

ORDER BY in MySQL: DESC & ASC Query with EXAMPLE

Sorting Results

Using the SELECT command, results were returned in the same order the records were added into the database. This is the default sort order. In this section, we will be looking at how we can sort our query results. Sorting is simply rearranging our query results in a specified way. Sorting can be performed on a single column or on more than one column. It can be done on number, strings as well as date data types.

What is ORDER BY in MySQL?

MySQL ORDER BY is used in conjunction with the SELECT query to sort data in an orderly manner. The MySQL ORDER BY clause is used to sort the query result sets in either ascending or descending order.

```
SELECT statement... [WHERE condition | GROUP BY  
`field_name(s)` HAVING condition] ORDER BY  
`field_name(s)` [ASC | DESC];
```

HERE

- "**SELECT statement...**" is the regular select query
- " | " represents alternatives
- "**[WHERE condition | GROUP BY `field_name(s)` HAVING condition]**" is the optional condition used to filter the query result sets.
- "**ORDER BY**" performs the query result set sorting
- "**[ASC | DESC]**" is the keyword used to sort result sets in either ascending or descending order. Note **ASC** is used as the default.

What are DESC and ASC Keywords?



ASC is the short form for ascending



MySQL DESC is the short form for descending

It is used to sort the query results in a top to bottom style.

It is used to sort the query results in a bottom to top style

When working on date data types, the earliest date is shown on top of the list.

. When working on date types, the latest date is shown on top of the list.

When working with numeric data types, the lowest values are shown on top of the list.

When working with numeric data types, the highest values are shown at top of the query result set.

When working with string data types, the query result set is sorted from those starting with the letter A going up to the letter Z.

When working with string data types, the query result set is sorted from those starting with the letter Z going down to the letter A.

Both the SQL DESC and ASC keywords are used together in conjunction with the SELECT statement and MySQL ORDER BY clause.

DESC and ASC syntax

The SQL DESC sort keyword has the following basic syntax.

```
SELECT {fieldName(s) | *} FROM tableName(s) [WHERE  
condition] ORDER BY fieldname(s) ASC /DESC [LIMIT N]
```

HERE

- **SELECT {fieldName(s) | *}** **FROM tableName(s)** is the statement containing the fields and table(s) from which to get the result set from.
- **[WHERE condition]** is optional but can be used to filter the data according to the given condition.
- **ORDER BY fieldname(s)** is mandatory and is the field on which the sorting is to be performed. The MySQL DESC keyword specifies that the sorting is to be in descending order.
- **[LIMIT]** is optional but can be used to limit the number of results returned from the query result set.

Examples:

Let's now look at a practical example -

```
SELECT * FROM members;
```

Executing the above script in MySQL workbench against the myflixdb gives us the following results shown below.

member ship_n umber	full_na mes	ge nd er	date_ of_b irth	physical _add ress	posta l_add ress	contc t_num ber	email
1	Janet Jones	Fe ma le	21-07 -1980	First Street Plot No 4	Priva te Bag	0759 253 542	janetjo nes@yag oo.cm

2	Janet Smith Jones	Fe ma le	23-06 -1980	Melrose 123	NULL	NULL	jj@fstreet.com
3	Robert Phil	Ma le	12-07 -1989	3rd Street 34	NULL	12345	rm@tstreet.com
4	Gloria William s	Fe ma le	14-02 -1984	2nd Street 23	NULL	NULL	NULL
5	Leonard Hofstad ter	Ma le	NULL	Woodcres t	NULL	84573 8767	NULL
6	Sheldon Cooper	Ma le	NULL	Woodcres t	NULL	97673 6763	NULL
7	Rajesh Koothra ppali	Ma le	NULL	Woodcres t	NULL	93886 7763	NULL
8	Leslie Winkle	Ma le	14-02 -1984	Woodcres t	NULL	98763 6553	NULL
9	Howard Wolowitz	Ma le	24-08 -1981	SouthPar k	P.O. Box 4563	98778 6553	

Let's suppose the marketing department wants the members' details arranged in decreasing order of Date of Birth. This will help them send birthday greetings in a timely fashion. We can get the said list by executing a query like below -

```
SELECT * FROM members ORDER BY date_of_birth DESC;
```

Executing the above script in MySQL workbench against the myflixdb gives us the following results shown below.

	membership_number	full_names	gender	date_of_birth	physical_address
▶	3	Robert Phil	Male	1989-07-12	3rd Street 34
	4	Gloria Williams	Female	1984-02-14	2nd Street 23
	1	Janet Jones	Female	1980-07-21	First Street Plot No
	2	Janet Smith Jones	Female	1980-06-23	Melrose 123
	5	Leonard Hofstadter	Male	NULL	Woodcrest
	6	Sheldon Cooper	Male	NULL	Woodcrest
	7	Rajesh Koothrappali	Male	NULL	Woodcrest
	8	Leslie Winkle	Male	NULL	Woodcrest

Desc
Order

The same query in ascending order

```
SELECT * FROM members ORDER BY date_of_birth ASC
```

	membership_number	full_names	gender	date_of_birth	physical_address
▶	5	Leonard Hofstadter	Male	NULL	Woodcrest
	6	Sheldon Cooper	Male	NULL	Woodcrest
	7	Rajesh Koothrappali	Male	NULL	Woodcrest
	8	Leslie Winkle	Male	NULL	Woodcrest
	2	Janet Smith Jones	Female	1980-06-23	Melrose 123
	1	Janet Jones	Female	1980-07-21	First Street Plot No
	4	Gloria Williams	Female	1984-02-14	2nd Street 23
	3	Robert Phil	Male	1989-07-12	3rd Street 34

Asc
Order

Note: NULL values means no values (not zero or empty string) . Observe the way they have been sorted.

More examples

Let's consider the following script that lists all the member records.

```
SELECT * FROM `members`;
```

Executing the above script gives the following results shown below.

member ship_n umber	full_na mes	ge nd er	date_ of_b irth	physical _address	posta l_add ress	contc t_num ber	email
1	Janet Jones	Fe ma le	21-07 -1980	First Street Plot No 4	Priva te Bag	0759 253 542	janetjo nes@yag oo.cm
2	Janet Smith Jones	Fe ma le	23-06 -1980	Melrose 123	NULL	NULL	jj@fstr eet.com
3	Robert Phil	Ma le	12-07 -1989	3rd Street 34	NULL	12345	rm@tstr eet.com
4	Gloria William s	Fe ma le	14-02 -1984	2nd Street 23	NULL	NULL	NULL
5	Leonard Hofstad ter	Ma le	NULL	Woodcres t	NULL	84573 8767	NULL
6	Sheldon Cooper	Ma le	NULL	Woodcres t	NULL	97673 6763	NULL
7	Rajesh Koothra ppali	Ma le	NULL	Woodcres t	NULL	93886 7763	NULL
8	Leslie Winkle	Ma le	14-02 -1984	Woodcres t	NULL	98763 6553	NULL
9	Howard Wolowitz	Ma le	24-08 -1981	SouthPar k	P.O. Box 4563	98778 6553	NULL

Suppose we want to get a list that sorts the query result set using the gender field, we would use the script shown below.

```
SELECT * FROM `members` ORDER BY `gender`;
```

	membership_number	full_names	gender	date_of_birth	physical_address	postal_address	contact_number	email
1		Janet Jones	Female	21-07-1980	First Street Plot No 4	Private Bag	0759 253 542	janetjones@yago.co.cm
2		Janet Smith Jones	Female	23-06-1980	Melrose 123	NULL	NULL	jj@fstreet.com
4		Gloria William S	Female	14-02-1984	2nd Street 23	NULL	NULL	NULL
3		Robert Phil	Male	12-07-1989	3rd Street 34	NULL	12345	rm@tstreet.com
5		Leonard Hofstadter	Male	NULL	Woodcrest	NULL	84573 8767	NULL
6		Sheldon Cooper	Male	NULL	Woodcrest	NULL	97673 6763	NULL

7	Rajesh Koothra ppali	Ma le	NULL	Woodcres t	NULL	93886 7763	NULL
8	Leslie Winkle	Ma le	14-02 -1984	Woodcres t	NULL	98763 6553	NULL
9	Howard Wolowitz	Ma le	24-08 -1981	SouthPar k	P.O. Box 4563	98778 6553	NULL

"Female" members have been displayed first followed by "Male" members, this is because when ORDER BY DESC clause is used without specifying the ASC or MySQL DESC keyword, by default, MySQL has sorted the query result set in an ascending order.

Let's now look at an example that does the **sorting using two columns**; the first one is **sorted in ascending order** by default while the second column is **sorted in descending order**.

```
SELECT * FROM `members` ORDER BY `gender`, `date_of_birth`  
DESC;
```

Executing the above script in MySQL workbench against the myflixdb gives the following results.

	membership_number	full_names	gender	date_of_birth	physical_address	postal_address	contact_number	email
1		Janet Jones	Female	1980-07-21	First Street Plot No 4	Private Bag	999	janetjones@yes
2		Janet Smith Jones	Female	1980-06-23	Melrose 123	HULL	HULL	j@fstreet.com
3		Howard Wolowitz	Male	1978-01-25	2nd Street	HULL	HULL	HULL
4			Male	1989-07-12	3rd Street	HULL	HULL	HULL
5			Male	1984-02-14	Woodcres	HULL	HULL	HULL
6			Male	1981-08-24	SouthPar	HULL	7786553	lwolowitz@email
7		Leonard Hofstadter	Male	HULL	Woodcrest	HULL	5738767	HULL
8		Sheldon Cooper	Male	HULL	Woodcrest	HULL	0976736763	HULL
9		Rajesh Koothrappali	Male	HULL	Woodcrest	HULL	0938867763	HULL

gender sorted in
ASC order.

date_of_birth
sorted in DESC
order.

The gender column was sorted in ascending order by default while the date of birth column was sorted in descending order explicitly

Why may we use DESC and ASC?

Suppose we want to print a payments history for a video library member to help answer queries from the front desk, wouldn't it be more logical to have the payments printed in a descending chronological order starting with the recent payment to the earlier payment?

DESC in SQL is a keyword which becomes handy in such situations. We can write a query that sorts the list in descending order using the payment date.

Suppose the marketing department wants to get a list of movies by category that members can use to decide which movies are available in the library when renting movies, wouldn't it be more logical to sort the movie category names and title in ascending order so that members can quickly lookup the information from the list?

The ASC keyword comes in handy in such situations; we can get the movies list sorted by category name and movie title in an ascending order.

Summary

- Sorting query results is re-arranging the rows returned from a query result set either in ascending or descending order.
- The keyword DESC in SQL, is used to sort the query result set in a descending order.
- The ASC keyword is used to sort the query result set in an ascending order.
- Both DESC and ASC work in conjunction with the ORDER BY keyword. They can also be used in combination with other keywords such as WHERE clause and LIMIT
- The default for ORDER BY when nothing has been explicitly specified is ASC