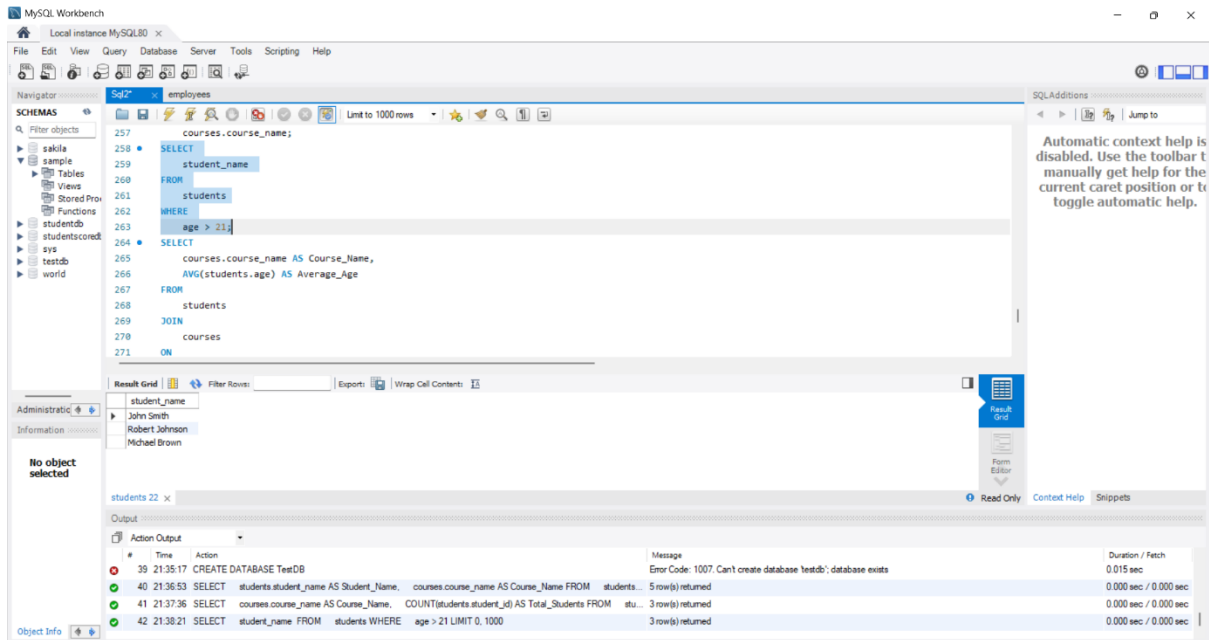
```
student_name
```

FROM

```
students
```

WHERE

```
age > 21;
```



4)

SELECT

courses.course_name AS Course_Name,

AVG(students.age) AS Average_Age

FROM

students

JOIN

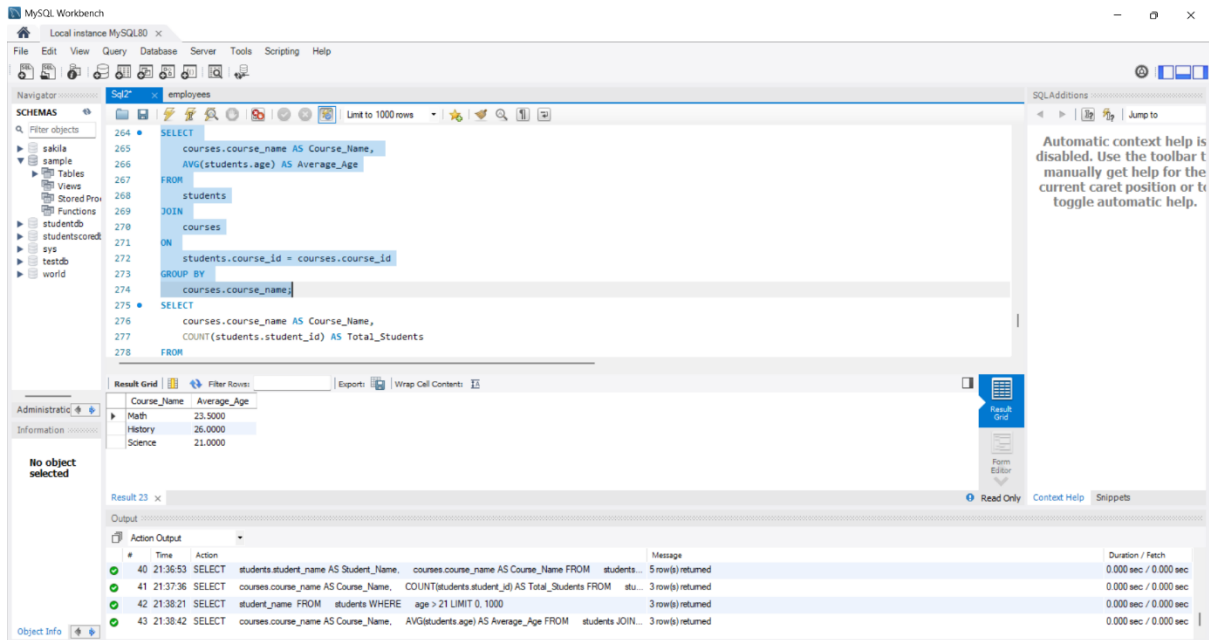
courses

ON

students.course_id = courses.course_id

GROUP BY

courses.course_name;



5)

SELECT

courses.course_name AS Course_Name,

COUNT(students.student_id) AS Total_Students

FROM

students

JOIN

courses

ON

students.course_id = courses.course_id

GROUP BY

courses.course_name

ORDER BY

Total_Students DESC

LIMIT 1;

MySQL Workbench

Local instance MySQL80 x

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Navigator employees

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SQL Editor

```
275 SELECT
276     courses.course_name AS Course_Name,
277     COUNT(students.student_id) AS Total_Students
278 FROM
279     students
280 JOIN
281     courses
282 ON
283     students.course_id = courses.course_id
284 GROUP BY
285     courses.course_name
286 ORDER BY
287     Total_Students DESC
288 LIMIT 1;
289
```

Result Grid

Course_Name	Total_Students
Math	2

Administrative Information

No object selected

Output

#	Time	Action	Message	Duration / Fetch
41	21:37:36	SELECT	courses.course_name AS Course_Name, COUNT(students.student_id) AS Total_Students FROM stu...	3 row(s) returned 0.000 sec / 0.000 sec
42	21:38:21	SELECT	student_name FROM students WHERE age > 21 LIMIT 0, 1000	3 row(s) returned 0.000 sec / 0.000 sec
43	21:38:42	SELECT	courses.course_name AS Course_Name, AVG(students.age) AS Average_Age FROM students JOIN...	3 row(s) returned 0.000 sec / 0.000 sec
44	21:39:30	SELECT	courses.course_name AS Course_Name, COUNT(students.student_id) AS Total_Students FROM stu...	1 row(s) returned 0.016 sec / 0.000 sec

SQLAdditions

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Read Only Context Help Snippets