

# ГРУППИРОВКА ДАННЫХ В SQL: GROUP BY

---

УЧЕБНЫЙ КУРС «ОСНОВЫ SQL»

# ГРУППИРОВКА ДАННЫХ В SQL

id	name	align	eye	hair	gender	appearances	year	universe
15	Matthew Murdock (Earth-616)	Good Characters	Blue Eyes	Red Hair	Male Characters	1338	1338	marvel
17	Mary Jane Watson (Earth-616)	Good Characters	Green Eyes	Red Hair	Female Characters	1304	1965	marvel
26	Janet van Dyne (Earth-616)	Good Characters	Blue Eyes	Auburn Hair	Female Characters	1120	1963	marvel
27	Jean Grey (Earth-616)	Good Characters	Green Eyes	Red Hair	Female Characters	1107	1963	marvel
28	Natalia Romanova (Earth-616)	Good Characters	Brown Eyes	Red Hair	Female Characters	1050	1964	marvel
46	Norman Osborn (Earth-616)	Bad Characters	Blue Eyes	Auburn Hair	Male Characters	692	1964	marvel
47	Eugene Thompson (Earth-616)	Good Characters	Blue Eyes	Strawberry Blond Hair	Male Characters	689	1962	marvel
58	Patricia Walker (Earth-616)	Good Characters	Blue Eyes	Red Hair	Female Characters	550	1944	marvel
			...					

# ГРУППИРОВКА ДАННЫХ В SQL

id	name	align	eye	hair	gender	appearances	year	universe
15	Matthew Murdock (Earth-616)	Good Characters	Blue Eyes	Red Hair	Male Characters	1338	1338	marvel
46	Norman Osborn (Earth-616)	Bad Characters	Blue Eyes	Auburn Hair	Male Characters	692	1964	marvel
47	Eugene Thompson (Earth-616)	Good Characters	Blue Eyes	Strawberry Blond Hair	Male Characters	689	1962	marvel
17	Mary Jane Watson (Earth-616)	Good Characters	Green Eyes	Red Hair	Female Characters	1304	1965	marvel
26	Janet van Dyne (Earth-616)	Good Characters	Blue Eyes	Auburn Hair	Female Characters	1120	1963	marvel
27	Jean Grey (Earth-616)	Good Characters	Green Eyes	Red Hair	Female Characters	1107	1963	marvel
28	Natalia Romanova (Earth-616)	Good Characters	Brown Eyes	Red Hair	Female Characters	1050	1964	marvel
58	Patricia Walker (Earth-616)	Good Characters	Blue Eyes	Red Hair	Female Characters	550	1944	marvel
			...					

# ГРУППИРОВКА ДАННЫХ В SQL

```
SELECT gender, COUNT(*) FROM superheroes  
GROUP BY gender
```

# ГРУППИРОВКА ДАННЫХ В SQL

id	name	align	eye	hair	gender	appearances	year	universe
15	Matthew Murdock (Earth-616)	Good Characters	Blue Eyes	Red Hair	Male Characters	1338	1338	marvel
46	Norman Osborn (Earth-616)	Bad Characters	Blue Eyes	Auburn Hair	Male Characters	692	1964	marvel
47	Eugene Thompson (Earth-616)	Good Characters	Blue Eyes	Strawberry Blond Hair	Male Characters	689	1962	marvel
17	Mary Jane Watson (Earth-616)	Good Characters	Green Eyes	Red Hair	Female Characters	1304	1965	marvel
26	Janet van Dyne (Earth-616)	Good Characters	Blue Eyes	Auburn Hair	Female Characters	1120	1963	marvel
27	Jean Grey (Earth-616)	Good Characters	Green Eyes	Red Hair	Female Characters	1107	1963	marvel
28	Natalia Romanova (Earth-616)	Good Characters	Brown Eyes	Red Hair	Female Characters	1050	1964	marvel
58	Patricia Walker (Earth-616)	Good Characters	Blue Eyes	Red Hair	Female Characters	550	1944	marvel
			...					

# КОЛИЧЕСТВО СУПЕРГЕРОЕВ РАЗНЫХ ПОЛОВ

gender	count
Male Characters	4879
Female Characters	2373
Agender Characters	24
Genderfluid Characters	2
Genderless Characters	3

# ГРУППИРОВКА ДАННЫХ В SQL

```
SELECT align, COUNT(*) FROM superheroes  
GROUP BY align
```

# КОЛИЧЕСТВО СУПЕРГЕРОЕВ РАЗНЫХ ТИПОВ

align	count
Good Characters	3187
Neutral Characters	1169
Reformed Criminals	2
Bad Characters	2923



# МНОГОУРОВНЕВАЯ ГРУППИРОВКА ДАННЫХ В SQL

```
SELECT universe, align, COUNT(*) FROM superheroes  
GROUP BY universe, align
```

# КОЛИЧЕСТВО СУПЕРГЕРОЕВ РАЗНЫХ ТИПОВ

universe	align	count
marvel	Bad Characters	2011
marvel	Neutral Characters	900
marvel	Good Characters	1942
dc	Reformed Criminals	2
dc	Neutral Characters	269
dc	Good Characters	1245
dc	Bad Characters	912

# ФИЛЬТРАЦИЯ И ГРУППИРОВКА ДАННЫХ В SQL

```
SELECT hair, COUNT(*) FROM superheroes  
WHERE gender='Female Characters'  
GROUP BY hair
```

# КОЛИЧЕСТВО СУПЕРГЕРОЕВ ПО ЦВЕТУ ВОЛОС

hair	count
Strawberry Blond Hair	25
Violet Hair	3
Bald	18
Green Hair	42
Silver Hair	6
Red Hair	272
White Hair	97
Purple Hair	28
...	

# ФИЛЬТРАЦИЯ, ГРУППИРОВКА И СОРТИРОВКА

```
SELECT hair, COUNT(*) FROM superheroes  
WHERE gender='Female Characters'  
GROUP BY hair  
ORDER BY count(*) DESC
```

# КОЛИЧЕСТВО СУПЕРГЕРОЕВ ПО ЦВЕТУ ВОЛОС

hair	count
Black Hair	799
Blond Hair	515
Brown Hair	403
Red Hair	272
White Hair	97
No Hair	44
Green Hair	42
Grey Hair	39
...	

# ФИЛЬТРАЦИЯ, ГРУППИРОВКА, СОРТИРОВКА И ЛИМИТ

```
SELECT hair, COUNT(*) FROM superheroes  
WHERE gender='Female Characters'  
GROUP BY hair  
ORDER BY count(*) DESC  
LIMIT 5
```

# ТОП 5 ЦВЕТОВ ВОЛОС У СУПЕРГЕРОЕВ ЖЕНЩИН

hair	count
Black Hair	799
Blond Hair	515
Brown Hair	403
Red Hair	272
White Hair	97



# ИТОГИ

- **Группировка данных**  
Ключевое слово GROUP BY  
Группировка по одному или нескольким столбцам
- **Агрегатные функции**  
COUNT, SUM, AVG, MAX, MIN
- **Группировка и другие возможности SELECT**  
Фильтрация: WHERE  
Сортировка: ORDER BY  
Ограничение количества строк: LIMIT