SQL PROJECT

MYSQL SERVER

IMPORTING THE DATA

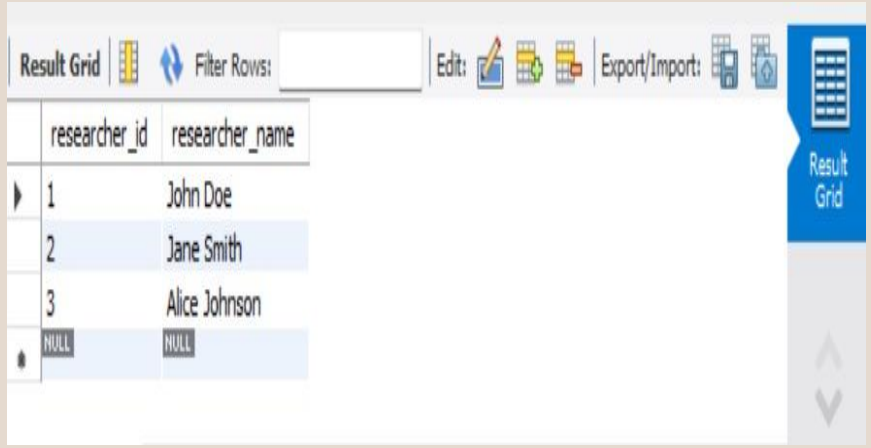
CREATION OF DATABASE

WRITING SQL QUERIES

CREATING REPORT

QUERY -1

List all researchers along with their IDs.

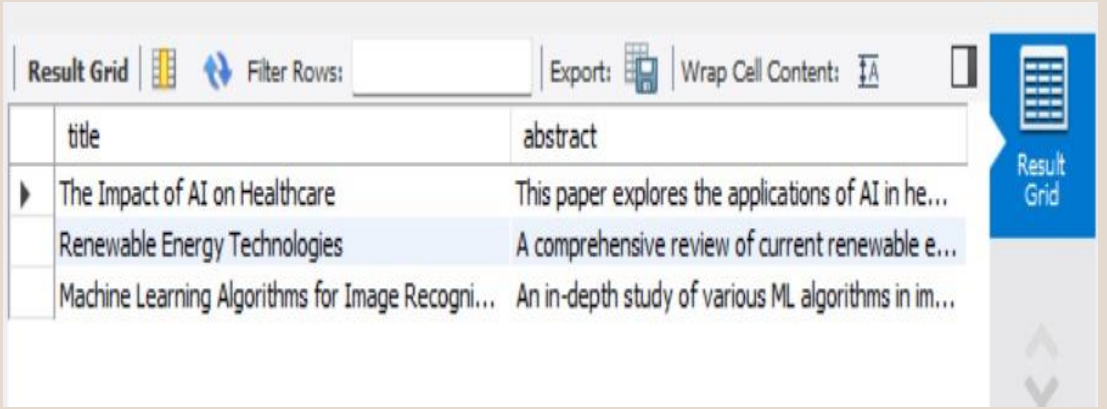


SYNTAX:

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

QUERY -2

Retrieve the titles and abstracts of all research papers.

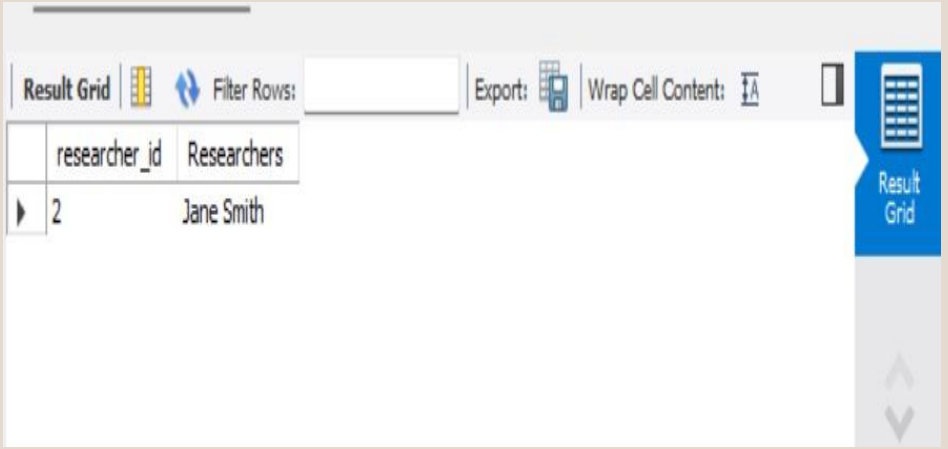


SYNTAX:

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

QUERY -3

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

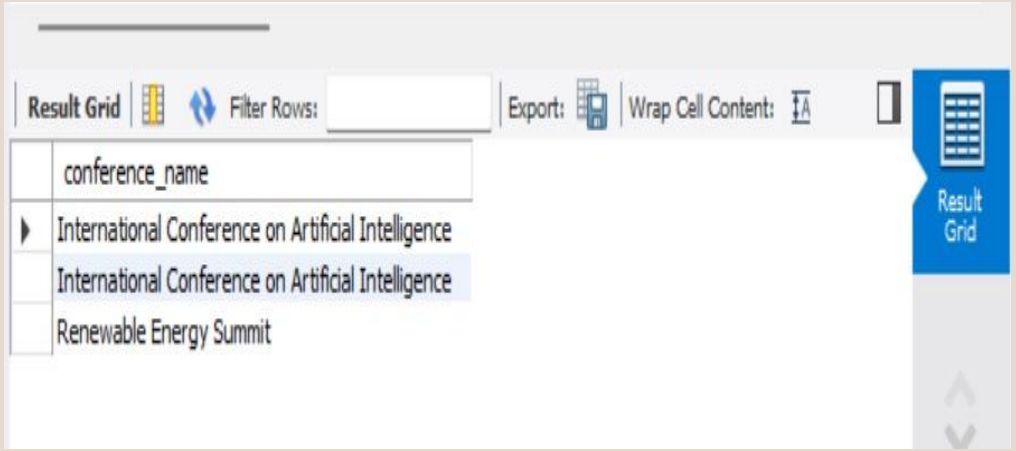


SYNTAX:

```
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.

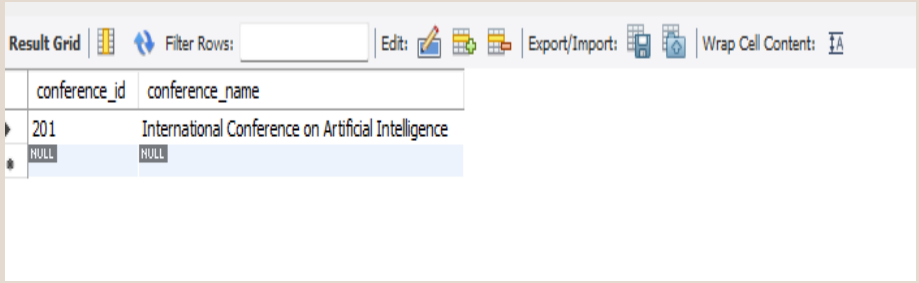


SYNTAX:

```
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'.

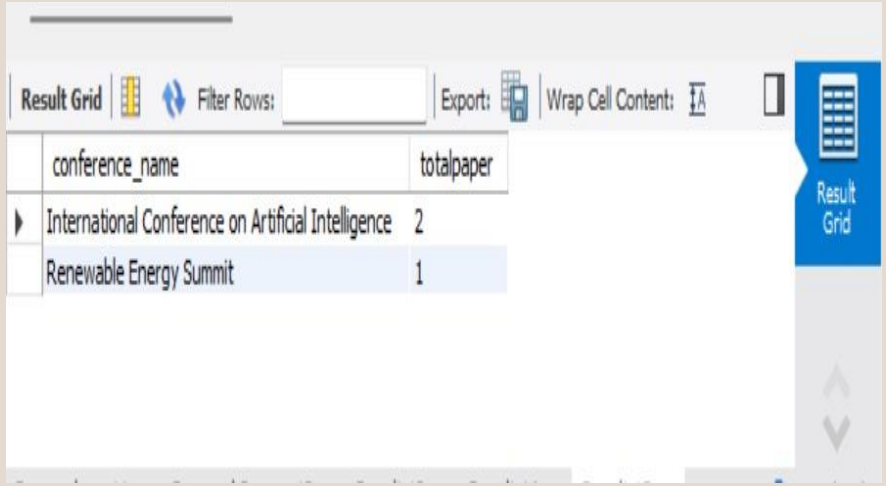


SYNTAX:

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

QUERY -6

Count the number of papers presented at each conference.

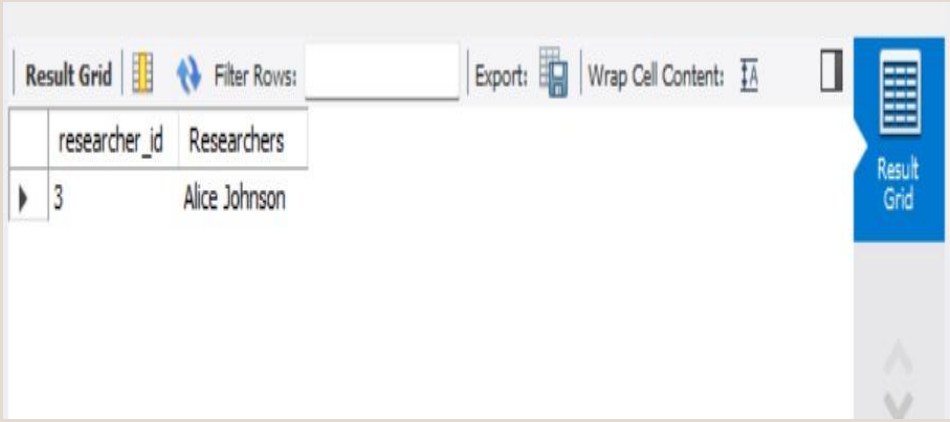


SYNTAX:

```
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.

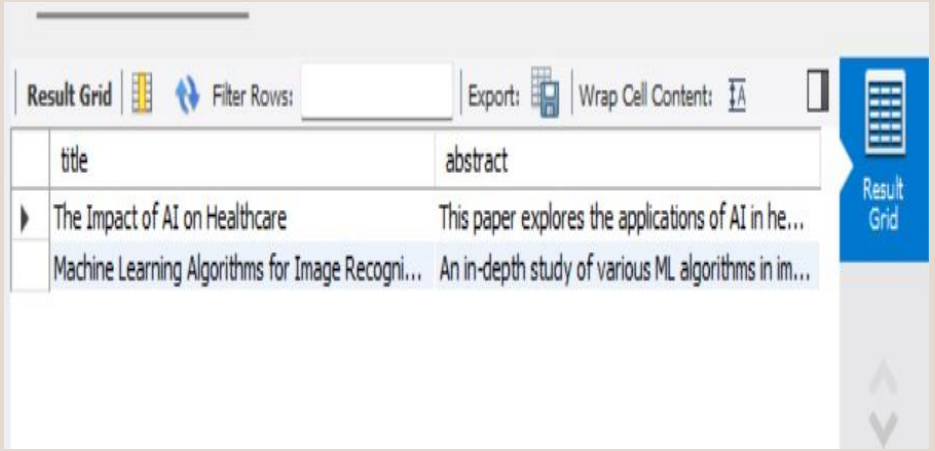


SYNTAX:

```
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'.

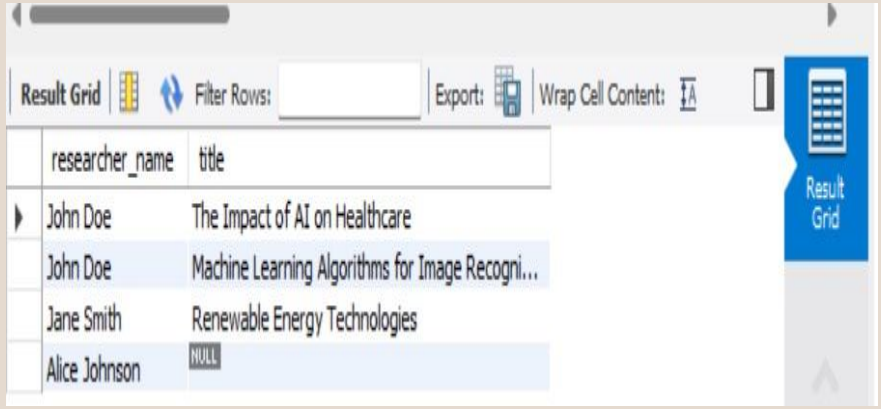


SYNTAX:

```
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.

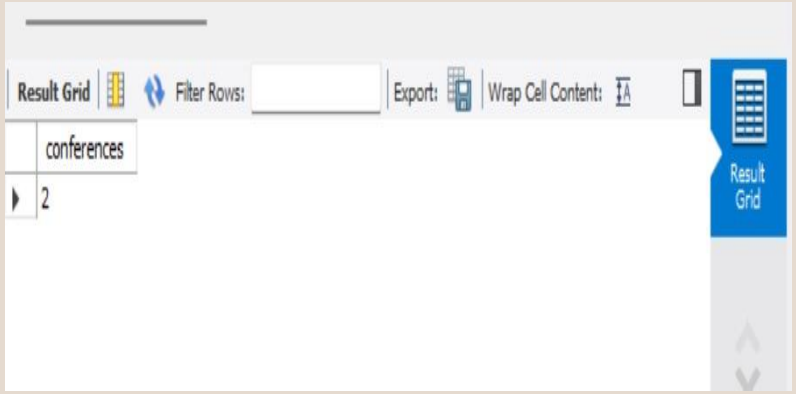


SYNTAX:

```
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.

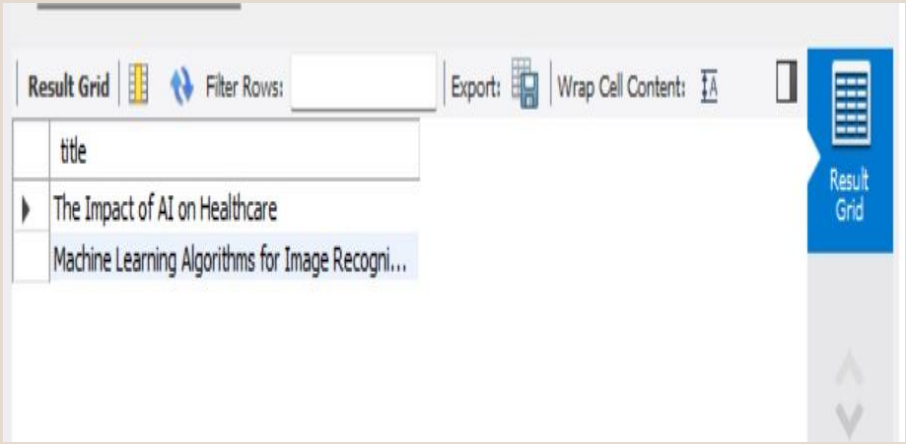


SYNTAX:

SELECT COUNT(*) AS conferences FROM conferences;

QUERY -11

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

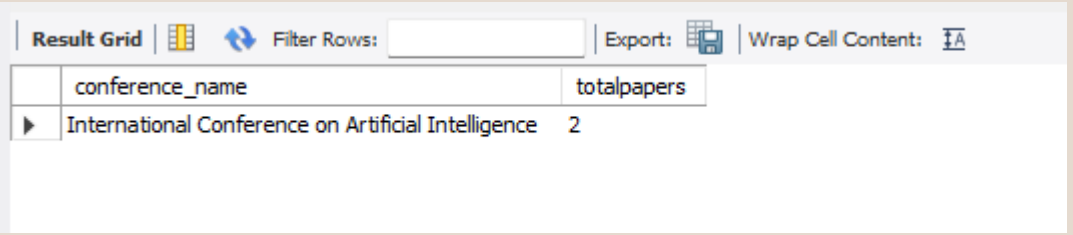


SYNTAX:

```
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.

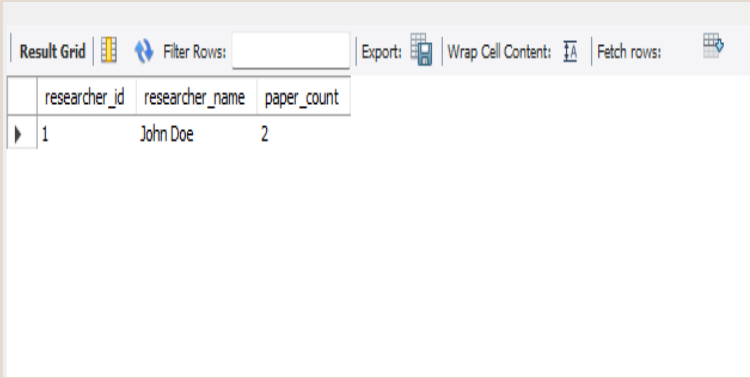


SYNTAX:

```
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.

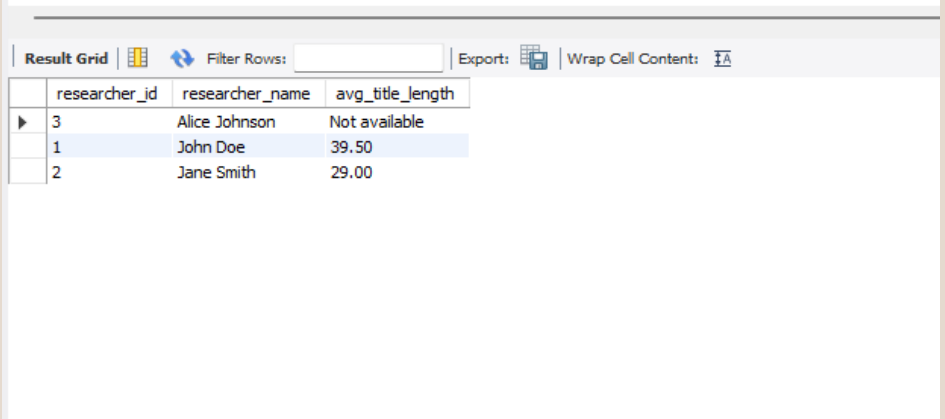


SYNTAX:

```
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.



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 !