SQL TIPS AND TRICKS

PART 22

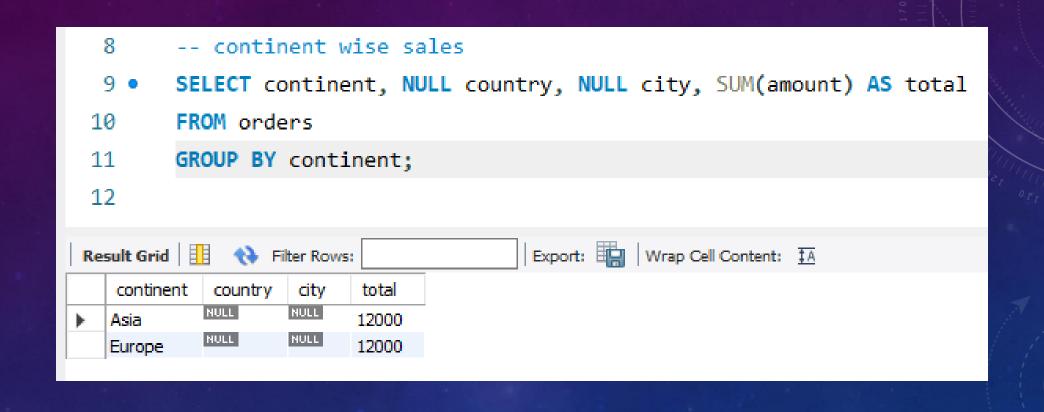**Beyond GROUP BY**

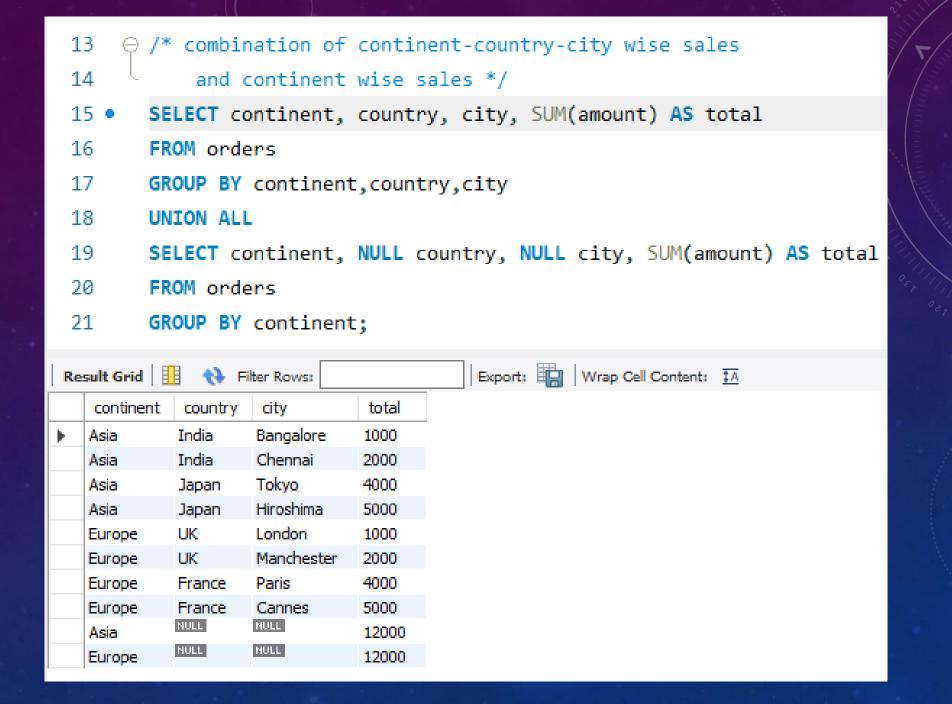**Rollup, Cube and Grouping Sets**

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Example--

id	continent	country	city	amount
1	Asia	India	Bangalore	1000
2	Asia	India	Chennai	2000
3	Asia	Japan	Tokyo	4000
4	Asia	Japan	Hiroshima	5000
5	Europe	UK	London	1000
6	Europe	UK	Manchester	2000
7	Europe	France	Paris	4000
8	Europe	France	Cannes	5000

```sql
3       -- normal group by
4 •     SELECT continent, SUM(amount) AS total
5       FROM orders
6       GROUP BY continent;
7
```

Result Grid | Filter Rows: | Export: | Wrap

continent	total
Asia	12000
Europe	12000

```sql
8        -- continent wise sales
9  •     SELECT continent, NULL country, NULL city, SUM(amount) AS total
10       FROM orders
11       GROUP BY continent;
12
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: IA

continent	country	city	total
Asia	NULL	NULL	12000
Europe	NULL	NULL	12000

```sql
13    /* combination of continent-country-city wise sales
14       and continent wise sales */
15 •  SELECT continent, country, city, SUM(amount) AS total
16    FROM orders
17    GROUP BY continent,country,city
18    UNION ALL
19    SELECT continent, NULL country, NULL city, SUM(amount) AS total
20    FROM orders
21    GROUP BY continent;
```

Result Grid | Filter Rows: | Export: | Wrap Cell Content: A

continent	country	city	total
Asia	India	Bangalore	1000
Asia	India	Chennai	2000
Asia	Japan	Tokyo	4000
Asia	Japan	Hiroshima	5000
Europe	UK	London	1000
Europe	UK	Manchester	2000
Europe	France	Paris	4000
Europe	France	Cannes	5000
Asia	NULL	NULL	12000
Europe	NULL	NULL	12000

```sql
13    /* combination of continent-country-city wise sales
14          and continent wise sales and continent-country wise sales
15          and overall sales */
16    -- Method 1
17    SELECT continent, country, city, SUM(amount) AS total
18    FROM orders
19    GROUP BY continent,country,city
20    UNION ALL
21    SELECT continent, NULL country, NULL city, SUM(amount) AS total
22    FROM orders
23    GROUP BY continent
24    UNION ALL
25    SELECT continent, country, NULL city, SUM(amount) AS total
26    FROM orders
27    GROUP BY continent, country
28    UNION ALL
29    SELECT NULL continent,NULL country, NULL city, SUM(amount) AS total
30    FROM orders;
```

```sql
-- Method 2
SELECT continent, country, city, SUM(amount) AS total
FROM orders
GROUP BY ROLLUP(continent,country,city);
```

continent	country	city	total
Asia	India	Bangalore	1000
Asia	India	Chennai	2000
Asia	Japan	Tokyo	4000
Asia	Japan	Hiroshima	5000
Europe	UK	London	1000
Europe	UK	Manchester	2000
Europe	France	Paris	4000
Europe	France	Cannes	5000
Asia	NULL	NULL	12000
Europe	NULL	NULL	12000
Asia	India	NULL	3000
Asia	Japan	NULL	9000
Europe	UK	NULL	3000
Europe	France	NULL	9000
NULL	NULL	NULL	24000

```sql
-- cube -it gives all the possible combinations
SELECT continent, country, city, SUM(amount) AS total
FROM orders
GROUP BY CUBE(continent,country,city);
```

```sql
    -- grouping sets- make group as per need
    SELECT continent, country, city, SUM(amount) AS total
    FROM orders
    GROUP BY GROUPING SETS ((continent,country),(city));

    SELECT continent, country, city, SUM(amount) AS total
    FROM orders
    GROUP BY GROUPING SETS ((continent,country),(city),(continent,city));
```

THANK YOU

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