KMVQL (Karnaugh Map-based Visual Query Language) is a graphical user interface based on Karnaugh maps. It can be used as a visual query language and as a visualization tool to help users formulating Boolean queries and analyzing the query results.

A Karnaugh map (K-Map) is a two-dimensional tabular layout of a truth table. It represents each of the $2^n$ queries from $n$ input variables as one cell of a table making the simplification of Boolean expressions easy and intuitive. Using a K-Map, specifying a Boolean query accounts to selecting cells in the K-Map.

As the number of input variables increases, the size of a K-Map grows exponentially, making it difficult to understand and use.

To alleviate this problem, KMVQL uses color coding principle to enhance the K-Map display and make it easier to understand and use.

**Components of KMVQL**

KMVQL incorporates dynamic query techniques in the form of K-Maps. It is composed of four basic components:
- data source
- attribute value control window
- K-Map control window
- final visualization

**Features**

Visual Query Language
- Specify Boolean queries graphically by selecting cells in the K-Map.
- Construct complex hierarchical queries:
  - Previously constructed K-Maps can be stored.
  - The stored K-Maps can be used as control widgets or data source of a new K-Map to construct hierarchical queries.

Visualization Tool
- Reveals the relationship between query terms and data sets, shows the contribution of each query term to the query results.
- Provides a partial ordering of the results.
- Can be used as a visualization spreadsheet and incorporate with various visualization methods.