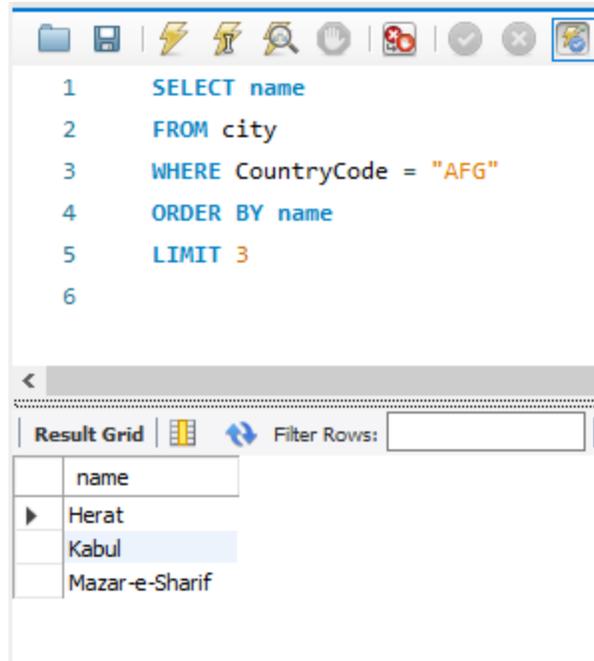# 1.1

The Five Clauses of the SELECT Statement

The Five Clauses of the SELECT statement

- SELECT – the columns in the result set
- FROM – names the base table(s) from which results will be retrieved
- WHERE – specifies any conditions for the results set (filter)
- ORDER BY – sets how the result set will be ordered
- LIMIT – sets the number of rows to be returned

The clauses MUST appear in the order shown above.

Code Example:
```
1    USE world;
2    SELECT name
3    FROM city
4    WHERE CountryCode = "AFG"
5    ORDER BY name
6    LIMIT 3
```

Results:

Let us break the statement line by line:

USE world;

- The **USE** clause sets the database that we will be querying. You typically have more than one database on your database server. You have to specify which database you are working in.
- The semicolon "**;**" indicates the end of a statement. You can execute multiple statements in sequence by defining each statement with a semicolon

SELECT name

- The **SELECT** clause defines the columns and column order that you want to retrieve in your results set. If you want to retrieve all of the columns from the base table you can simply use SELECT *
- You separate each column name with a comma "," ex., SELECT name, CountryCode
- There is no trailing comma at the end of a column list

FROM city

- The **FROM** clause specifies the table that the results will be coming from
- You can specify multiple tables by using a JOIN clause, but we will address that topic at a future time

ORDER BY name

- The **ORDER BY** clause is not required but when used it defines the sort order of the results
- By default, the sort order is ascending. This is *implicit* However, you can use *explicit* syntax of ASC. If you want the sort, order to be descending you can use the keyword DESC.
- You can specify more than one column in an Order By statement separated by commas. The sort order *DESC, ASC* applies to each column individually. Below IS some examples
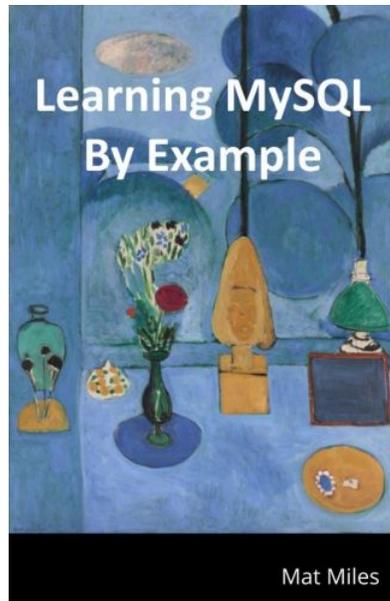
- ○ **ORDER BY** population ASC, name DESC
- ○ **ORDER BY** population, name (ASC is always implied if not explicitly stated)

LIMIT 5;

- If you only want to return a specified number of rows from the result set, you can use the LIMIT clause. This can be helpful when you want to test a query for accuracy that could potentially bring back a very large number of rows.
- The semicolon; defines the end of the statement.

Table 1. Column Specifications

Source	Option	Syntax
Base Table Value	**Show all columns**	
Base Table Value	Column Name	Comma-separated list of column names
Calculated Value	Calculation result	Arithmetic expression
Calculated Value	Calculation result	Functions

Miles, M. (2021). *Learning MySQL By Example*. EdTech Books. https://edtechbooks.org/learning_mysql