 query is an expression that retrieves data from a data source. Queries are expressed in a dedicated query language. Over time, different languages have been developed for different types of data sources.

LINQ is a set of features introduced in Visual Studio 2008 that extends powerful query capabilities to the language syntax of Visual Basic.

Benefit of LINQ:

* Makes it easier to transform data into objects
* A common syntax for all data.
* Provider integration. Pulling together data sources is very easy
* that you can query across relationships without having to join

There are three stages of a query operation.

1. Get the data source.
2. Define the query expression.
3. Execute the query to return the results.

The source could be integer, string, SQL, or XML.

There is three clauses to sort and filter the source From, Where, and Select.

The LINQ store query results in a variable and executed later

To filter

1. From
2. Where
3. Order the data
4. Select data

To do unique select you should add **Distinct()**

The differences between immediate execution and deferred execution is ***deferred execution*** stored in the query variable, executed later and ***immediate execution*** stored in a query variable for later execution.