



SQL PROJECT

MYSQL SERVER

IMPORTING THE DATA



WRITING SQL QUERIES



CREATION OF DATABASE

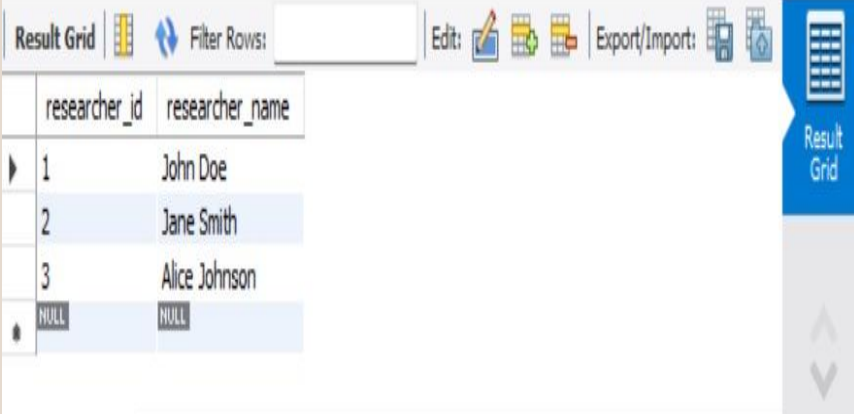


CREATING REPORT



QUERY -1

List all researchers along with their IDs.



The screenshot shows a database query result grid. The grid has two columns: 'researcher_id' and 'researcher_name'. The data is as follows:

researcher_id	researcher_name
1	John Doe
2	Jane Smith
3	Alice Johnson
NULL	NULL

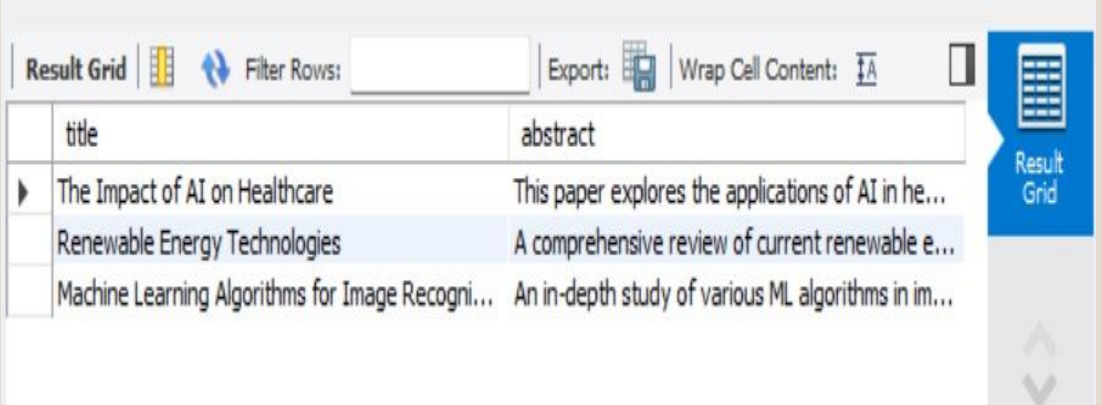
The interface includes a toolbar with options like 'Filter Rows', 'Edit', and 'Export/Import'. A 'Result Grid' label is visible on the right side of the grid.

SYNTAX:

```
use Research;  
SELECT * FROM Researchers;
```

QUERY -2

Retrieve the titles and abstracts of all research papers.



The screenshot shows a web-based interface for viewing query results. At the top, there's a toolbar with options like 'Result Grid', 'Filter Rows', 'Export', and 'Wrap Cell Content'. Below this is a table with two columns: 'title' and 'abstract'. The table contains three rows of data, with the second row highlighted in blue. To the right of the table is a vertical sidebar with a 'Result Grid' button and a scroll bar.

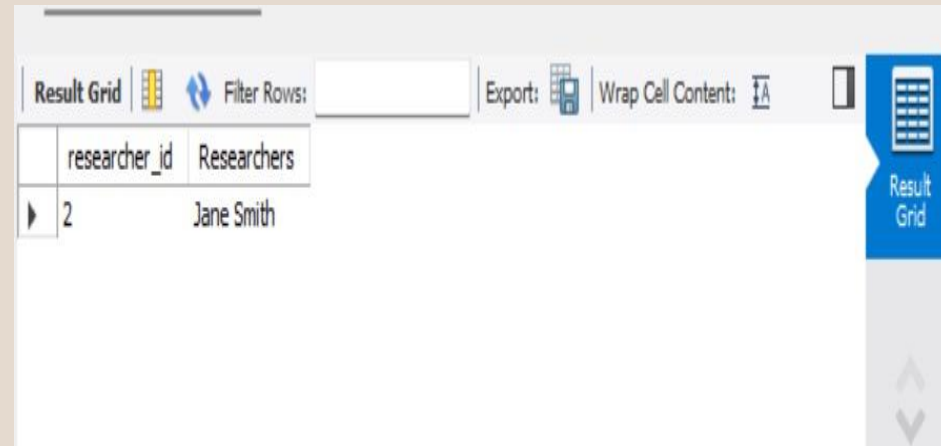
	title	abstract
▶	The Impact of AI on Healthcare	This paper explores the applications of AI in he...
	Renewable Energy Technologies	A comprehensive review of current renewable e...
	Machine Learning Algorithms for Image Recogni...	An in-depth study of various ML algorithms in im...

SYNTAX:

```
SELECT title , abstract FROM  
ResearchPapers;
```

QUERY -3

Find the name of the researcher who authored the paper with the title 'Renewable Energy Technologies'.



The screenshot shows a database query result grid. The grid has two columns: 'researcher_id' and 'Researchers'. The first row contains the values '2' and 'Jane Smith'. The interface includes a toolbar with options like 'Result Grid', 'Filter Rows', 'Export', and 'Wrap Cell Content'.

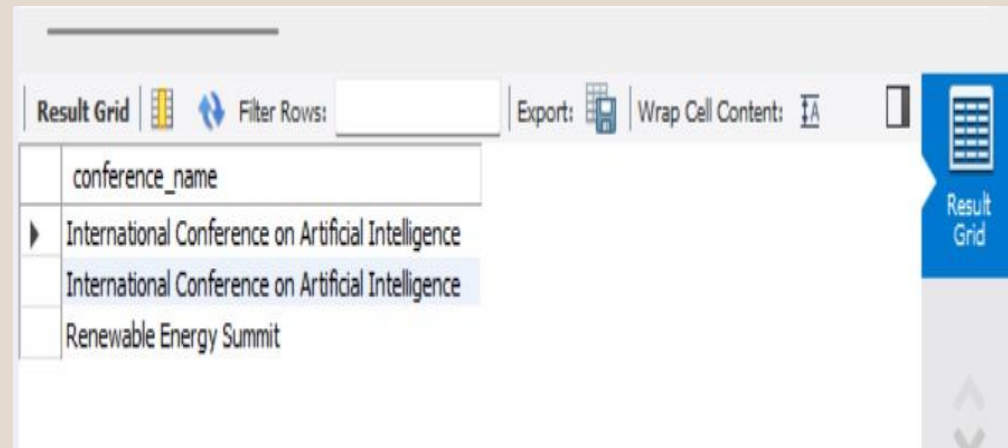
researcher_id	Researchers
2	Jane Smith

SYNTAX:

```
SELECT r.researcher_id , r.researcher_name AS Researchers
FROM Researchers r
LEFT JOIN ResearchPapers p
ON r.researcher_id = p.researcher_id
WHERE title = "Renewable Energy Technologies";
```

QUERY -4

Get the names of conferences where papers were presented.



The screenshot shows a database query result grid. The grid has a header row with the column name 'conference_name'. Below the header, there are three rows of data. The first two rows both contain the text 'International Conference on Artificial Intelligence', and the third row contains 'Renewable Energy Summit'. The second row is highlighted. The interface includes a toolbar with options like 'Result Grid', 'Filter Rows', 'Export', and 'Wrap Cell Content'.

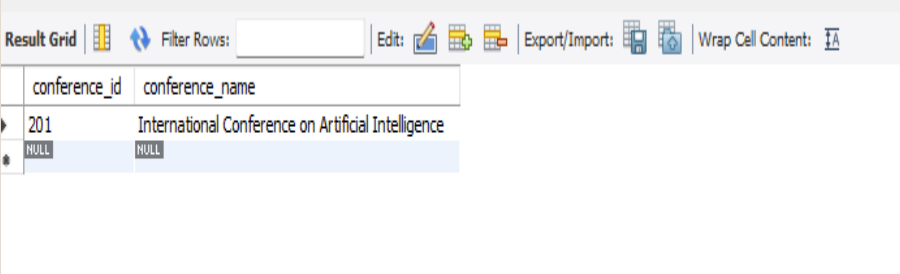
conference_name
International Conference on Artificial Intelligence
International Conference on Artificial Intelligence
Renewable Energy Summit

SYNTAX:

```
SELECT c.conference_name
FROM Conferences AS c
INNER JOIN PaperConferences p
ON c.conference_id = p.conference_id;
```

QUERY -5

Retrieve conferences with names starting with the letter 'I'.



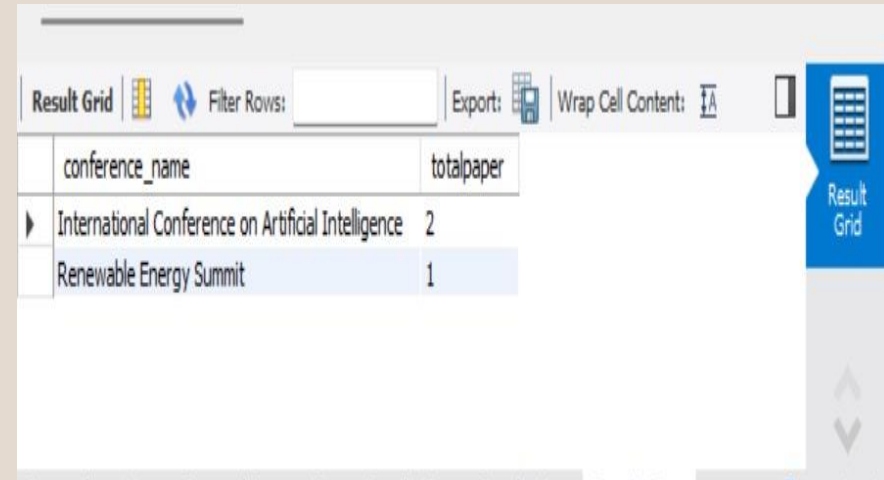
conference_id	conference_name
201	International Conference on Artificial Intelligence
NULL	NULL

SYNTAX:

```
SELECT * FROM Conferences  
WHERE conference_name LIKE 'I%';
```

QUERY -6

Count the number of papers presented at each conference.



The screenshot shows a database query result grid. The grid has two columns: 'conference_name' and 'totalpaper'. The data is as follows:

conference_name	totalpaper
International Conference on Artificial Intelligence	2
Renewable Energy Summit	1

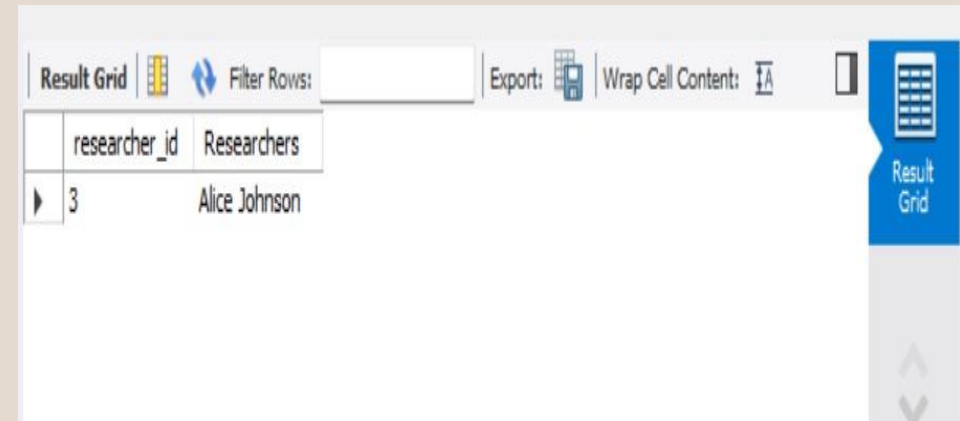
The interface includes a toolbar with options like 'Result Grid', 'Filter Rows', 'Export', and 'Wrap Cell Content'. A blue sidebar on the right also displays 'Result Grid'.

SYNTAX:

```
SELECT c.conference_name , COUNT(p.paper_id) AS totalpaper FROM
Conferences c
LEFT JOIN PaperConferences p
ON c.conference_id = p.conference_id
GROUP BY c.conference_id;
```


QUERY -7

List all researchers who have not authored any papers.



The screenshot shows a database query result grid. The grid has two columns: 'researcher_id' and 'Researchers'. The first row contains the value '3' under 'researcher_id' and 'Alice Johnson' under 'Researchers'. The grid is titled 'Result Grid' and has a 'Filter Rows' button. There are also 'Export' and 'Wrap Cell Content' buttons. A 'Result Grid' label is visible on the right side of the grid.

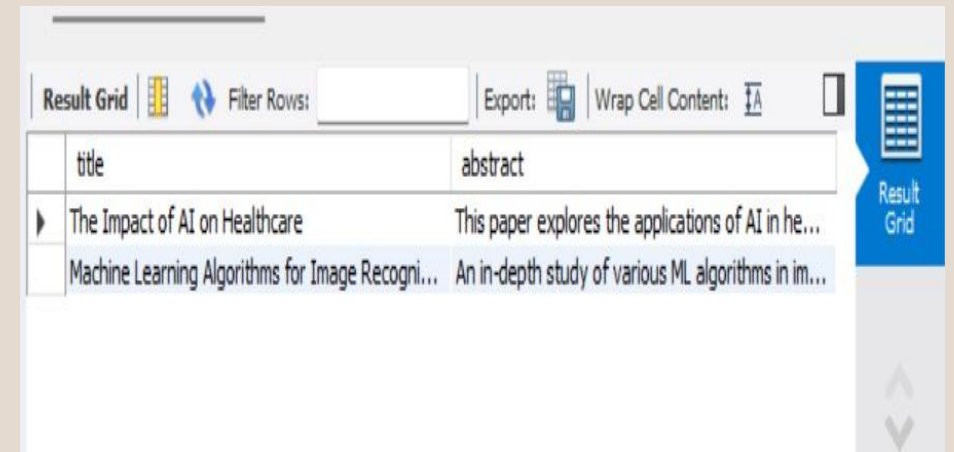
researcher_id	Researchers
3	Alice Johnson

SYNTAX:

```
SELECT r.researcher_id , r.researcher_name AS Researchers
FROM Researchers r
LEFT JOIN ResearchPapers p
ON r.researcher_id = p.researcher_id
WHERE paper_id IS NULL;
```

QUERY -8

Find the title and abstract of the paper presented at the 'International Conference on Artificial Intelligence'.



The screenshot shows a database query result grid with two columns: 'title' and 'abstract'. The first row contains the title 'The Impact of AI on Healthcare' and the abstract 'This paper explores the applications of AI in he...'. The second row contains the title 'Machine Learning Algorithms for Image Recogni...' and the abstract 'An in-depth study of various ML algorithms in im...'. The grid has a toolbar at the top with options like 'Result Grid', 'Filter Rows', 'Export', and 'Wrap Cell Content'. A blue 'Result Grid' button is visible on the right side.

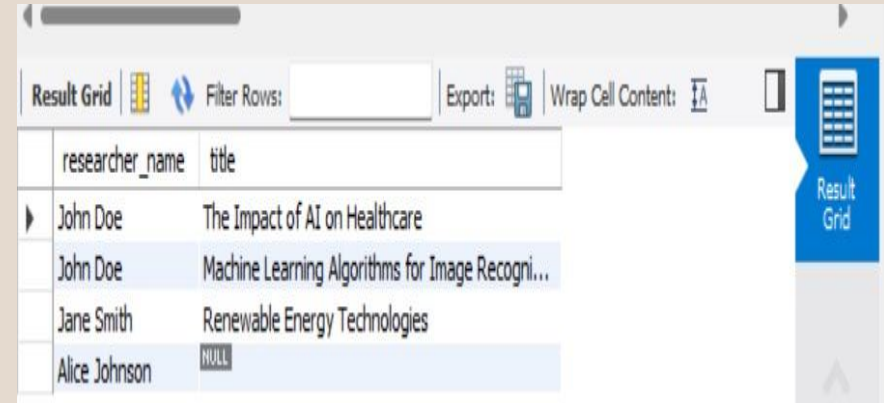
title	abstract
The Impact of AI on Healthcare	This paper explores the applications of AI in he...
Machine Learning Algorithms for Image Recogni...	An in-depth study of various ML algorithms in im...

SYNTAX:

```
SELECT title , abstract FROM ResearchPapers
WHERE paper_id IN (
SELECT paper_id FROM PaperConferences
JOIN Conferences
ON PaperConferences.conference_id = Conferences.conference_id
WHERE conference_name = 'International Conference on Artificial
Intelligence');
```

QUERY -9

Retrieve the names of researchers and titles of papers they authored.



The screenshot shows a database query result grid with two columns: 'researcher_name' and 'title'. The grid contains four rows of data. The first two rows show 'John Doe' as the researcher, with titles 'The Impact of AI on Healthcare' and 'Machine Learning Algorithms for Image Recogni...'. The third row shows 'Jane Smith' as the researcher, with the title 'Renewable Energy Technologies'. The fourth row shows 'Alice Johnson' as the researcher, with the title 'NULL'. The grid has a toolbar at the top with options like 'Result Grid', 'Filter Rows', 'Export', and 'Wrap Cell Content'. A blue sidebar on the right also displays 'Result Grid'.

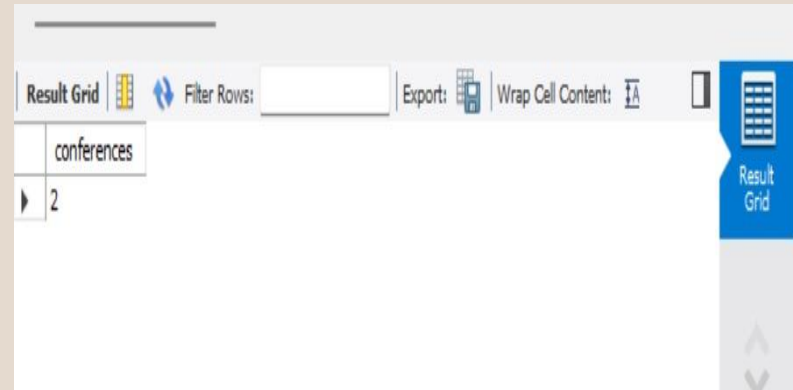
researcher_name	title
John Doe	The Impact of AI on Healthcare
John Doe	Machine Learning Algorithms for Image Recogni...
Jane Smith	Renewable Energy Technologies
Alice Johnson	NULL

SYNTAX:

```
SELECT r.researcher_name , p.title
FROM Researchers r
LEFT JOIN ResearchPapers p
ON r.researcher_id = p.researcher_id;
```

QUERY -10

Find the total number of conferences in the database.



The screenshot shows a database query result grid. The grid has a single row with the value 2. The column header is 'conferences'. The interface includes a toolbar with options like 'Result Grid', 'Filter Rows', 'Export', and 'Wrap Cell Content'.

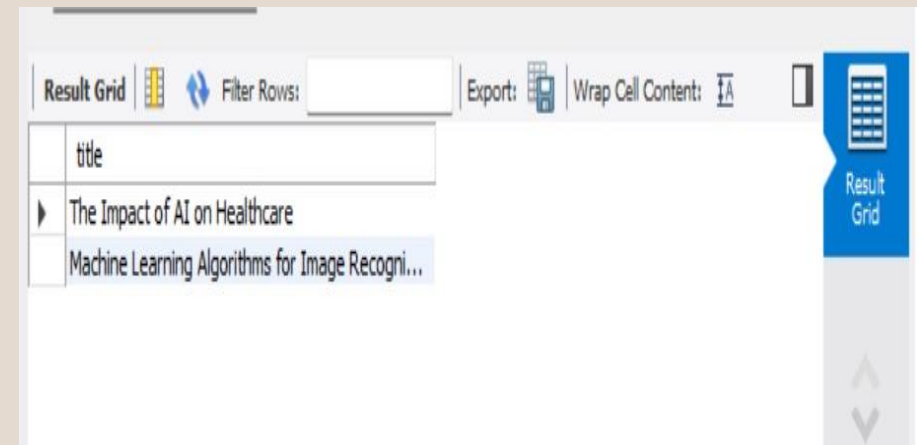
conferences
2

SYNTAX:

```
SELECT COUNT(*) AS conferences FROM  
conferences;
```

QUERY - 1 1

List the titles of papers
authored by 'John Doe'.



The screenshot shows a database query result grid. The grid has a header row with the column 'title'. Below the header, there are two rows of data. The first row is 'The Impact of AI on Healthcare' and the second row is 'Machine Learning Algorithms for Image Recogni...'. The grid is displayed in a window with a toolbar at the top containing icons for 'Result Grid', 'Filter Rows', 'Export', and 'Wrap Cell Content'. A blue sidebar on the right also has a 'Result Grid' icon.

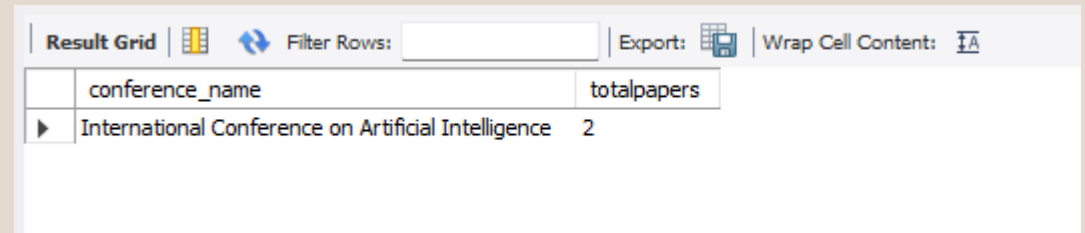
title
The Impact of AI on Healthcare
Machine Learning Algorithms for Image Recogni...

SYNTAX:

```
SELECT p.title
FROM ResearchPapers p
LEFT JOIN Researchers r
ON p.researcher_id = r.researcher_id
WHERE r.researcher_name = 'John Doe';
```

QUERY - 12

List the conference names along with the total number of papers presented, excluding conferences with fewer than two papers.



The screenshot shows a database interface with a 'Result Grid' tab. It includes a 'Filter Rows' search bar, an 'Export' button, and a 'Wrap Cell Content' checkbox. The table has two columns: 'conference_name' and 'totalpapers'. One row is displayed with the conference name 'International Conference on Artificial Intelligence' and a total of 2 papers.

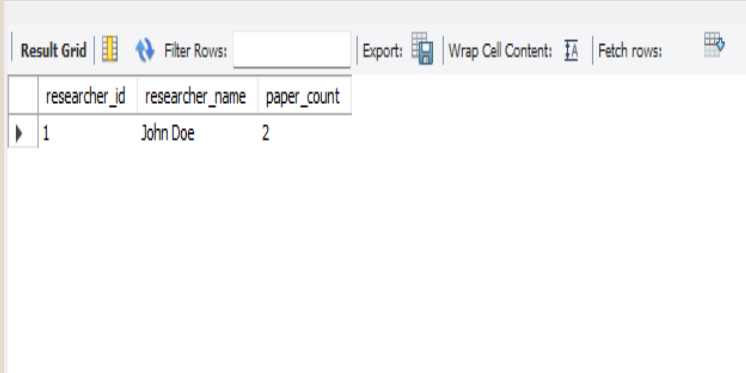
conference_name	totalpapers
International Conference on Artificial Intelligence	2

SYNTAX:

```
SELECT c.conference_name,  
COUNT(p.paper_id) AS totalpapers  
FROM Conferences c  
LEFT JOIN PaperConferences p  
ON c.conference_id = p.conference_id  
GROUP BY c.conference_id, c.conference_name  
HAVING totalpapers >= 2;
```

QUERY - 13

Find the researchers with the highest number of authored papers.



The screenshot shows a database query result grid. At the top, there are tabs for 'Result Grid', 'Filter Rows', 'Export', 'Wrap Cell Content', and 'Fetch rows'. Below the tabs is a table with three columns: 'researcher_id', 'researcher_name', and 'paper_count'. The first row of data shows '1' for researcher_id, 'John Doe' for researcher_name, and '2' for paper_count.

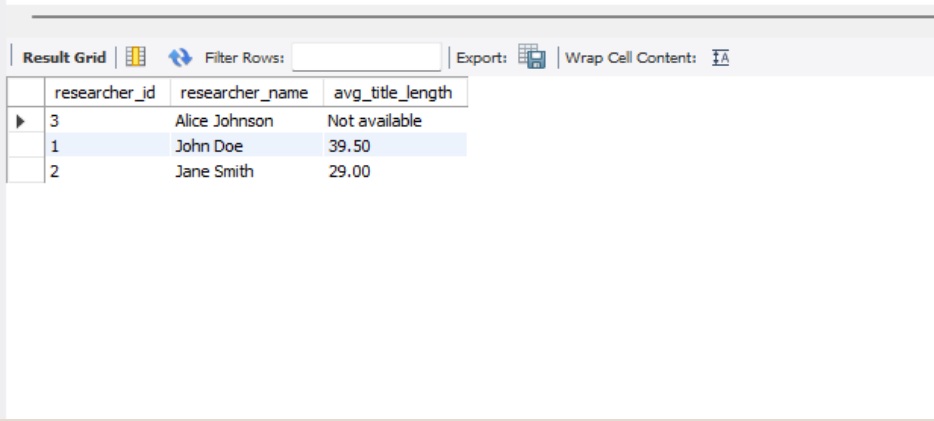
	researcher_id	researcher_name	paper_count
▶	1	John Doe	2

SYNTAX:

```
SELECT r.researcher_id, r.researcher_name,  
COUNT(*) AS paper_count  
FROM Researchers r  
LEFT JOIN ResearchPapers rp  
ON r.researcher_id = rp.researcher_id  
GROUP BY r.researcher_id, r.researcher_name  
ORDER BY paper_count DESC  
LIMIT 1;
```

QUERY -14

List researchers along with the average number of characters in the titles of their papers, rounded to two decimal places. If a researcher has not authored any papers, display 'Not available' for their average title length. Sort the results in descending order based on the average title length.



The screenshot shows a database interface with a 'Result Grid' tab. It contains a table with three columns: 'researcher_id', 'researcher_name', and 'avg_title_length'. The data is sorted by 'avg_title_length' in descending order. The first row (researcher_id 3) shows 'Alice Johnson' with 'Not available'. The second row (researcher_id 1) shows 'John Doe' with '39.50'. The third row (researcher_id 2) shows 'Jane Smith' with '29.00'.

researcher_id	researcher_name	avg_title_length
3	Alice Johnson	Not available
1	John Doe	39.50
2	Jane Smith	29.00

SYNTAX:

```
SELECT r.researcher_id , r.researcher_name,  
IFNULL(ROUND(AVG(CHAR_LENGTH(p.title)), 2), 'Not available')  
AS avg_title_length  
FROM Researchers r  
LEFT JOIN ResearchPapers p  
ON r.researcher_id = p.researcher_id  
GROUP BY r.researcher_id , r.researcher_name  
ORDER BY avg_title_length DESC;
```




THANK YOU !