ℹ️ Managing and querying attribute data in Context

"Attribute data is information appended to spatial data or in some instances there is no relation to spatial data. Interrogating the attribute table allows us to answer questions like : How,where,why? "

In this module we explore the meaning and relationships that occur between features from the attribute table.
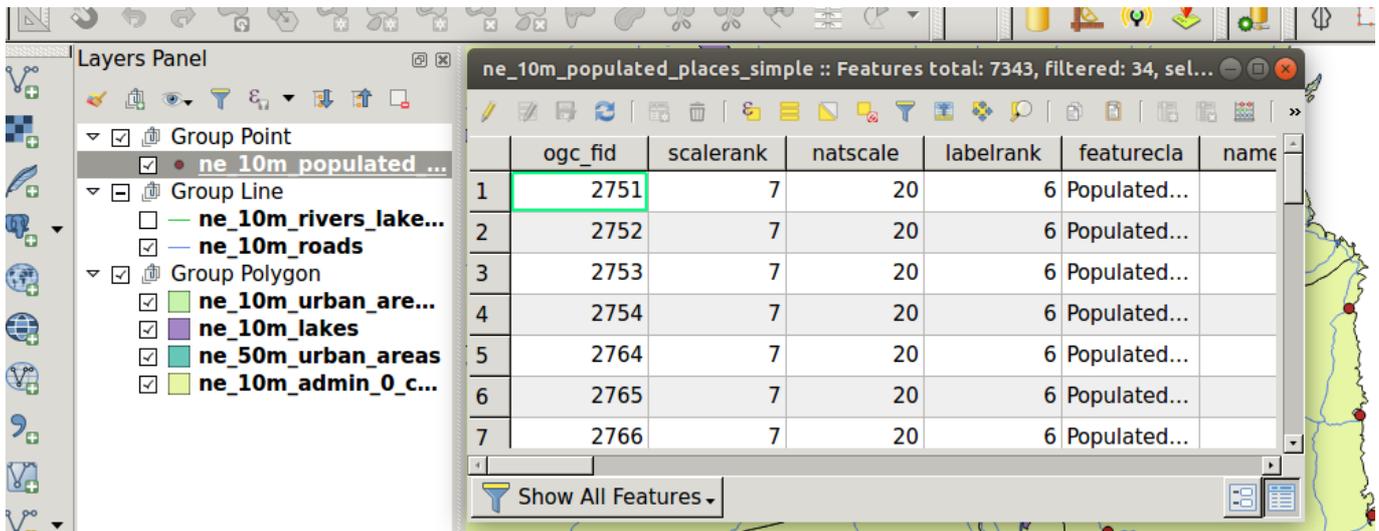
You try:

Goal: To learn attribute table basics and basic query.

- Open the project file.
- Open the attribute table for a populated place.
- Filter the layer using the query field to show all points in 'Mozambique'
- Select all places where the pop_max > 100000.

What is the difference between filter and select ?

- Open the rivers lake layer and select features using the river column where the value is 'Lake Centerline'
- Write an expression to select all rivers with names.
- Select all rivers that have a name with special characters like '?'. Hint use the LIKE expression.
- Edit the rivers layer and substitute all occurrences of the Ascii characters (eg ?) with an underscore(_) in the name field.

How is the GIS rendering the features when there is no geometry column in the table ?

Name	Expectation
data path	attribute_table.qgs

Query field	"sov0name"
River column	feature_cla
replace	regexp_replace("name" ,'\W+','_')

![info icon] **More about**

Attribute values can be defined with respect to nominal, ordinal, interval and ratio scales of measurement. The scale of measurement in the data determines the kind of mathematical operations that can be performed on the data. Nominal data is best shown using graphic symbols and icons i.e. hospital represented by an icon. Ordinal data is represented by using a hierarchy of graphical symbols. Interval data and ordinal data have four classification themes which are Natural breaks, Quantile breaks, Equal interval breaks and standard deviation.

By looking at the attribute table a user is able to understand the data and establish patterns that occur. When querying attribute table a user uses expressions to select the features meeting specific criteria. Selecting features is a processing of selecting based on certain criteria i.e. values in a specific column. Filtering is the processing of selecting a subset of features from the attribute table based on an expression. The expression is also based on values that appear in a single column or multiple columns.

![check icon] **Check your knowledge:**

1. What is symbology:
   - a. A GIS technique that is used on raster layers
   - b. A vector type that is only available in the open source world.
   - c. The representation of point with graphic features.

2. Which of these is following statements is true:
   - a. Attribute table are separate entities to the features shown in the map area.
   - b. The geometry of features is always visible in an attribute table.
   - c. An attribute table does not show the geometry column.

3. Does raster data have attribute table:
   - a. True
   - b. False

![book icon] **Further reading:**

- Attribute_table: https://docs.qgis.org/2.18/en/docs/user_manual/working_with_vector/attribute_table.html
- Expression: https://docs.qgis.org/2.18/en/docs/user_manual/working_with_vector/expression.html