**DISTINCT, ORDER BY, LIMIT, and OFFSET in SQL**

In MySQL, the DISTINCT, ORDER BY, LIMIT, and OFFSET clauses are used to control the uniqueness, order, and the amount of data retrieved from a query. Let’s go through each of these concepts with examples.

### 1. DISTINCT

* The DISTINCT keyword is used to remove duplicate rows in the result set.

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| --- | --- |
| Syntex: **SELECT** **DISTINCT** column\_name **FROM**  table\_name; | Code: **SELECT** **DISTINCT** department **FROM**  employees; |
| |  |  |  | | --- | --- | --- | | Id | Name | Department | | 1 | John | CSE | | 2 | Mamun | CSE | | 3 | Jon | EEE |   . | |  | | --- | | Department | | CSE | | EEE | |

### 2. ORDER BY

The ORDER BY clause is used to sort the result set by one or more columns in ascending (ASC) or descending (DESC) order.

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| --- | --- |
| Syntex: **SELECT** column\_name **FROM** table\_name  **ORDER** **BY** column\_name [**ASC**|**DESC**]; | **SELECT** name, salary **FROM** employees  **ORDER** **BY** salary **DESC**; |
| |  |  |  | | --- | --- | --- | | Id | Name | Salary | | 1 | John | 500 | | 2 | AN Mamun | 300 | | 3 | Jon | 900 |   . | |  |  |  | | --- | --- | --- | | Id | Name | Salary | | 3 | Jon | 900 | | 1 | John | 500 | | 2 | AN Mamun | 300 |   . |

### 3. LIMIT

The LIMIT clause is used to specify the maximum number of rows to return from a query.

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| --- | --- |
| Syntex: **SELECT** column\_name **FROM** table\_name  **LIMIT** number\_of\_rows; | **SELECT** name, salary **FROM** employees  **ORDER** **BY** salary **DESC**  **LIMIT** 2; |
| |  |  |  | | --- | --- | --- | | Id | Name | Salary | | 1 | John | 500 | | 2 | AN Mamun | 300 | | 3 | Jon | 900 |   . | |  |  |  | | --- | --- | --- | | Id | Name | Salary | | 1 | John | 500 | | 2 | AN Mamun | 300 |   . |

### 4. OFFSET

The OFFSET clause is used to skip a specific number of rows before starting to return rows from the result set. It is usually used with LIMIT.

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| --- | --- |
| Syntex: **SELECT** column\_name **FROM** table\_name  **LIMIT** number\_of\_rows  **OFFSET** skip\_number\_of\_rows; | **SELECT \* FROM** employees  **ORDER BY** salary **DESC**  **LIMIT** 2  **OFFSET** 1**;** |
| |  |  |  | | --- | --- | --- | | Id | Name | Salary | | 1 | John | 500 | | 2 | AN Mamun | 300 | | 3 | Jon | 900 |   . | |  |  |  | | --- | --- | --- | | Id | Name | Salary | | 3 | Jon | 900 | | 1 | John | 500 | | 2 | AN Mamun | 300 |   . |

**SELECT** **DISTINCT** department **FROM** employees

**ORDER** **BY** department **ASC**

**LIMIT** 2

**OFFSET** 1;

**SELECT \* FROM** students

**ORDER BY** id **ASC**

**LIMIT** 2, 3; -- skip first 2 rows and return next 3 row --