

# Select with Aggregate functions

Spoken Tutorial Project

<http://spoken-tutorial.org>

National Mission on Education through ICT

<http://sakshat.ac.in>

Nirmala Venkat

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# Learning Objectives

- More clauses that can be used with the `SELECT` statement



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- More clauses that can be used with the `SELECT` statement
  - **Distinct**



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  - Distinct
  - Between



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- **More clauses that can be used with the SELECT statement**
  - **Distinct**
  - **Between**
  - **Like**



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  - **Distinct**
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  - **In**



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- More clauses that can be used with the `SELECT` statement
  - Distinct
  - Between
  - Like
  - In
  - Is Null



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- **More clauses that can be used with the SELECT statement**
  - **Distinct**
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  - **Is Null**
- **Aggregate functions**



# System Requirements



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- **pgAdmin 1.18**



# Pre-requisites

- **Basic understanding of database and tables**



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- Basic understanding of database and tables
- For more details, refer to the **RDBMS-PostgreSQL** series on <http://spoken-tutorial.org>



# DISTINCT



# DISTINCT

- **DISTINCT** keyword is used in the SELECT statement to list distinct unique values



# DISTINCT

- **DISTINCT** keyword is used in the SELECT statement to list distinct unique values
- It removes the duplicate rows or column values from the query result.



# Syntax: DISTINCT



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- **SELECT DISTINCT**  
**column-names FROM table-name**  
**WHERE [condition];**



# BETWEEN



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**BETWEEN** operator is used to retrieve values within a given range



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**BETWEEN** operator is used to retrieve values within a given range

- Syntax:

```
SELECT column-names FROM  
table-name WHERE column-name  
BETWEEN value1 and value2;
```



# LIKE



# LIKE

- **LIKE** operator is used to match text values against a given pattern



# LIKE

- **LIKE** operator is used to match text values against a given pattern
- It allows wildcard characters to be used within the **WHERE** clause



# LIKE



# LIKE

- Percent ( %):  
The percent sign matches any sequence of string of any length



# LIKE

- **Percent ( %):**  
The percent sign matches any sequence of string of any length
- **Underscore ( \_):**  
The underscore matches a single character





# IN

- Use **IN** operator in the WHERE clause to check if the value matches any value in a given list



# IN

- Use **IN** operator in the WHERE clause to check if the value matches any value in a given list

- Syntax:

```
SELECT column-names FROM  
table-name WHERE column-name  
IN (value1, value2, ...);
```



# Aggregate function



# Aggregate function

- **Aggregate functions** are PostgreSQL built-in functions



# Aggregate function

- **Aggregate functions** are PostgreSQL built-in functions
- It operates on several rows of a query and returns a single result



# List of Aggregate function



# List of Aggregate function

- **Count** - Returns the number of rows



# List of Aggregate function

- **Count** - Returns the number of rows
- **Sum** - Returns the sum of a selected column



# List of Aggregate function

- **Count** - Returns the number of rows
- **Sum** - Returns the sum of a selected column
- **Max** - Returns the largest value of a specified column



# List of Aggregate function



# List of Aggregate function

- **Min** - Returns the smallest value of a specified column



# List of Aggregate function

- **Min** - Returns the smallest value of a specified column
- **Avg** - Returns the average value of a specified column



# Summary

- **More clauses that can be used with the SELECT statement**
  - **Distinct**
  - **Between**
  - **Like**
  - **In**
  - **Is Null**
- **Aggregate functions**



# Assignment

Write **SELECT** statements to

- 1 Display all columns from **students** table where the student name ends with 'a'
- 2 Display the minimum and average of the **cgpa** column



# About the Spoken Tutorial Project

- Watch the video available at [http://spoken-tutorial.org/What\\_is\\_a\\_Spoken\\_Tutorial](http://spoken-tutorial.org/What_is_a_Spoken_Tutorial)
- It summarises the Spoken Tutorial project
- If you do not have good bandwidth, you can download and watch it



# Spoken Tutorial Workshops

## The Spoken Tutorial Project Team

- Conducts workshops using spoken tutorials
- Gives certificates on passing online test
- For more details, please write to [contact@spoken-tutorial.org](mailto:contact@spoken-tutorial.org)



# Forum for specific questions

- Do you have questions in **THIS Spoken Tutorial?**
- Please visit <http://forums.spoken-tutorial.org>
- Choose the minute and second where you have the question
- Explain your question briefly
- Someone from our team will answer them



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- It is supported by the National Mission on Education through ICT, MHRD, Government of India
- More information on this Mission is available at

<http://spoken-tutorial.org/NMEICT-Intro>

