

XILDS

Microsoft Excel Add-In

solution for your daily data processing

U S E R ' S M A N U A L

By

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01 May 2006

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1. INTRODUCTION

1.1 What is XLDS

XLDS is a Microsoft Excel add-in which adds powerful features to Excel and enhance Excel's data querying/importing capabilities. An add-in is a supplemental program that adds custom commands or custom features to Microsoft Office. XLDS add-in was written 100% in VBA, Microsoft Office's built-in programming language for automation of the Office suite.

The sole purpose of XLDS is to develop an automation tool to help Excel users to speed up their daily data processing work and thus improve their work efficiency. XLDS welcomes any suggestions/comments to improve and enhance the tool's capabilities and thus benefit the whole Excel user community!

1.2 System Requirement for XLDS

XLDS was developed and tested under Microsoft Excel 2003 and Windows XP environment. It may also work under other previous version of Excel and Windows.

1.3 How to Receive Free Evaluation Version of XLDS

User can receive a free copy of the evaluation version of XLDS via one of the following three options:

- a. Download the add-in file from <http://www.xldatasoft.com>;
- b. Send an email to ychen@xldatasoft.com and request a free copy;
- c. Ask friends/colleagues to forward their copy to you if they have one.

1.4 Distribution of XLDS

XLDS is a shareware, which user can distribute freely to anybody to evaluate. All individuals and magazines can distribute XLDS without prior written authorization from the author. However, when user distribute to others, all the files should be distributed together as a package, which includes the add-in file, the license agreement and this help file.

1.5 How to Install

First, user needs to save the *XLDS.xla* and *licenseagreement.txt* files anywhere on your hard disk, then follow the following steps:

1. Run Microsoft Excel;

2. Go to menu: Tools / Add-Ins...;
3. Click browser button, and select XLDS.xla File if XLDS is not in the available list;
4. Make sure the checkbox for XLDS addin is checked.

After the installation completed, a submenu name “XLDS...” will be added to your “Tools” menu.

When use the XLDS add-in first time, user will be asked to agree with the license agreement, if user does not agree with the agreement, then the submenu will be removed and user can not use the XLDS add-in.

1.6 How to Start XLDS Interface

XLDS interface menu/dialog can be stated using one of the following two options:

- a. Use short cut key combination “Alt+X”
- b. Use menu “Tools” and the click “XLDS...”

1.7 How to Uninstall

If just want to remove the XLDS submenu from “Tools” menu, then

- a. Run Microsoft Excel;
- b. Go to Menu: Tools / Add-Ins...;
- c. Uncheck the XLDS checkbox.

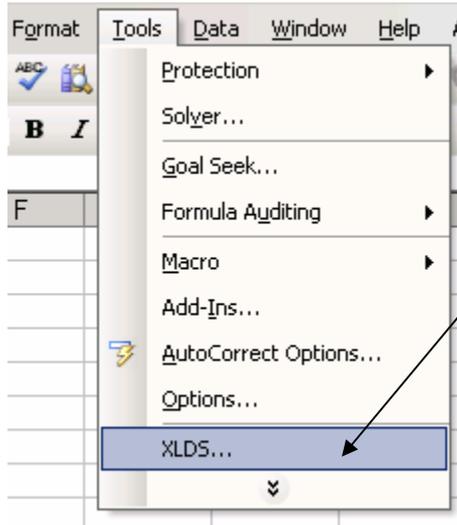
User can have the XLDS submenu back by checking the XLDS checkbox. If want to remove XLDS completely from computer, then user have to delete all the XLDS files from computer.

1.8 Technical Support

If XLDS does not work properly in user's computer system/environment, or user discovers bugs within the program, or user just has some general comments/suggestions about this tool, please feel free to contact the author via email at ychen@XLDataSoft.com. The author will try his best to fix the bugs, incorporate the suggestions to enhance the capability of XLDS. But the author does not guarantee this.

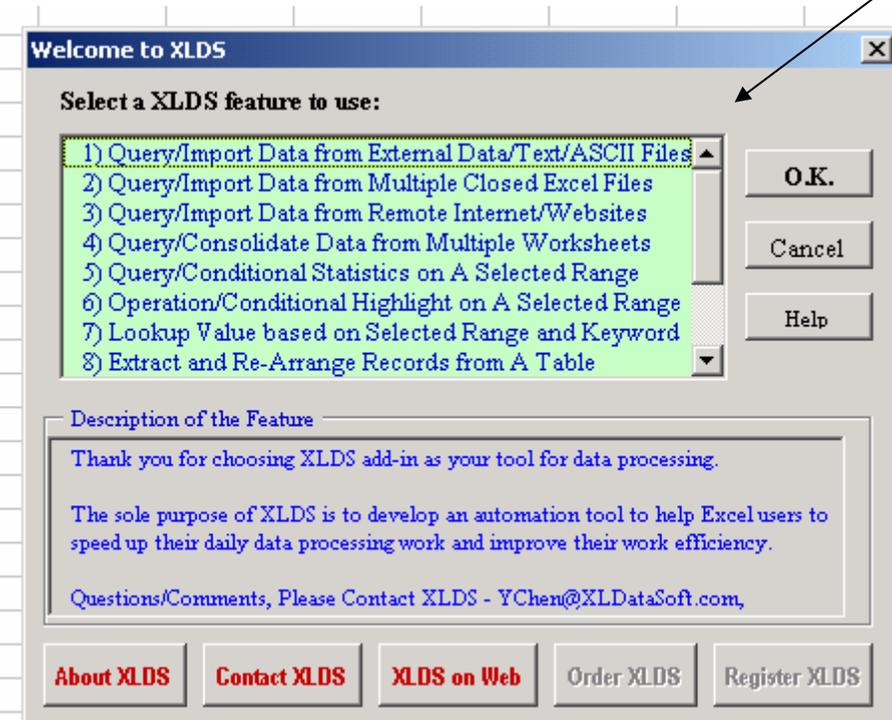
2. XLDS FEATURES

2.1 XLDS Submenu and Interface



XLDS provides user a standard Windows submenu, which can be access via Tools>XLDS...

XLDS also provides user a standard Window dialog interface for features selection.



2.2 XLDS Features

XLDS is one of its kind add-in specializing in the data querying, which includes data import from multiple external ASCII files, data extracting from multiple closed Excel workbook files, data query from internet, data consolidation from multiple worksheets, data search within one range, etc..

The following is the list of features XLDS provide to users:

- Query/Import Data from External Data/Text/ASCII Files
- Query/Import Data from Multiple Closed Excel Files
- Query/Import Data from Remote Internet/Websites
- Query/Consolidate Data from Multiple Worksheets
- Query/Conditional Statistics on A Selected Range
- Operation/Conditional Highlight on A Selected Range
- Lookup Value based on Selected Range and Keyword
- Extract and Re-Arrange Record from A Table
- Compare Same Range of Two Different Sheets
- Chart Operation
- Assign Shortcut Keys
- Create Sheets Summary
- User-Defined Functions

2.2.1 Query/Import Data from Multiple External Data/Text/ASCII Files

This feature is used to import data from multiple external text files. The external files can be stored under the same main directory but different subdirectories. Once the import criteria are setup, useful data can be imported directly into Excel table from hundreds of files. Of course, all the external files to be imported should have similar data arrangement, like output files from the same program.

The import criteria can be setup using absolute line/column numbers within the files, or relative line/column number comparing to a specific searchable keyword.

This feature is very useful when user work on a sensitivity study and want to create a summary table. Because all the output files are create from same program and thus have similar data arrangement.

2.2.2 Query/Import Data from Multiple Closed Excel Workbook Files

This feature is used to extract useful information from multiple close Excel workbook files. These workbook files can be stored under the same main directory but different subdirectories. Once the import criteria are setup, desired data can be directly imported into Excel table without opening those workbook files.

The import criteria can be setup using absolute row/column numbers within a specific worksheet.

This feature is very useful when user have many workbook files saved/received from same template/pre-formatted table and want to create a summary table.

2.2.3 Query/Import Data from Remote Internet/Websites

This feature is used to extract real-time valuable information from internet, such as daily stock prices, product inventory and prices, etc.

The import criteria can be setup using webpage URL address, keyword to search and the relative position of the useful data to the keyword.

2.2.4 Query/Consolidate Data from Multiple Worksheets

This feature is used to consolidate information from multiple worksheets into one single summary table.

The consolidate criteria can be setup using source data range, keyword to search and the relative position of the useful data to the keyword.

This feature is very useful when user have many sheets with similar data arrangement/format.

2.2.5 Query/Conditional Statistics on a Specific Range

This feature is used to perform statistical analysis (Max, Min, Sum, Count, Average, etc.) under multiple conditions and thus achieve MaxIF, AverageIF, etc. functionalities.

This feature is a simplified database query and is very useful for query data table under multiple conditions.

2.2.6 Operation/Conditional Highlight on a Selected Range

This feature is used to do operation on a selected range, such as insert/remove text, insert/remove spaces, change cases, math calculation, add unit name, unit conversion, replace strings, replace error with specified strings, replace formula with value, replace name with address, etc.

This feature can also used to highlight cells based on user specified criteria: highlight the maximum value, minimum value, values with a range, difference between rows/columns, every N rows/columns, cell with formula, cell with link to other worksheet/workbook, etc.

2.2.7 Lookup Value Based on Select Range and Keyword

This feature is used to lookup values based on specified keyword and the relative position of the returning value to the keyword.

The lookup criteria can be setup by specifying the range to search, keyword to search, and relative position of the returning value to the keyword – rows below/above the keyword and

columns to the right/left of keyword. The keyword can be a formula, like the maximum value of the range, etc.

2.2.8 Extract and Re-Arrange Record from a Table

This feature is used to re-arrange the records in a table, such as extract one record at a time for plotting chart or other process, re-organize the table as one-record-one row, different record different row, etc. This is a very powerful feature for re-arranging data.

2.2.9 Compare Same Range of Two Different Sheets

This feature is used to find the difference between two worksheets. The comparison can be either on values or on formula.

2.2.10 Chart Operation

This feature includes two handy chart operations: dynamically add label to a chart series (link the label to a range) and link chart title to a range.

2.2.11 Assign Shortcut Keys

This feature is used to assign shortcut keys to several most frequently used actions: paste special/value, paste special/formula, paste special/format, paste special/transpose. For example, user can assign ctrl+shift+v for paste special /value.

2.2.12 Create Sheet Summary

This feature is used to sort all sheets tab in a workbook and create a summary sheet, which lists all the sheets in the file and has link to each individual sheet. This is very useful, especially for those workbooks with >10 sheets.

2.2.13 User-Defined Functions

Function XLDSSearch

Search a value in a range and returns a value based on the specified relative position.

Function XLDSXtrValues

Parse a text string based on the specified delimiters/separators which dividing the string into an array of substrings, and then extract a substring from it.

Function XLDSRef

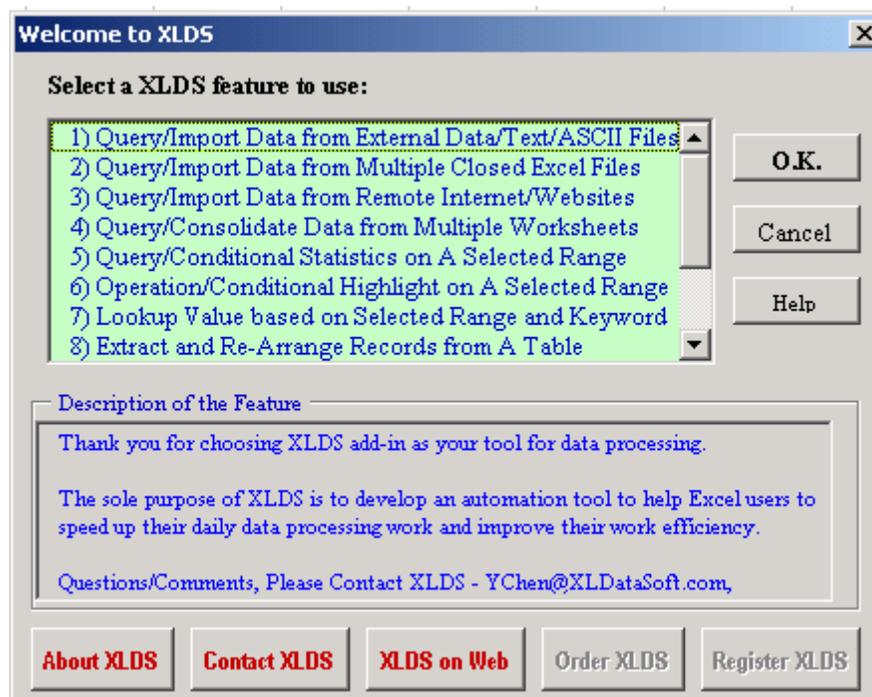
Create a range reference based on provided top-left corner cells row and column number, row height, column height and sheet's name.

3. USAGE OF XLDS – HOW TO ...

2.1 XLDS Startup Menu

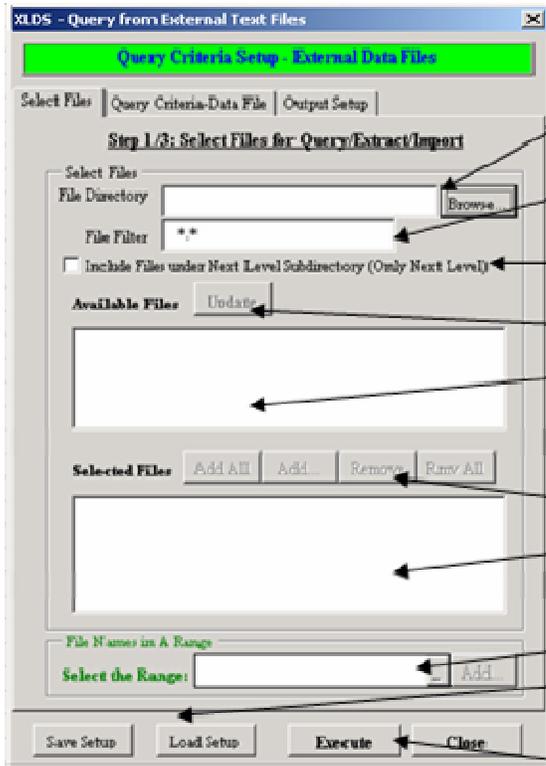
The following figure shows the startup menu of XLDS. User can choose any desired features of XLDS by select the feature from the list box and click OK button or just double click the feature in the list.

The bottom box shows the description of the selected feature. The disabled buttons are currently unavailable, and it does not affect any functionality of the XLDS add-in.



2.2 Query/Import Data from Multiple External Data/Text/ASCII Files

The setup for this feature includes three steps: selected files for import, criteria setup and output setup. The following figures show the file selection setup and value lookup setup.



Select file main directory

Set file filter. For external files, it can be *.txt, *.dat, *.out, etc. For closed workbook, it can only be *.xls

Specify whether want to include files under immediate subdirectory (only one level down)

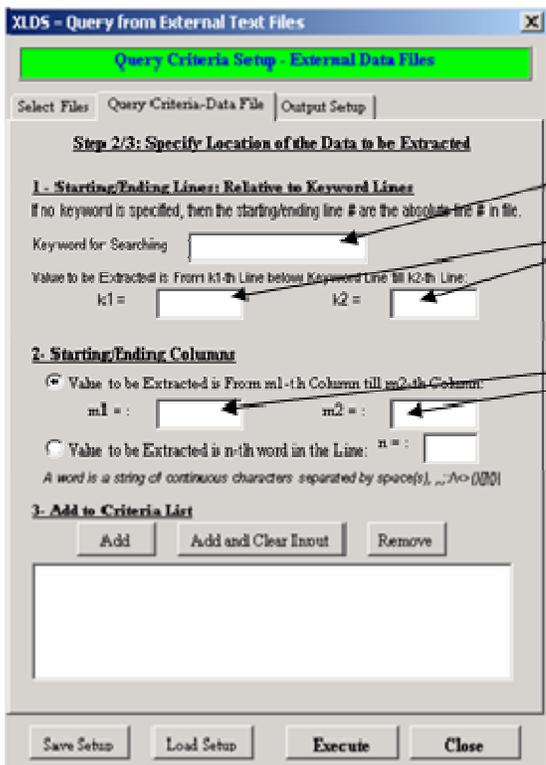
Add all the files which in the specified directory and meet the file filter criteria to the available file list.

Add/remove files to/from the selected files for importing. Files in this list box will be processed.

This feature currently is unavailable.

Save current setup (including steps 1 to 3) for future use or load previous saved setup.

Execute the query or cancel the operation



Specify keyword for search. It can be empty which means not search keyword

Specify relative positive of the returning value to the keyword. If no keyword is specified, then these values are relative to the beginning of the file (positive only).

Specify position of the returning value within its line. It can either be specified as from column to column or as the sequential number of the words.

The following figure shows part of a text file. If the user wants to extract the following values: TotDisplacement, Spar_Keel_Draft and Spar_Deck_Draft, then the value lookup setup can be like one of the following:

Setup -2a

Keyword for search: **TotDisplacement**

K1 and K2 value: **K1 = 0** and **K2 = 3** (*K1 = 0 means the same line as keyword, K2=3 is the line with Spar_Deck_Draft*)

Use value to be extracted is the n-th word in line, **n = 3** (*there are three words in line*)

Or use value to be extracted is from m1-th to m2-th column: **m1 = 20** and **m2= 30**

Setup -2b

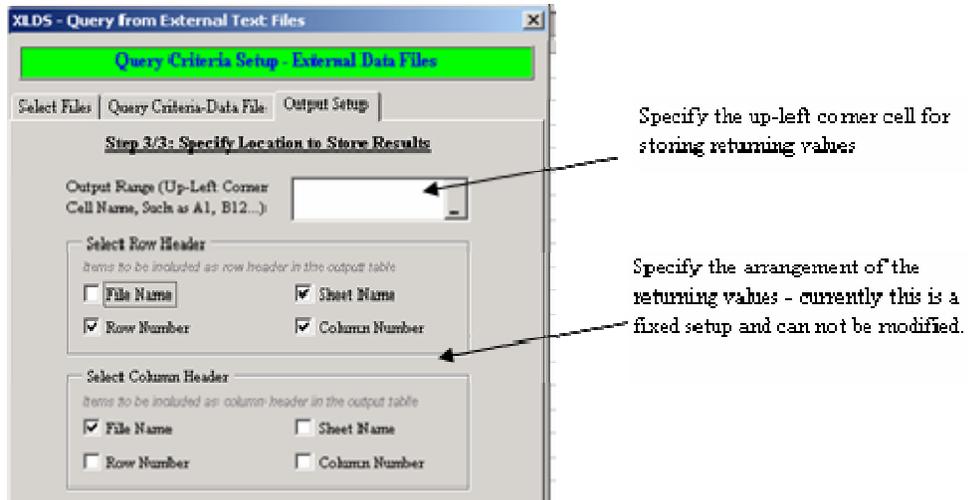
Keyword for search: **(no)** (*use absolute line number*)

K1 and K2 value: **K1 = 284** and **K2 = 286** (*absolute line number*)

Use value to be extracted is the n-th word in line, **n = 3** (*there are three words in line*)

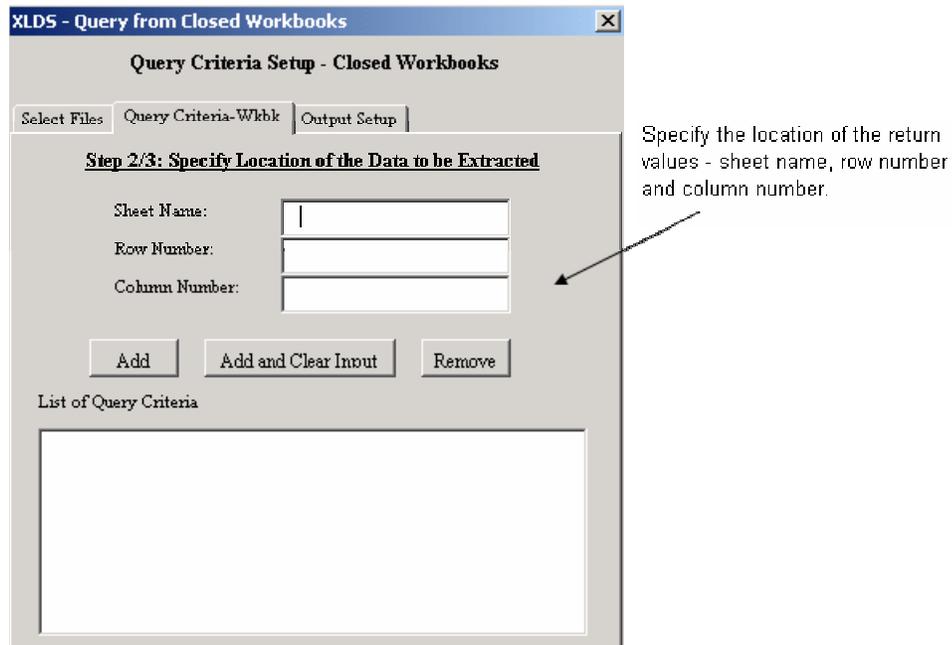
```

258 Process is DEFAULT: Units Are Degrees, Feet, and
259 Results Are Reported In Body Sy
260
261 Draft = -31.06 Roll Angle = 0.00 P
262
263 Wet Radii Of Gyration About
264
265 K-X = 40.95 K-Y = 138.47 K
266
267 GMT = 2.17 GML = 944
268
269 /-- Center of Gravity ---/
270 Name Weight ---X--- ---Y--- ---Z---
271 ----- Part TSPAR -----
272 LOAD_GRO 51537.0 337.26 0.43 0.86
273 --- Contents ---
274 HARD1_3 502.6 313.05 -44.57 -37.18
275 HARD1_4 8014.7 313.01 0.00 -46.32
276 =====
277 Total 60054.3 333.82 0.00 -5.75
278 Buoyancy 60050.0 333.86 0.00 -44.81
279
280 *****
281 ----- Equilibrium Position -----
282 *****
283
284 TotDisplacement = 6.005003E4
285 Spar_Keel_Draft = -32.9425
286 Spar_Deck_Draft = -33.58528
287 Spar_Pitch_Angl = 6.635698E-2
288 Spar_Roll_Angle = 2.406327E-3
289 Spar_GMT_Values = 2.173854
290
291 *****
    
```



2.3 Query/Import Data from Multiple Closed Excel Workbook Files

The setup for this feature is similar as the setup for external data files except for step 2.



The following shows an example setup. Assume that the user receives hundreds of spreadsheet based enrollment form like the following one and wants to create a member directory table, then the setup can be like: (assume sheet name is enroll)

Sheet Name: enroll	Row =9	Column = 4	(for last name)
Sheet Name: enroll	Row =9	Column = 7	(for first name)
Sheet Name: enroll	Row =12	Column = 4	(for email address)
Sheet Name: enroll	Row =13	Column = 4	(for home phone)

	A	B	C	D	E	F	G	H	I	J	K
6	Member Enrollment Form										
7											
8											
9	Last Name <input type="text"/>			First Name <input type="text"/>			Chinese Name <input type="text"/>				
10											
11	Contact Information:					HUST Information					
12	Email Address (Req'd) <input type="text"/>					School Stayed (Req'd) <input type="text"/> New HUST <input type="text"/> Old HUST <input type="text"/> Old Tongji <input type="text"/> Other <input type="text"/>					
13	Home Phone (Req'd) <input type="text"/>					Department Stayed (Req'd) <input type="text"/>					
14	Office Phone <input type="text"/>					Highest Degree from HUST <input type="text"/> Post Ph.D Master Bachelor Associate Faculty Others					
15	Cell Phone <input type="text"/>					Year Entered HUST (Req'd) <input type="text"/>					
16	Personal/Business Website <input type="text"/>					Province/City Born in China <input type="text"/>					
17											
18	Houston Information:										
19	Work/Study Industry <input type="text"/>					Home Address - Line 1 <input type="text"/>					
20	Current Employer <input type="text"/>					Home Address - Line 2 <input type="text"/>					
21	Employer Address <input type="text"/>					Home Address Zip Code <input type="text"/>					

2.4 Query/Import Data from Remote Internet/Websites

The setup for this feature is pretty straightforward. Input includes webpage address, keyword for searching and relative position of returning value to the keyword.

The following shows an example of extracting useful information from finance.yahoo.com.

The image shows a 'Market Summary' window with a line chart of Nasdaq from 1980 to 2010 and a table of market indices. Below it is a table of extracted data. To the right is the 'UDQ - Query Data from Internet' dialog box, which is used to configure the data extraction process.

Dow	10,331.88	+79.59	(+0.78%)
Nasdaq	2,004.15	0.00	(0.00%)
S&P 500	1,173.80	0.00	(0.00%)
10-Yr Bond	4.067%	-0.05	

8	finance.yahoo.com<Dow><1>	10,331.88
9	finance.yahoo.com<Dow><2>	79.59
10	finance.yahoo.com<Dow><3>	(+0.78%)
11	finance.yahoo.com<Dow><5>	2,004.15
12	finance.yahoo.com<Dow><6>	0
13	finance.yahoo.com<Dow><7>	0.00%

2.5 Query/Consolidate Data from Multiple Worksheets

The image shows the 'XLDS - Consolidate Multiple Sheets' dialog box. It has several sections: 'Consolidate Multiple Worksheets Setup' with fields for Search Value, Search Range, Relative Row Position (R), Relative Column Position (C), and Store Return Value In Cell; a 'List of Criteria' section; and a 'Select Sheets for Consolidation' section with a list of sheets (Sheet1, Sheet2, Sheet3). There are also checkboxes for 'consolidate using formula rather than value' and 'values from same criteria different sheets will be in a column'. Annotations with arrows point to these fields with the following descriptions:

- Specify keyword, it can be an input text string, number, or an address (reference)
- Specify range for searching keyword
- Specify the relative position of the returning value to the keyword. R and C can be positive, zero or negative. Positive means below the keyword row and to the right side of keyword column
- Specify the cell for storing the returning value
- Select all the sheets which contains the data to be consolidated

The following shows an example setup. Assume that the user has results like the following table for many sensitivity study cases (sheets) and wants to create a summary table including: maximum V tension and maximum H tension, then the setup can be like:

Search Value: max Range = \$A\$2:\$C\$12 Row =0 Column = 1
 Search Value: max Range = \$A\$2:\$C\$12 Row =0 Column = 2

	A	B	C
1	Mooring Line Tension for Case 1		
2	Line No.	V Tension	H Tension
3	1	1,285	1,142
4	2	1,300	1,156
5	3	1,302	1,157
6	4	1,291	1,148
7	5	1,288	1,145
8	6	1,311	1,165
9	7	1,287	1,144
10	8	1,296	1,152
11	Max	1,311	1,165
12	Min	1,285	1,142

Case No.	1	2	3
Max V Tension	1,355	1,356	1,311
Max H Tension	1,204	1,205	1,165

In fact, this feature just uses the following user-defined function:

XLDSSearch(keyword, range, row offset, column offset)

The user can directly use the above function the same way as use Excel built-in functions. The keyword can be a string, a number, a reference, or a calculation formula like max(A1:A10).

2.6 Query/Conditional Statistics on a Specific Range

The screenshot shows the 'Conditional Statistics Setup' dialog box with the following fields and callouts:

- Data Range Setup:**
 - Select Your Range: \$A\$2
 - Left-Top Cell for Result: (empty)
 - Statistic Function: (empty)
 - Target: (empty)
- Criteria Setup:**
 - Function: (empty)
 - Header: (empty)
 - Operation: (empty)
 - Value,N,n: (empty)
 - Type: Number
- Buttons:** Add To/AND, Remove From, Reset Criteria, Reset All, Insert Value, Insert Formula, Exit

Callouts on the right side of the dialog box:

- Specify the table range to work on
- Specify the cell location to store result
- Specify the setup of the target range for work on (perform statistical analysis) - it can be column with or without headers, rows with or without headers. This range must contain numerical value only.
- Specify the statistical function: max, min, average, sum, count
- Specify function used to specify the criteria, such as day, year, abs, etc. Normally, leave this selection blank which means use the value in the cell directly.
- Specify the type for value N(n), it can be a number, a string, an address or a date.
- Specify the comparison operator: >, <, >=, <=, <>, contains, etc.
- Specify which range the criteria is operated on

The following figure shows an example which is used to calculate the sum of the sales of south region in January 2006. The setup is:

- Select your range A4:C20
- Left-top cell for results A23
- Statistic function sum
- Target Col w/ header, Sales
- Criteria 1:
 - Function = month, header = date, operation = "=", value = 1, type = Number
- Criteria 2:
 - Function = "=", header = region, operation = "=", value = South, type = Text

	A	B	C	D
4	Date	Region	Sales	
5	01/03/06	South	\$ 5,539.0	
6	01/05/06	East	\$ 5,628.3	
7	01/10/06	West	\$ 7,154.7	
8	01/12/06	North	\$ 1,965.4	
9	01/15/06	South	\$ 3,705.6	
10	01/18/06	East	\$ 1,611.9	
11	01/22/06	West	\$ 4,803.9	
12	01/27/06	North	\$ 3,438.7	
13	01/29/06	South	\$ 1,649.3	
14	01/31/06	East	\$ 1,493.1	
15	02/05/06	West	\$ 5,115.9	
16	02/05/06	North	\$ 8,813.8	
17	02/08/06	South	\$ 4,745.2	
18	02/09/06	East	\$ 4,253.1	
19	02/10/06	West	\$ 8,102.4	
20	02/12/06	North	\$ 4,222.8	
21				
22	Sales for South Region in January			
23	10893.85			
24				

When user chooses to insert formula, the program inserts the following array formula in cell A23:

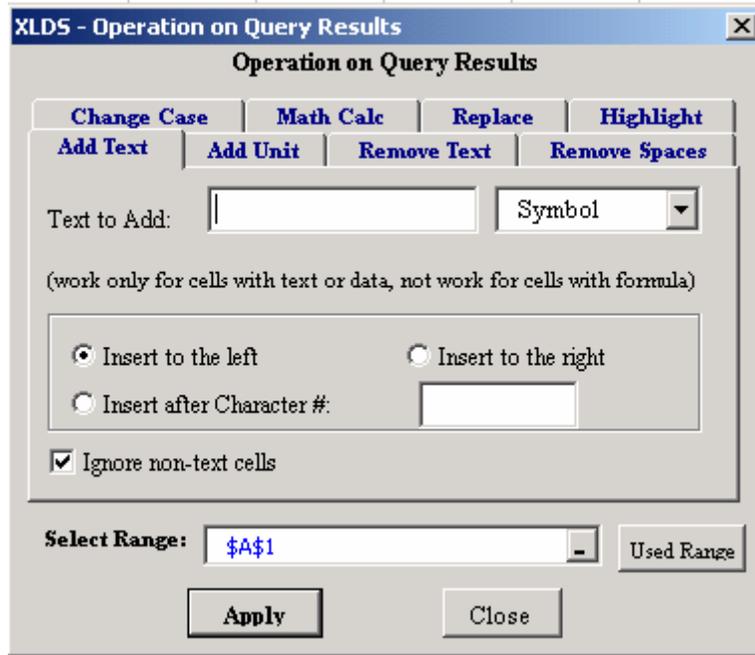
```
{=SUM(IF((MONTH(Sample!$A$5:$A$20)=1)*((Sample!$B$5:$B$20)="South"),Sample!$C$5:$C$20))}
```

Since it uses formula, when the source data changes, the results automatically updates.

User can replace function “sum” with “average”, “max”, “min”, etc. to get other statistic results.

2.7 Operation/Conditional Highlight on a Selected Range

The setup for this feature is similar as other Windows standard dialog box or setup and the functionality of each tab are very straightforward and self-explaining.



2.7.1 Add Unit

The following figure shows the functionality of “Add Unit”. The left side shows the original data and the right side shows the results of “Add Unit”. The unit “ft” is NOT part of the cells’ contents, thus the contents in the cells are still numbers, not text. In the cell showing “50 ft”, it contains formula “=J1*J2”, rather than text “50 ft”.

F	G	H	I	J
length	5		length	5 ft
width	10		width	10 ft
area	50		area	50 ft

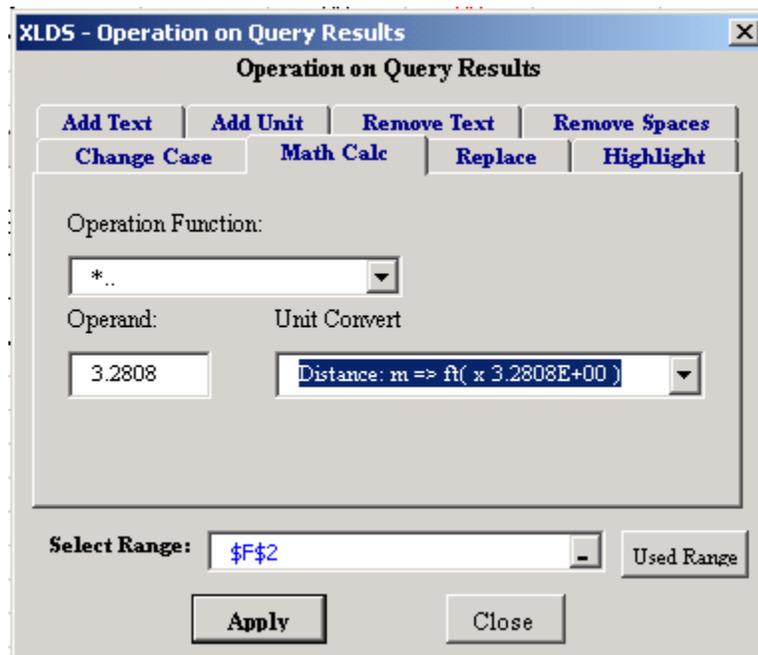
2.7.2 Change Case

The following figure shows the functionality of “Change Case”. This feature is exactly the same as Word’s “format/change case” and it is very useful for change case for a large area (range) of cells.

	A	B
1	original	I am a software developer
2	UPPER CASE	IAM A SOFTWARE DEVELOPER
3	Proper Case	I Am A Software Developer
4	lower case	i am a software developer

2.7.3 Perform Math Calculation

The following figure shows setup of “Math Calc”. This feature is used for performance different calculations for a range of cells. User can select different functions from “Operation Function” list. Some functions require “Operand”, like multiply “*”, divide “/”, etc. and some other functions do not require operand, like “sin”, “abs”, etc. User can also use the “Unit Convert” feature to make unit conversion. The calculation is performed on the cell itself using formula and the result is saved in the same cell. For example, cell A1 has value “5”, after performing unit convert “Distance m=> ft”, cell A1 has formula “=(5)*(3.2808)” and the result is “16.404”.



The following figure shows some of the results using “Math Calc” features:

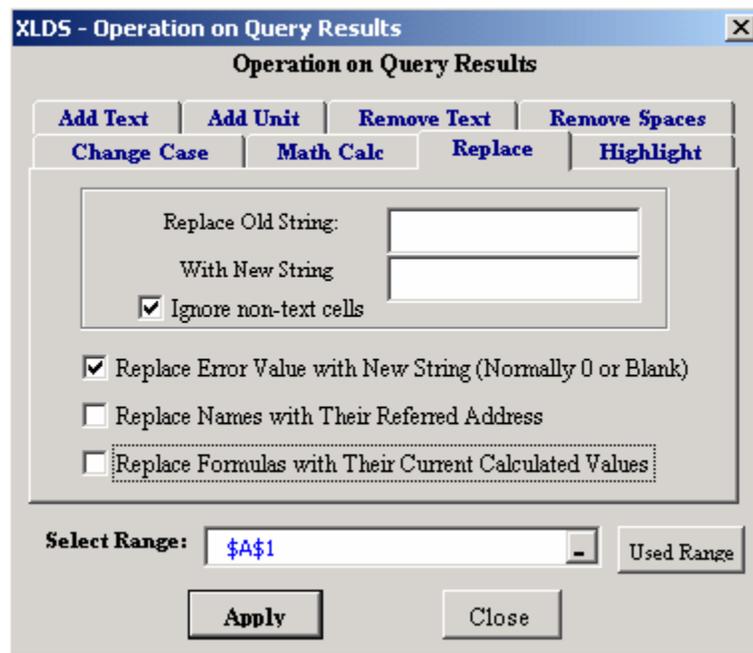
- ▶ The setup for cell B2 is shown in the above figure. Originally B2 has value 5, after “Math Calc”, cell B2 has formula “=(5)*(3.2808)”
- ▶ The setup for cell B4 is: “Operation Function” = “Sind”. Originally B4 has value 60, after “Math Calc”, cell B4 has formula “=SIN(PI()/180*((60)))”

- ▶ The setup for cell B6 is: “Operation Function” = “*” and “Operand” = “-1”. Originally B6 has value -85, after “Math Calc”, cell B6 has formula “=(-85)*(-1)”
- ▶ The setup for cell C6 is: “Operation Function” = “abs”. Originally B6 has value -85, after “Math Calc”, cell B6 has formula “=abs(-85)”

	A	B	C
1	Length (m)	Length (ft)	
2	5	16.404	
3	Angle (deg)	Sin (ang)	
4	60	0.866025	
5	Number	Negative	Absolute
6	-85	85	85

2.7.4 Replacement

The following figure shows setup of “Replace”. This feature is used for performance different replacements for a range of cells. User can replace an old string with a new string, replace error value (from formula) with a text string, blank or 0, replace names with their referred address, and replace formulas with their current calculated values. The replacement is performed on the range itself.



The following figure shows some of the results using “Replace” features. For comparison purpose, column E contains the original data and column F contains the data after “Replace”.

- ▶ The setup for cell F1 is “Replace Error Value with New String”, “With New String” = “0”. Originally F1 has formula “=B2/C2”, after “Replace”, cell F1 has formula “=IF(ISERROR(B2/C2),”0”,B2/C2)”. This formula is “dynamic”, once the formula “B2/C2” does not produce error, this formula returns the value calculated from “B2/C2”.
- ▶ The setup for cell F2 is “Replace Error Value with New String”, “With New String” = “”.
- ▶ The setup for cell F3 is “Replace Formula with Their Current Calculated Values”. Originally F3 has formula “=B6*B4”, after “Replace”, the cell has value 73.61.
- ▶ The setup for cell F4 is “Replace Names with Their Referred Address”. Originally F4 has formula “=PI*5^2”, after “Replace”, the cell has formula “=Sheet1!\$C\$1*5^2*5^2” – name “PI” refers to cell “Sheet1!\$C\$1”.

	E	F
1	#DIV/0!	0
2	#N/A	
3	73.61	73.61
4	78.54	78.54

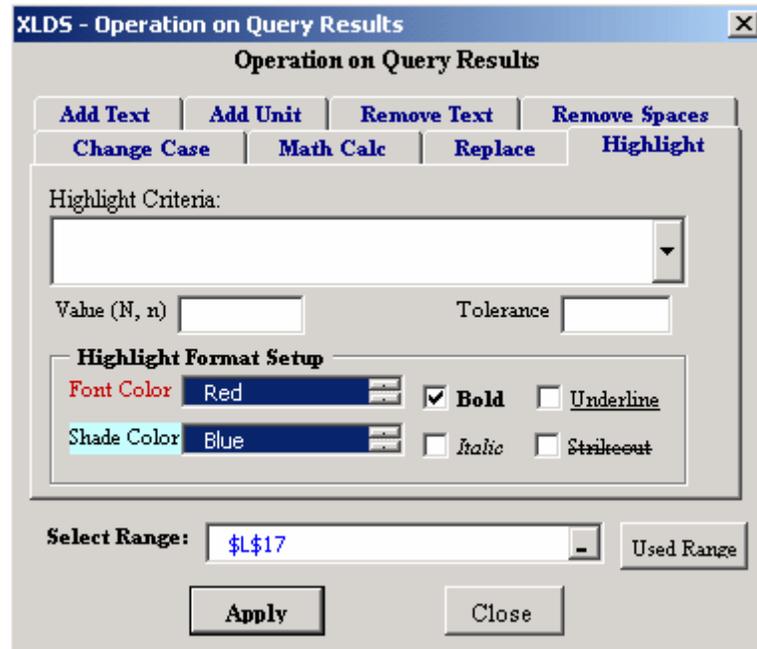
2.7.5 Highlight

This feature is used to highlight cells meeting specified criteria. The criteria include:

- 1) Maximum/Minimum Value
- 2) Largest N (n%) values
- 3) Smallest N (n%) values
- 4) Value equals to specified value within specified tolerance
- 5) Value does NOT equal to specified value within specified tolerance
- 6) Value less than the specified value
- 7) Value greater than the specified value
- 8) First unique value in a row or column
- 9) Last unique value in a row or column
- 1 0) Difference between selected row and its top row – only for numbers
- 1 1) Difference between selected column and its left column – only for numbers
- 1 2) All cells which most likely have formula
- 1 3) All cells which most likely have links to other worksheet
- 1 4) All cells which most likely have links to other workbook
- 1 5) All cells which have error value
- 1 6) Random select N cells
- 1 7) Every N rows
- 1 8) Every N columns

Most of the highlights are dynamic. Every time the cell value changes, the program compares the value with the specified criteria, if it meets the criteria, the highlight occurs, otherwise, no highlight. Highlight criteria 12 to 16 are not dynamic.

The following figure shows setup of “Highlight”.



The following figure shows some of the results from “Highlight”.

- › Column A uses “Every N rows” and N=3.
- › Range D2:D5 uses “Difference between selected column and its left column”
- › Range C7:C12 uses “First unique item in a column”
- › Range D7:D12 uses “Maximum/Minimum values”

	A	B	C	D
1	ID		Case 1	Case 2
2	0001		385	385
3	0002		486	485
4	0003		123	123
5	0004		987	985
6	0005			
7	0006		Houston	28.58
8	0007		Chicago	32.45
9	0008		Houston	19.55
10	0009		Boston	33.28
11	0010		Chicago	24.69
12	0011		Boston	33.33

2.8 Lookup Value Based on Select Range and Keyword

The following figure shows the general setup of this feature. User can specify search value, search range and the relative position of the return value. The program inserts user defined function XLDSSearch into the cell.



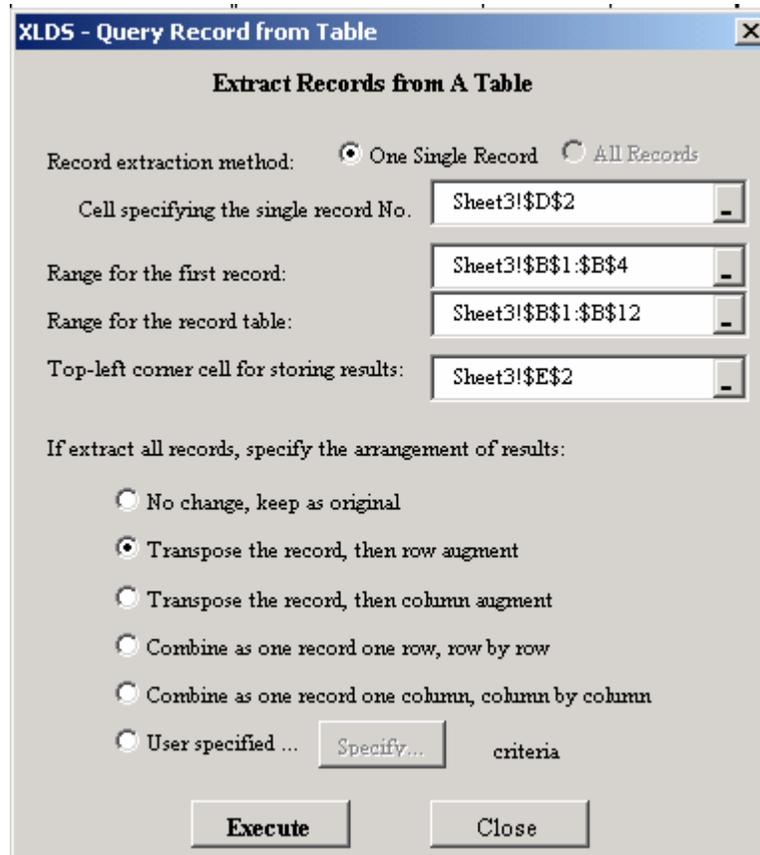
The following figure shows the results from this feature.

- ▶ Cell E2 is returning the email address for given name. Search Value = "ABC", Search Range = "A1:B12", R=3, C=0. The formula in Cell E2 is "=XLDSSearch("ABC", \$A\$1:\$B\$12, 3, 0)".
- ▶ Cell E5 is returning the name for given email address. Search Value = "def@hotmail.com", Search Range = "A1:B12", R=-3, C=0. The formula in Cell E5 is "=XLDSSearch("def@hotmail.com", \$A\$1:\$B\$12, -3, 0)".

	A	B	C	D	E
1	name	ABC		Name	ABC
2	degree	Ph.D.		Email	abc@hotmail.com
3	field	Photonics			
4	email	abc@hotmail.com		Email	def@hotmail.com
5	name	DEF		Name	DEF
6	degree	MS			
7	field	English			
8	email	def@hotmail.com			
9	name	XYZ			
10	degree	BE			
11	field	Chinese			
12	email	xyz@hotmail.com			

2.9 Extract and Re-Arrange Record from A Table

The following figure shows the general setup of this feature. User can transpose a table of records or combine one record in a row/column or specify her/his own re-arrangement criteria. The rearrangement is using function "Offset" thus this feature is "dynamic" – the results automatically updates every time the source data changes.



The following figure the results of transposing records. The setup is shown in the above figure. After the “execute”, the program insert formula in row 2. User can copy the formula in row to and paste it in rows 3 and 4.

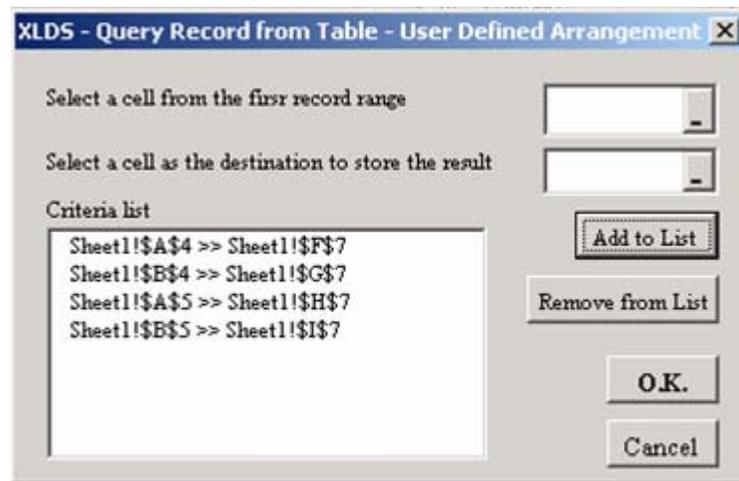
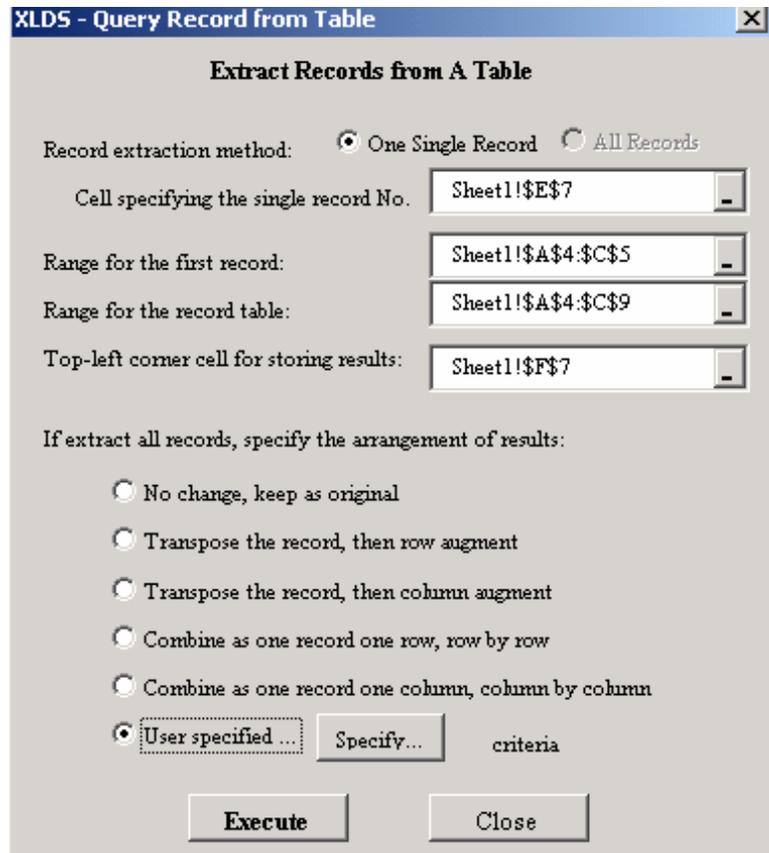
	A	B	C	D	E	F	G	H
1	name	ABC		ID	Name	Degree	Field	Email
2	degree	Ph.D.		1	ABC	Ph.D.	Photonics	abc@hotmail.com
3	field	Photonics		2	DEF	MS	English	def@hotmail.com
4	email	abc@hotmail.com		3	XYZ	BE	Chinese	xyz@hotmail.com
5	name	DEF						
6	degree	MS						
7	field	English						
8	email	def@hotmail.com						
9	name	XYZ						
10	degree	BE						
11	field	Chinese						
12	email	xyz@hotmail.com						

The following figure the results of rearrange the data in columns A to C using two different approaches. Range A1:C2 shows the original data arrangement.

	A	B	C	D	E	F	G	H	I	J	K
1	X	Y	Z		ID	X	Y	Z	H-Tension	V-Tension	Blank
2	H-Tension	V-Tension			1	55.5	38.3	280	1238	2546	0
3					2	60.2	20.8	280	1245	2603	0
4	55.5	38.3	280		3	70.1	5.28	280	1229	2555	0
5	1238	2546									
6	60.2	20.8	280		ID	X	Y	H-Tension	V-Tension		
7	1245	2603			1	55.5	38.3	1238	2546		
8	70.1	5.28	280		2	60.2	20.8	1245	2603		
9	1229	2555			3	70.1	5.28	1229	2555		

The top table (E1:K4) is created using “Combine as one record one row, row by row”. The setup is similar to the following figure. After the “execute”, the program insert formula in row 2. User can copy the formula in row to and paste it in rows 3 and 4.

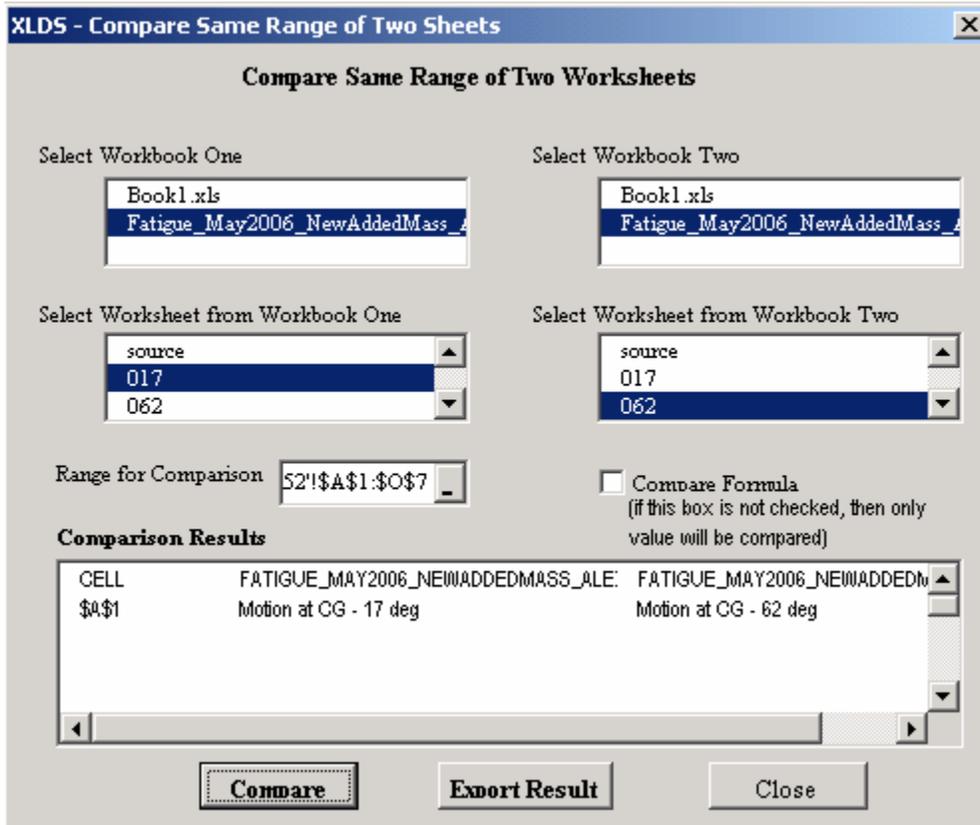
The bottom table (E6:I9) is created using “User Specified Criteria”. The setup is shown in the following tow figures. After the “execute”, the program insert formula in row 7. User can copy the formula in row to and paste it in rows 8 and 9.



2.10 Compare Same Range of Two Different Sheets

This feature is used to find the difference between two worksheets of the same workbook or two different workbooks. The comparison can be either on values or on formula. A maximum of 100 differences will be reported.

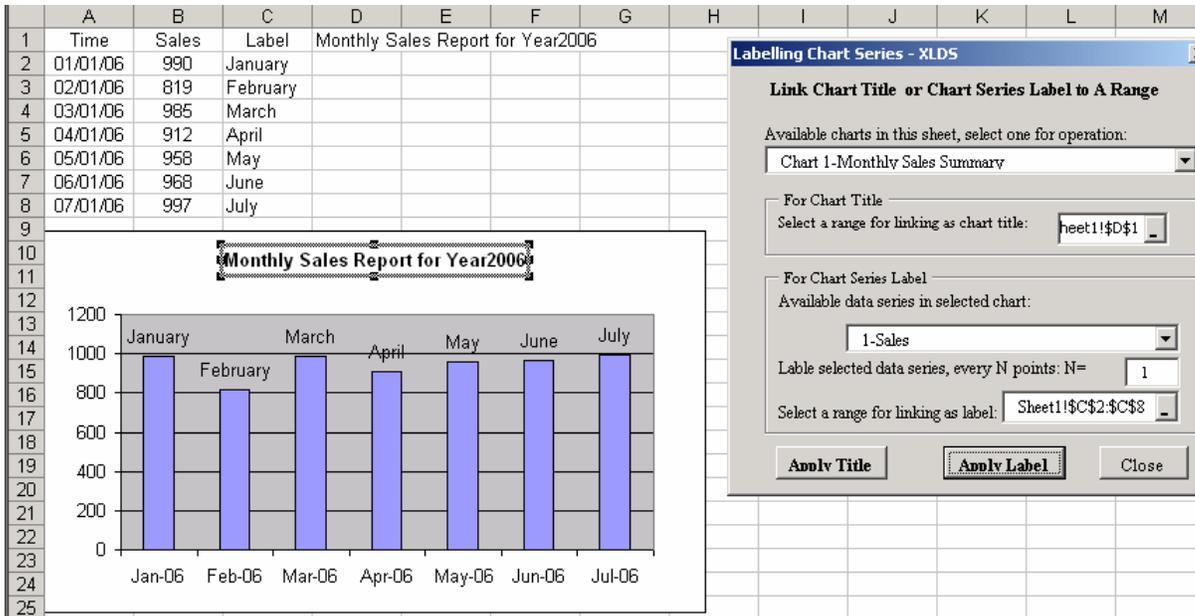
The following figure shows an example setup.



2.11 Chart Operation

This feature includes two handy chart operations: dynamically add label to a chart series (link the label to a range) and link chart title to a range.

The following figure shows an example – setup and results. The chart title is linked to a specific cell (D1). Every time the content in D1 changes, the chart title also change. The series labels are stored in column C – it can be any meaningful labels.



2.12 Assign Shortcut Keys

This feature is used to assign shortcut keys to several most frequently used actions: paste special/value, paste special/formula, paste special/format, paste special/transpose. The following figure shows an example - assigning ctrl+shift+v for paste special /value.



2.13 Create Sheets Summary

This feature is used to sort all sheets tab in a workbook and create a summary sheet, which lists all the sheets in the file and has link to each individual sheet. This is very useful for navigating those workbooks with >10 sheets.

The following figure shows a summary sheet which link to each individual sheet.

Sheet No.	Sheet Name
1	Ballast
2	Error
3	FloatOff
4	Hand
5	Help
6	Inplace
7	Input
8	Model
9	ShtSummary
10	Upend
11	WetTow

2.14 User-Defined Functions

XLDS provides three powerful user-defined functions

2.14.1 Function XLDSSearch

Search a value in a range and returns a value based on the specified relative position.

Syntax:

XLDSSearch (varValue, rng2Srch, n, m)

varValue is the value/data to search. It can be a value or a reference. If varValue can not be found, the function returns #N/A.

rng2Srch is the range which will be searched. It is a reference or a range name.

n, m are the relative position of the return value comparing to the cell which has the search value varValue. The return value is **n** rows below and **m** columns to the right of varValue. N and m can be any integer numbers and the return value may no within the range rng2Srch.

Example:

= **XLDSSearch(2006,"A1:C20",-1,2)** – search value 2006 in range A1:C20 and returns the value in a cell which is 1 row above and 2 columns to the right of the target cell – the cell has value 2006. If B3 has value 2006, then the return value will be from cell D2.

Remarks:

If there are more than one varValue in the range rng2Srch, only the first one will be used. The search order is first by row then by columns.

2.14.2 Function XLDSXtrValues

Parse a text string based on the specified delimiters/separators which dividing the string into an array of substrings, and then extract a substring from it.

Syntax:

XLDSXtrValues(strInput, id, strSep)

strInput is the string to be parsed. It can be a value or a reference.

id is the number of substrings to be returned.

strSep is the delimiter/separator which dividing the text string into an array of substrings. The default string separators include any symbol of these: ,;:\<>()[]{}|

Example:

= **XLDSXtrValues** ("XL Data Soft", 2, ",") – returns "Data".

2.14.3 Function XLDSRef

Create a range reference based on provided top-left corner cells row and column number, row height, column height and sheet's name.

Syntax:

XLDSRef(r0, c0, Optional rr, Optional cc, Optional sht)

r0 is the row number of top-left corner cell.

c0 is the column number of top-left corner cell.

rr is the number of rows in the range, default = 1.

cc is the number of column in the range, default = 1.

sht is the sheet name, default = active sheet.

Example:

= **SUM(XLDSRef(1,2,3,4,"sheet2"))**

XLDSRef returns range Sheet2! B1:E3.

The above function returns the sum of the created range.

----- End of User's Manual -----