

# Creating Order



# ORDER BY

- We have talked about the records in a table being unordered – their position in the table does not signify importance or order
- We can control the output – the order that information is displayed upon retrieval
- The ORDER BY clause helps to ensure that the result set is returned in a specified sequence



# ORDER BY

- It is **ALWAYS** the last clause in a SELECT statement
- Consists of the ORDER BY clause followed by the sort key

```
SELECT columns  
FROM table  
ORDER BY sort_column [ASC|DESC];
```

- The sort\_column is the sort key – the column that information will be ordered by
- ASC means ascending (lowest to highest)
- DESC means descending (highest to lowest)
- If no sort direction is listed, ascending is the default



# ORDER BY

```
SELECT productName, productLine, productVendor, quantityInStock  
FROM products  
WHERE productLine = 'Trains';
```

productName	productLine	productVendor	quantityInStock
Collectable Wooden Train	Trains	Carousel DieCast Legends	6450
1950's Chicago Surface Lines Streetcar	Trains	Gearbox Collectibles	8601
1962 City of Detroit Streetcar	Trains	Classic Metal Creations	1645



# ORDER BY

Show the trains we have – show the product name, the line, the vendor and the quantity in stock from the least to most (ASC is the default)

```
SELECT productName, productLine, productVendor, quantityInStock
FROM products
WHERE productLine = 'Trains'
ORDER BY quantityInStock;
```

productName	productLine	productVendor	quantityInStock
1962 City of Detroit Streetcar	Trains	Classic Metal Creations	1645
Collectable Wooden Train	Trains	Carousel DieCast Legends	6450
1950's Chicago Surface Lines Streetcar	Trains	Gearbox Collectibles	8601



# ORDER BY

Show the trains we have – show the product name, the line, the vendor and the quantity in stock from the most to the least

```
SELECT productName, productLine, productVendor, quantityInStock
FROM products
WHERE productLine = 'Trains'
ORDER BY quantityInStock DESC;
```

productName	productLine	productVendor	quantityInStock
1950's Chicago Surface Lines Streetcar	Trains	Gearbox Collectibles	8601
Collectable Wooden Train	Trains	Carousel DieCast Legends	6450
1962 City of Detroit Streetcar	Trains	Classic Metal Creations	1645



# ORDER BY – multiple columns

Show the products we have – show the product name, the line, the vendor and the quantity in stock from the least to most and show them by category in alphabetical order

```
SELECT productName, productLine, productVendor, quantityInStock
FROM products
ORDER BY productLine ASC, quantityInStock DESC;
```

1928 British Royal Navy Airplane	Planes	Classic Metal Creations	3627
1900s Vintage Tri-Plane	Planes	Unimax Art Galleries	2756
P-51-D Mustang	Planes	Gearbox Collectibles	992
F/A 18 Hornet 1/72	Planes	Motor City Art Classics	551
The USS Constitution Ship	Ships	Red Start Diecast	7083
The Queen Mary	Ships	Welly Diecast Productions	5088
1999 Yamaha Speed Boat	Ships	Min Lin Diecast	4259
HMS Bounty	Ships	Unimax Art Galleries	3501



# ORDER BY

Insert some records in a table – empty string, word, Word, 2 and 123

```
SELECT *  
FROM order_test  
ORDER BY order_string;
```

4	
1	123
5	2
2	word
3	Word

- Numerical data sorts from smaller to larger
- String data sorts alphabetically
- Temporal data sorts chronologically





# Sorting

- Three(3) factors affect sorting speed
  1. The number of rows selected (more rows, slower sorting)
  2. Number of columns in the ORDER BY clause (more columns, slower sorting)
  3. Length of columns (longer the columns, slower the sorting speed)
- Recommend restricting the sort to the minimum number of rows required.
- The sort column does not have to appear in the list of columns, but without it there is no reference for the order

