This module shows how to analyse data using LINQ.

Mean – the average

Median – the middle value. Useful for ignoring outlier values.

Mode – the number that occurs the most

Totaling is one form of data. Use the LINQ sum method that takes a Selector to sum on a property.

Decimal theSum = theList.Sum( x => x.propertyToTotal)

GroupBy

* Single property. Group data based on a single property
* Multiple properties
* Parent property. E.G. the object type. Person, Customer, Employee.

Dynamic type allows to bypass compile time checking.

GroupBy has

* KeySelector. What to group by
* ElementSelector. What value to use
* ProjectionSelector. How to present the data.

The above is one overload of GroupBy.

KeyValuePair – Similar to a dictionary.

System.Windows.Controls.DataVisualisation.Toolkit – for presenting data. WPF.

**Mean, Median and Mode**

Mean – average, Median – Middle, Mode – Highest occurrence

LINQ has an Average method that takes a selectorKey to average by.

To calculate the median we have to do it the long way: get count, find middle element.

To calculate mode, groupBy the mode Selector, OrderBy count.