

SQL queries – ORDER BY, SUM, GROUP BY, AVG, DISTINCT

The following are examples of queries ORDER BY, SUM, GROUP BY, AVG and DISTINCT.

- ORDER BY – allows you to alphabetically or numerically order a column

Tells the program to return the data (title column) in alphabetical order A to Z. For numerical columns ASC would order from 1 upwards.

```
SELECT title, category
FROM movie_table
WHERE title LIKE '*A*'
ORDER BY title ASC;
```

```
SELECT title, price
FROM movie_table
WHERE title LIKE '*A*'
ORDER BY price DESC;
```

Tells the program to return the data (price column) in numerical order highest to lowest. For alphabetical this would be ordering Z to A.

- SUM – Calculates the sum of a set of values

```
SELECT SUM (rentalcost) AS TotalRental
FROM Rentals;
```

Sum of the value of the rental cost column to find of the total rental and naming the result TotalRental.

- GROUP BY – to group the results by one or more columns

```
SELECT FirstName, AVG (Sales)
FROM Sales_table
GROUP BY FirstName;
```

Grouping together all the firstnames values.

- AVG – returns the average value

```
SELECT Avg(DVD.RentalCost) AS AverageCost
FROM DVD;
```

The average rental cost of DVD's.

- DISTINCT – returns only DISTINCT values and no duplicates

```
SELECT DISTINCT genre
FROM DVD;
```

Returns the listed genres of the films, with no duplicates.

Create the table representing AVON Sales figures and using all your knowledge so far about SQL queries, answer the following questions.

ID (PK)	Firstname	Sales	Saledate
1	Lindsay	£32.02	03/06/2007
2	Paris	£26.53	03/06/2007
3	Britney	£11.25	03/06/2007
4	Nicole	£18.96	03/06/2007
5	Lindsay	£9.16	03/07/2007
6	Paris	£1.52	03/07/2007
7	Britney	£43.21	03/07/2007
8	Nicole	£8.05	03/07/2007
9	Lindsay	£17.62	03/08/2007
10	Paris	£24.19	03/08/2007
11	Britney	£3.40	03/08/2007
12	Nicole	£15.21	03/08/2007
13	Lindsay	£0.00	03/09/2007
14	Paris	£31.99	03/09/2007
15	Britney	£2.58	03/09/2007
16	Nicole	£0.00	03/09/2007
17	Lindsay	£2.34	03/10/2007
18	Paris	£13.44	03/10/2007
19	Britney	£8.78	03/10/2007
20	Nicole	£26.82	03/10/2007
21	Lindsay	£3.71	03/11/2007
22	Paris	£0.56	03/11/2007
23	Britney	£34.19	03/11/2007
24	Nicole	£7.77	03/11/2007
25	Lindsay	£16.23	03/12/2007
26	Paris	£0.00	03/12/2007
27	Britney	£4.50	03/12/2007
28	Nicole	£19.22	03/12/2007

1. Write a query which displays the result below.



firstname
Paris
Nicole
Lindsay
Britney

```
SELECT DISTINCT firstname  
FROM avon_sales  
ORDER BY firstname DESC;
```

2. Can you write a query which calculates the total sales of the representative Nicole?
Name the column Nicole Total Sales.

```
SELECT SUM(sales) AS ['Total Nicole Sales']  
FROM avon_sales  
WHERE firstname = 'Nicole';
```

3. Can you write the query which produces the following result?

firstname	TotalSales
Britney	£107.91
Paris	£98.23
Nicole	£96.03
Lindsay	£81.08

```
SELECT firstname, SUM(SALES) AS TotalSales  
FROM avon_sales  
GROUP BY firstname  
ORDER BY SUM (Sales) DESC;
```

4. Can you write a query which calculates the average sales of each Avon representative? List the results by the representative's name.

```
SELECT firstname, AVG(Sales) AS AverageSales  
FROM avon_sales  
GROUP BY firstname;
```

5. Can you write the query which produces the following result?

Britney	£43.21
Lindsay	£32.02
Nicole	£26.82
Paris	£31.99

```
SELECT firstname, MAX (Sales)  
FROM avon_sales  
GROUP BY firstname;
```

6. Can you write the query which displays the minimum sales achieved by each Avon representative?

```
SELECT firstname, MIN (Sales)
FROM avon_sales
GROUP BY firstname;
```

7. Can you write a query that displays the number of days each representative sold?

```
SELECT firstname, COUNT(saledate)
FROM avon_sales
GROUP BY firstname;
```

8. Can you write the query that would produce the following result?

saledate
03/06/2007
03/07/2007
03/08/2007
03/09/2007
03/10/2007
03/11/2007
03/12/2007

```
SELECT DISTINCT saledate
FROM avon_sales
ORDER BY saledate;
```

```
SELECT firstname, SUM(Sales)
FROM avon_sales
GROUP BY firstname
ORDER BY SUM(Sales) DESC , LIMIT =2;
```

```
SELECT firstname, SUM(Sales)
FROM avon_sales
GROUP BY firstname
ORDER BY SUM(Sales) DESC;
```