CODE **EX :**

int x = (int)dt\_auList.Compute("Count(num)", "auDepID=4");

//Count "dt\_List" Datable 裡面 NUM 的數量

// audept的數值需要等於4

**1.前言:**

如果要對DataTable中的特定欄位做資料分析，在不使用其他第三方函式庫的情況下，可以用Compute方法來做基本的數值計算。

**2.說明:**

用法: DataTable.Compute( string expression, string filter)

支援以下聚合函數:

•Sum (Sum)

•Avg (Average)

•Min (Minimum)

•Max (Maximum)

•Count (Count)

•StDev (Statistical standard deviation)

•Var (Statistical variance)

使用上要注意的是欄位的型態需要是數值型態，如果是字串型態，可以簡單定義一個新欄位為數值型，再複製要計算的欄位資料做資料分析，否則會出現彙總函式和型別的無效用法: String錯誤訊息。

有關DataTable.Compute()的說明可參考:

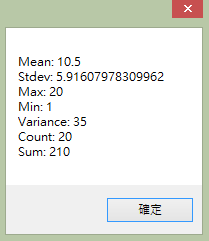
<http://msdn.microsoft.com/en-us/library/system.data.datatable.compute(v=vs.100).aspx>

程式碼:

[?](http://einboch.pixnet.net/blog/post/279208343)

|  |  |
| --- | --- |
| 1  2  3  4  5  6  7  8  9  10  11  12  13  14  15  16  17  18  19  20  21  22  23  24  25  26  27  28  29  30  31  32  33  34  35  36  37  38  39  40  41  42  43  44  45  46  47  48  49  50  51  52  53  54  55  56  57  58  59  60  61  62  63  64  65  66  67  68  69  70  71  72  73  74 | **private** **void** btCalc\_Click(**object** sender, EventArgs e)  {  **double** mean, stdev, max, min, variance, count, sum;      DataTable dt = TxtConvertToDataTable(@"d:\tmp\dt.csv", "tmp", ",");//讀取資料        dt.Columns.Add("tmpColumn", **typeof**(**double**), "Convert(data, 'System.Double')");//加入暫存欄位，將資料中string的型態轉為double型態        mean = (**double**)dt.Compute("Avg(tmpColumn)", **string**.Empty);      stdev = (**double**)dt.Compute("Stdev(tmpColumn)", **string**.Empty);      max = (**double**)dt.Compute("Max(tmpColumn)", **string**.Empty);      min = (**double**)dt.Compute("Min(tmpColumn)", **string**.Empty);      variance = (**double**)dt.Compute("Var(tmpColumn)", **string**.Empty);      count = (**int**)dt.Compute("Count(tmpColumn)", **string**.Empty);      sum = (**double**)dt.Compute("Sum(tmpColumn)", **string**.Empty);        dt.Columns.Remove("tmpColumn");//移除暫存欄位        MessageBox.Show("Mean: "+mean+"\r\n"          + "Stdev: " + stdev + "\r\n"          + "Max: " + max + "\r\n"          + "Min: " + min + "\r\n"          + "Variance: " + variance + "\r\n"          + "Count: " + count + "\r\n"          + "Sum: " + sum + "\r\n"          );  }    **public** DataTable TxtConvertToDataTable(**string** File, **string** TableName, **string** delimiter)  {      DataTable dt = **new** DataTable();      DataSet ds = **new** DataSet();      StreamReader s = **new** StreamReader(File, System.Text.Encoding.Default);  **string**[] columns = s.ReadLine().Split(delimiter.ToCharArray());      ds.Tables.Add(TableName);  **foreach** (**string** col **in** columns)      {  **bool** added = **false**;  **string** next = "";  **int** i = 0;  **while** (!added)          {  **string** columnname = col + next;              columnname = columnname.Replace("#", "");              columnname = columnname.Replace("'", "");              columnname = columnname.Replace("&", "");    **if** (!ds.Tables[TableName].Columns.Contains(columnname))              {                  ds.Tables[TableName].Columns.Add(columnname.ToUpper());                  added = **true**;              }  **else**              {                  i++;                  next = "\_" + i.ToString();              }          }      }    **string** AllData = s.ReadToEnd();  **string**[] rows = AllData.Split("\n".ToCharArray());    **foreach** (**string** r **in** rows)      {  **string**[] items = r.Split(delimiter.ToCharArray());          ds.Tables[TableName].Rows.Add(items);      }        s.Close();        dt = ds.Tables[0];    **return** dt;  } |

圖例:



來自 <<http://einboch.pixnet.net/blog/post/279208343-c%23%E4%B8%AD%E5%88%A9%E7%94%A8datatable.compute()%E6%96%B9%E6%B3%95%E5%B0%8D%E8%B3%87%E6%96%99%E6%AC%84%E4%BD%8D%E5%81%9A%E6%95%B8%E5%80%BC>>