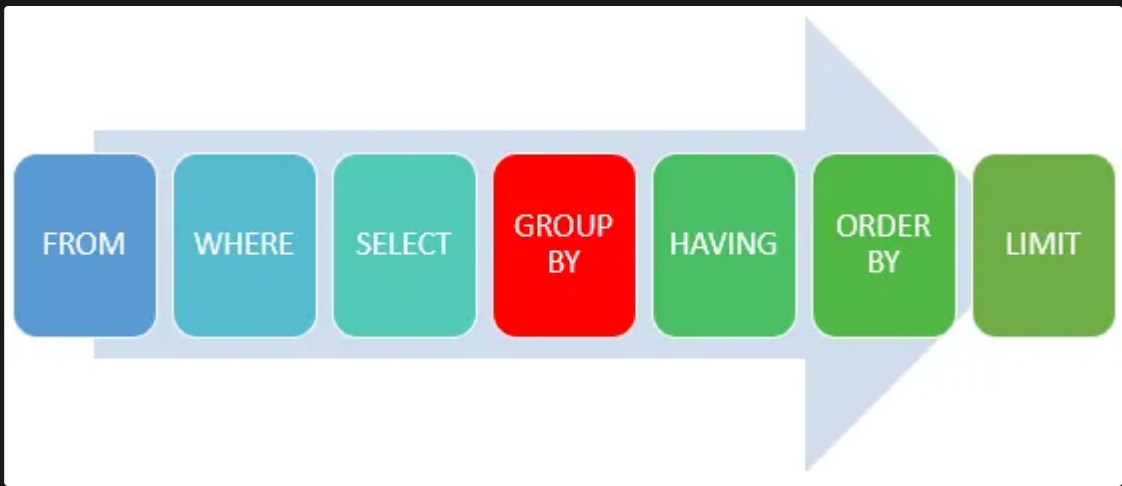




GROUP BY | HAVING



GROUP BY

ID	CITY_NAME
1	Xorazm
2	Toshkent
3	Andijon
4	Xorazm
5	Buxoro
6	Toshkent
7	Buxoro

CITY_NAME	SONI
Xorazm	2
Toshkent	2
Andijon	1
Buxoro	2

```
SELECT CITY_NAME, COUNT(*) AS SONI FROM city GROUP BY CITY_NAME
```

GROUP BY - ma'lumotlarni guruhlash uchun ishlatiladi. **GROUP BY** ko'proq **SUM()**, **AVG()**, **MAX()**, **MIN()** va **COUNT()** funksiyalari bilan birgalikda ishlatiladi Qolip: **SELECT c1, c2,..., cn, aggregate_function(ci) FROM table WHERE where_conditions GROUP BY c1, c2,...,cn; SELECT dept_no FROM dept_emp GROUP BY dept_no; SELECT first_name FROM employees GROUP BY first_name;** O'rtacha oylikni **AVG()** hisoblaganda **GROUP BY** dan foydalanish **SELECT emp_no, AVG(salary) as oylik FROM salaries GROUP BY emp_no ORDER BY oylik DESC;** Hodimlarning **MAX()** - eng ko'p va **MIN()** - eng kam olgan oyliklarini chiqarish **SELECT emp_no, MAX(salary) as max_oylik, MIN(salary) as min_oylik FROM salaries GROUP BY emp_no COUNT()** funksiyasi bilan ishlatilishi **SELECT emp_no, COUNT(*) as oylik_oshish_soni FROM salaries GROUP BY emp_no**

SQL GROUP By Clause

transactions		
id	paid_out	description
1	10.00	Amazon
2	25.00	Amazon
3	2.99	Amazon
4	11.00	Amazon
5	23.00	Amazon
6	25.00	Michaels
7	300.00	Michaels
8	1.00	Michaels
9	11.00	Michaels
10	2.99	Michaels
11	25.00	Michaels
12	1.00	Michaels
13	25.00	Michaels
14	10.00	Michaels

```
SELECT
  SUM(paid_out) AS paid_out_total,
  description
FROM transactions
GROUP BY description;
```

paid_out_total	description
71.99	Amazon
400.99	Michaels

HAVING

HAVING - guruhlanib chiqqan natijalarni filtrlash uchun ishlatiladi. Yuqorida **GROUP BY** orqali eng ko'p oylik oluvchi hodimlarni, **MAX()** funksiyasi bilan birgalikda chiqargan edik. **SELECT emp_no, MAX(salary) as max_oylik FROM salaries GROUP BY emp_no ORDER BY MAX(salary) DESC** Endi shu guruhlanib chiqqan ma'lumotlarni ham filtrlashimiz mumkin. Buning uchun **HAVING** dan foydalanamiz. **SELECT emp_no, MAX(salary) as max_oylik FROM salaries GROUP BY emp_no HAVING MAX(salary) > 150000 ORDER BY MAX(salary) DESC WHERE** ni ichida **SUM()**, **AVG()**, **COUNT()**, **MAX()**, **MIN()** - kabi funksiyalaridan foydalanishni iloji yo'q. Shuning uchun ham **HAVING** MySQL ga kiritilgan.

Employee			
EmployeeID	Ename	DeptID	Salary
1001	John	2	4000
1002	Anna	1	3500
1003	James	1	2500
1004	David	2	5000
1005	Mark	2	3000
1006	Steve	3	4500
1007	Alice	3	3500

```
SELECT DeptID, AVG(Salary)
FROM Employee
GROUP BY DeptID;
```

DeptID	AVG(Salary)
1	3000.00
2	4000.00
3	4250.00

```
SELECT DeptID, AVG(Salary)
FROM Employee
GROUP BY DeptID
HAVING AVG(Salary) > 3000;
```

DeptID	AVG(Salary)
2	4000.00
3	4250.00

ROLLUP haqida qisqacha

```
select YEAR(paymentDate) as yil, customerNumber as cus, SUM(amount) from payments g
roup by customerNumber, YEAR(paymentDate) WITH ROLLUP
```

Masalalar

Plain TextCopy

Ushbu masalalarni ishlashda **dars2** jadvalidan foydalaning Terminlar -customerNumber - mijoz id si -order - zakaz -status - holati -orderDate - zakaz qilingan vaqti -shippedDate - yetkazilgan vaqti -requiredDate - yetkazish shart bo'lgan sana "products" jadvali: -productLine - Produkt turi -quantityInStock - maxsulotning soni -buy_price - narxi -quantityOrdered - nechta buyurtma qilingani soni **1-masala** "orders" jadvalidan: - har bir mijoz jami nechtdan zakazni amalaga oshirgan - zakazlarning nechitasi "Shipped", nechitasi "Cancelled", nechitasi "In Process", nechitasi "On Hold", nechitasi "Resolved" , nechitasi "Disputed" . - kuniga nechtdan zakaz kelib tushgani ni aniqlang. Yani 2003-03-03 kuni 10, 2003-03-13 kuni 6 ta va hakazo. - 2003 - yilda qilingan buyurtmalarni hafta kunlari bo'yicha, nechtdan buyurtma bo'lganini aniqlang +-----+-----+ | kunlar | soni | +-----+-----+ | Friday | 21 | | Monday | 18 | | Saturday | 5 | | Sunday | 4 | | Thursday | 17 | | Tuesday | 23 | | Wednesday | 23 | +-----+-----+ - har yilda nechtdan buyurtma qilinganini aniqlang - har oyda nechtdan zakaz buyurtma qilinganini aniqlang - eng qisqa muddatda yetkazilgan buyurtmalarni guruhlang. Misol uchun: 1 kunni ichida yetkazilgan buyurtmalar soni 6 ta, 2 kunni ichida yetkazilgan buyurtmalar soni 16 ta vkhz +-----+-----+ | yetkazilgan_kun | soni | +-----+-----+ | NULL | 14 | | 1 | 50 | | 2 | 49 | | 3 | 52 | | 4 | 52 | | 5 | 59 | | 6 | 45 | | 7 | 2 | | 8 | 2 | | 65 | 1 | +-----+-----+ - 2004 - yilda qaysi oylarda 10 tadan kam zakaz bo'lgan bo'lsa shularni aniqlang. nechtdan zakaz bo'lganini ham ko'rsating +-----+-----+ | oylar | soni | +-----+-----+ | January | 8 | | March | 8 | | May | 8 | +-----+-----+ - customerNumber=141 bo'lgan mijoz, 2003, 2004,2005 - yillarda qilgan buyurtmalarining, nechitasi "Shipped" bo'lganini aniqlang. +-----+-----+ | yil | soni | +-----+-----+ | 2003 | 8 | | 2004 | 8 | | 2005 | 6 | +-----+-----+ **2-masala** "**customers**" jadvalidan: -qaysi davlatdan nechtdan mijoz borligini aniqlang -jadvaldagi har bir davlat uchun creditLimit larni yig'indisini chiqaring -bir xil ismli mijozlarni aniqlang, 2 tadan ko'p bir xil ismli mijozlarni ismi va sonini aniqlang - **3-masala** "**orderdetails**" jadvalidan: -har bir produkt nechtdan sotilganini soni bilan chiqaring -har bir produkt jami necha so'mlik sotilganini chiqaring. (summasi) -Product codi S10_1949, S12_1099, S18_1662, S18_4027, S18_3136 ga teng bo'lgan orderlarning, har bir produktdan jami nechta zakaz qilingani va jami necha sumlik zakaz qilinganini hisoblang -eng ko'p sotilgan 10 ta produktni "productCode" va nechta sotilganini sonini aniqlang -eng kam sotilgan 10 ta produktni jami nechta sotilgani va jami necha summalik sotilganini aniqlang -1000 dan oshiq zakaz qilingan produktlarni codini chiqaring va nechta zakaz qilingan sonini chiqaring, 4-masala "payments" jadvalidan: -har yili qancha summalik to'lov bo'lganligini summasini chiqaring +-----+-----+ | yil | jami | +-----+-----+ | 2003 | 3250217.70 | | 2004 | 4313328.25 | | 2005 | 1290293.28 | +-----+-----+ **5-masala** "products" jadvalidan: -har bir produkt turidan skladda nechtdan produkt borligini aniqlang va sonini kamayib borish tartibida saralab chiqaring -har bir produkt turidan skladda nechtdan produkt borligini aniqlang va sonini kamayib borish tartibida saralang va jami necha sumlik ekanligini chiqaring +-----+-----+ | productLine | soni | summa | +-----+-----+ | Classic Cars | 219183 | 14059337.71 | | Vintage Cars | 124880 | 5704259.82 | | Motorcycles | 69401 | 3565714.18 | | Planes | 62287 | 3099282.76 | | Trucks and Buses | 35851 | 2139329.56 | | Ships | 26833 | 1239140.43 | | Trains | 16696 | 727251.77 | +-----+-----+ -"productVendor" ustuni bo'yicha guruhlang va har bir vendorda nechta produkt borligini sonini chiqaring. (Skladdagi sonini emas) +-----+-----+ | productVendor | soni | +-----+-----+ | Autoart Studio Design | 8 | | Carousel DieCast Legends | 9 | | Classic Metal Creations | 10 | | Exoto Designs | 9 | | Gearbox Collectibles | 9 | | Highway 66 Mini Classics | 9 | | Min Lin Diecast | 8 | | Motor City Art Classics | 9 | | Red Start Diecast | 7 | | Second Gear Diecast | 8 | | Studio M Art Models | 8 | | Unimax Art Galleries | 8 | | Welly Diecast Productions | 8 | +-----+-----+ -"productVendor" ustuni bo'yicha guruhlang va har bir vendorda skladda nechta produkt borligini sonini va jami summasi chiqaring. +-----+-----+ | productVendor | soni | sum(quantityInStock*buyPrice) | +-----+-----+ +-----+-----+ | Autoart Studio Design | 30093 | 1487281.90 | | Carousel DieCast Legends | 40805 | 1921187.48 | | Classic Metal Creations | 45408 | 2855182.28 | | Exoto Designs | 44166 | 2484164.75 | | Gearbox Collectibles | 60495 | 3312774.67 | | Highway 66 Mini Classics | 37520 | 2179940.85 | | Min Lin Diecast | 50089 | 3051350.78 | | Motor City Art Classics | 43105 | 2382449.30 | | Red Start Diecast | 35046 | 2060495.26 | | Second Gear Diecast | 42865 | 2238738.81 | | Studio M Art Models | 42253 | 1282571.91 | | Unimax Art Galleries | 38191 | 2500751.38 | | Welly Diecast Productions | 45095 | 2777426.86 | +-----+-----+ -"productVendor" ustuni bo'yicha guruhlang. Skladda har bir vendorda jami 45000 dan ortiq produkt bor bo'lganlarni chiqaring +-----+-----+ | productVendor | soni | +-----+-----+ +-----+-----+ | Classic Metal Creations | 45408 | | Gearbox Collectibles | 60495 | | Min Lin Diecast | 50089 | | Welly Diecast Productions | 45095 | +-----+-----+ -"productVendor" ustuni bo'yicha guruhlang. Skladda har bir vendorda jami summasi 2000000 dan oshgan vendorlarni chiqaring +-----+-----+ | productVendor | summa | +-----+-----+ +-----+-----+ | Classic Metal Creations | 2855182.28 | | Exoto Designs | 2484164.75 | | Gearbox Collectibles | 3312774.67 | | Highway 66 Mini Classics | 2179940.85 | | Min Lin Diecast | 3051350.78 | | Motor City Art Classics | 2382449.30 | | Red Start Diecast | 2060495.26 | | Second Gear Diecast | 2238738.81 | | Unimax Art Galleries | 2500751.38 | | Welly Diecast Productions | 2777426.86 | +-----+-----+ +-----+-----+