5.4

Improving the GROUP BY Query

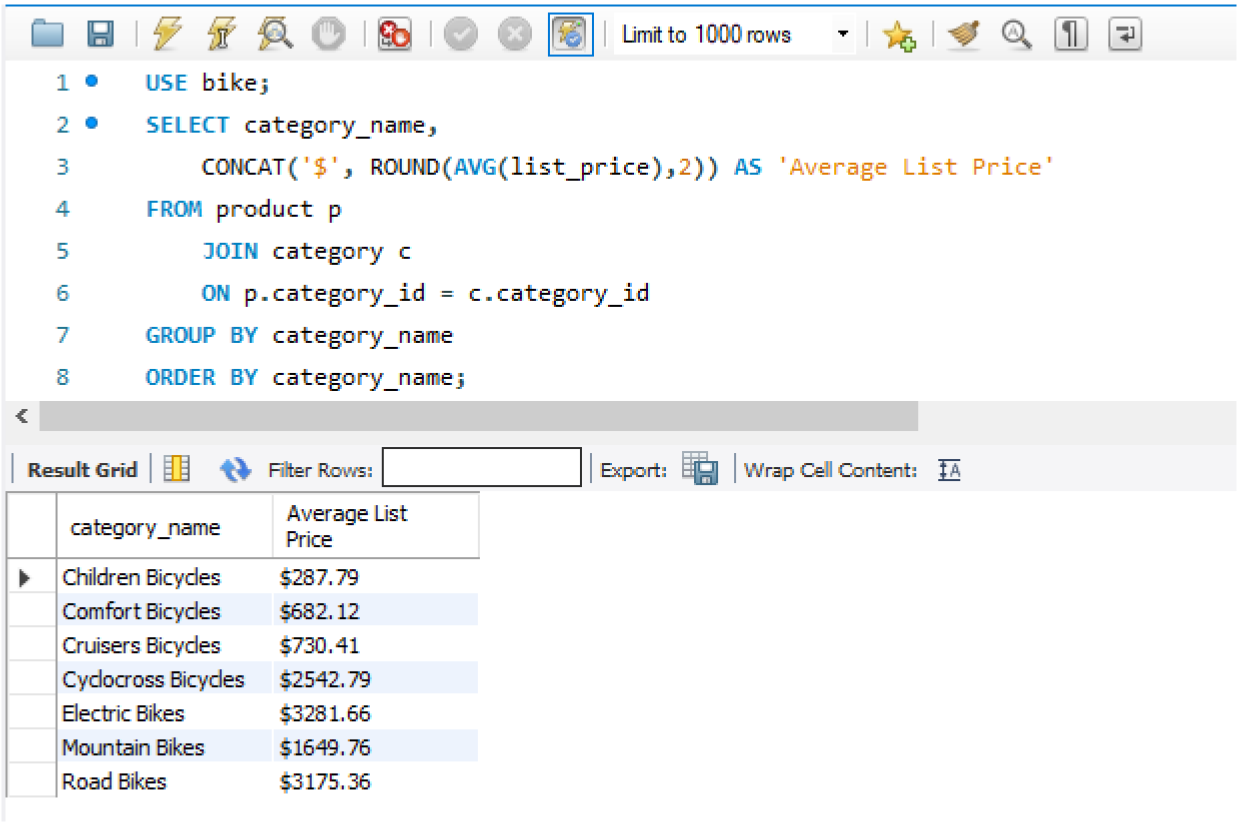
Improving the GROUP BY Query

- The report would be nicer if we showed the category name instead of the category_id. This will require joining the product table to the category table.
- We can **ROUND** the **AVG** list price by category to TWO decimals points.
- We can **CONCAT** the dollar sign to the left of the list_price.

Code Sample:

```
USE bike;
SELECT category_name,
    CONCAT('$', ROUND(AVG(list_price),2)) AS 'Average List Price'
FROM product p
    JOIN category c
    ON p.category_id = c.category_id
GROUP BY category_name
ORDER BY category_name;
```

Output:



```sql
USE bike;
SELECT category_name,
    CONCAT('$', ROUND(AVG(list_price),2)) AS 'Average List Price'
FROM product p
    JOIN category c
    ON p.category_id = c.category_id
GROUP BY category_name
ORDER BY category_name;
```

category_name	Average List Price
Children Bicycles	$287.79
Comfort Bicycles	$682.12
Cruisers Bicycles	$730.41
Cyclocross Bicycles	$2542.79
Electric Bikes	$3281.66
Mountain Bikes	$1649.76
Road Bikes	$3175.36

USE bike:

- Set the bike database to be the default

SELECT category_name,

CONCAT('$', ROUND(AVG(list_price),2)) AS 'Average List Price'

- Return the category_name from the category table.
- You do not have to qualify the column name with the table name because category_name only exists in one table of the join.
- Return the list price with the '$' followed by the list_price rounded to the 2nd decimal and assigned a column alias of 'Average List Price'.
- You do not have to qualify the column name of list_price because it exists in only one table of the join.

FROM product p

JOIN category c

ON p.category_id = c.category_id

- JOIN the product table to the category table
- Assign a table alias of "p" to product and "c" to category
- The join condition is the primary key of category_id from the category table equal to the foreign key of category_id in the product table.

GROUP BY category_name

- Instead of retrieving a single value with the average price of all products, return a list of average prices by category name.

ORDER BY category_name;

- Sort the results by category_name