Welcome to Monitor, the data acquisition and control newsletter. Thanks for subscribing. If you wish to download our free data acquisition software please do so from http://www.windmill.co.uk/jsarrpsrr.htm.

You can download this issue of Monitor as a pdf file from http://www.windmill.co.uk/monitor/monitor228.pdf.

Contents

Your Data Acquisition Questions Answered: Parsing Data

Weblink: http://www.windmill.co.uk/parse.html

Question

I recently purchased your Windmill Software in order to record data from an instrument that outputs a RS 232 serial string. It is not a standard instrument but it is a standard serial string.
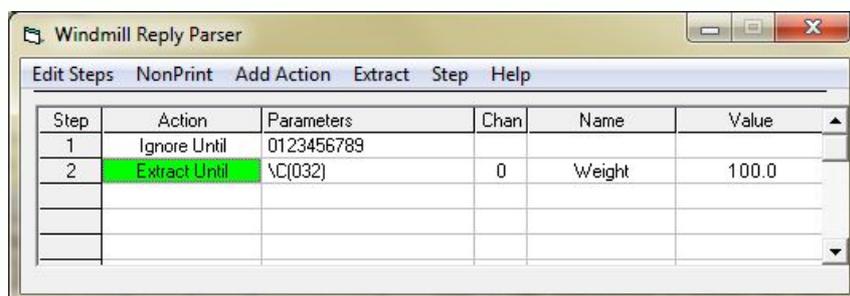
I need help to set up my RS 232 string from instrument to parse the data and record the string.

Answer

Use the ComDebug software to enter parsing instructions to extract data from your string and save it in *channels*, temperature readings to one channel and pressure readings to another for example. Each data value can be up to 20 characters long. There is often no need to collect the units of the reading. You can use the SeupIML program to specify the units of each channel.

There are two steps to parsing the data

1. Locate the data
2. Extract the data

Step 1 ignores everything in the instrument's data string until a number occurs. Step 2 extracts this number and everything after until it meets a space character. This example is used to extract data from strings sent by some weighing scales.

Full details of parsing the data is at http://www.windmill.co.uk/parse.html and in the ComDebug program Help.

You can use ComDebug to collect data. Simply press the Run button after you have set up parsing instructions. Alternatively you can use the Logger program.

For more technical support please fill in the form at http://www.windmill.co.uk/techsupp.html

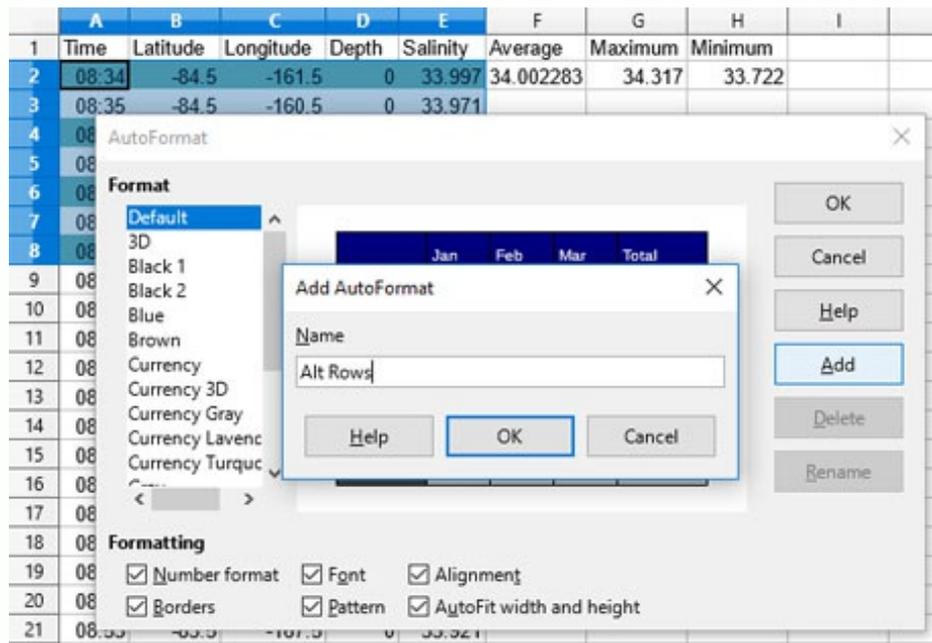## Spreadsheet Corner: Highlighting Alternate Rows

I'm using LibreOffice in this Spreadsheet Corner, but the procedure is the same for Excel. LibreOffice, like OpenOffice, is a free suite of software which many people use instead of Microsoft Office.

When viewing a large spreadsheet of data it helps readablility if you format it so the rows are easily distinguised. You can do this simply by choosing Autoformat styles from the Format menu, but you may prefer to choose your own formatting. There are two ways to do this.

1. Using Autoformat
2. Using Conditional Formatting

Using Autoformat

To easily configure an Autoformat style, containing your preferred font, number formats etc, just configure 5 rows of your data as you want it displayed. Choose AutoFormat styles from the Format menu, click Add and type a name for your new style. You can now apply this to all your data.
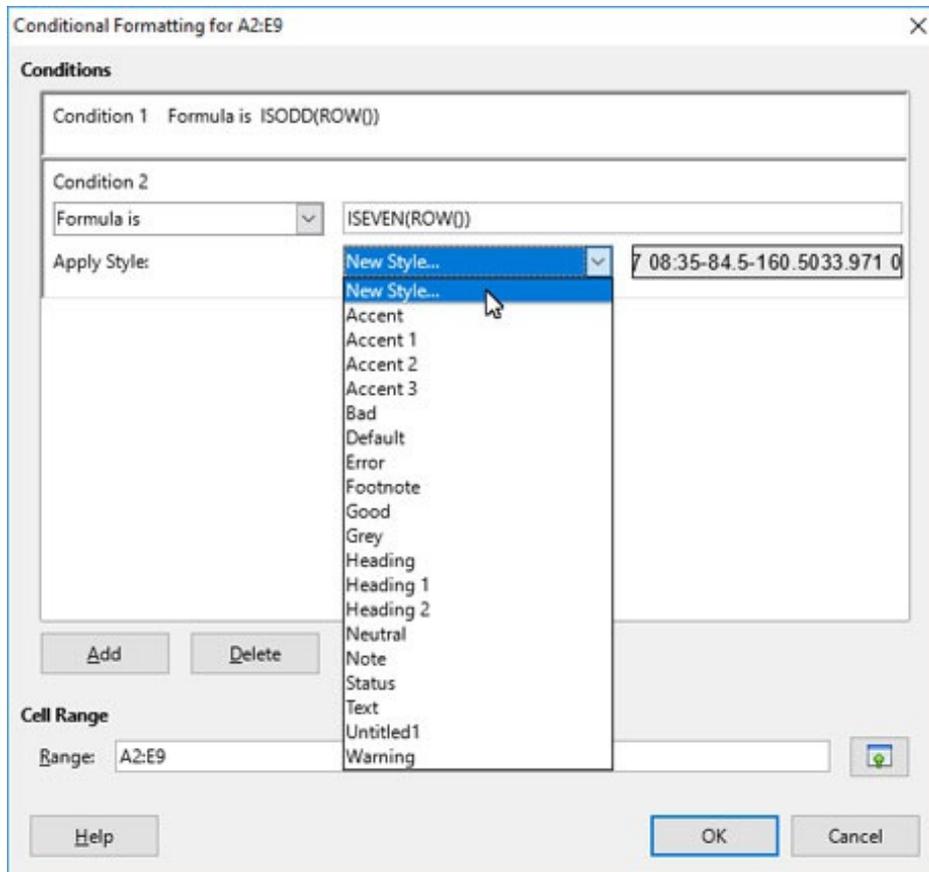

This has some drawbacks though. You need at least 5 columns of data for it to work, and if you insert a new row you have to reformat the data.

Using Conditional Formatting

Instead you can use conditional formatting.

1. Select the area you wish to format.
2. From the Format menu choose Conditional Formatting >
3. For the condition select Formula is
4. Use ISODD(ROW()) as the formula
5. Click New Style and choose the background you want.
6. Click the Add button, proceed as points 3 to 6 above but this time use ISEVEN(ROW())
7. Click OK, and there is your formatting.

A note on the formulae.

ISODD returns true if the value is odd and false if even. It takes the format ISODD(value). ISEVEN is the opposite. If the answer is true then the formatting is applied. This applies to the Excel as well as LibreOffice.

For more **spreadsheet tips** see http://www.windmill.co.uk/excel/ and http://www.windmill.co.uk/openoffice.html

DAQ News Round-up

Welcome to our round-up of the data acquisition and control news. If you would like to receive more timely DAQ news updates then follow us on Twitter - @DataAcquisition - or grab our rss feed.

Light-trapping sensor could detect drugs and bomb components
    The sensor boosts surface-enhanced infrared absorption (SEIRA) spectroscopy to detect molecules at 100 to 1000 times greater resolution than previously attainable.
    Source: University of Buffalo
    https://www.buffalo.edu/

A Sensor on your skin that looks and feels like a temporary tattoo

Ultrathin, lightweight, breathable sensor constructed from nanoscale mesh, a spaghetti-like entanglement of fibres a thousand times thinner than a human hair - removing the discomfort of wear.
Source: New York Times
https://www.nytimes.com/

How home security resembles dancing honeybees
Insects like bees can relay acquired information to their nest mates. The data gathering process is remarkably similar to that found in sensors commonly used in homes to detect human activity outside.
Source: The Conversation
http://theconversation.com/

Portable biosensor uses smartphone camera as spectrometer
Researchers at the University of Illinois have developed a diagnostic biosensor that uses a smartphone camera as a spectrometer.
Source: The Engineer
https://www.theengineer.co.uk/

Measurement and Control Exhibitions and Conferences

The quarterly update of data acquisition and control exhibitions around the world.

Automation Taipei
6-9 September 2017
Taipei Taiwan
Industrial automation exhibition in its 29th year.
autotaiwan.com.tw/en

International Electric and Automation Show
19-22 September 2017
Bucharest Romania
For the automation, electrical equipment and energy industries.
ieas.ro/en

International Electric and Automation Show
26-27 September 2017
Birmingham UK
Test, measurement and control.
sensorsandinstrumentation.co.uk

Automation Brno
9-13 October 2017
Brno Czech Republic
Measuring, control, automation and regulation technology.
bvv.cz/en/automatizace

Motek
9-12 October 2017
Stuttgart Germany
International trade fair for automation in production and assembly.
http://www.motek-messe.de/

Testing & Control
24-26 October 2017
Moscow Russia
14th International exhibition of testing, measuring and control.
testing-control.ru/en-GB

Smart Factory Expo
   17-19 January 2018
   Tokyo Japan
   Exhibition for smart factory technologies and IoT solutions.
   sma-fac.jp/en/

For previous issues by subject see http://www.windmill.co.uk/monitorindex.html

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As a thank you for subscribing we offer you the ComDebug data logging and
Com port trouble-shooting software. Log data over RS232, RS422, RS485 or
Modbus. Also included is a month's trial of the Windmill 7 logging, charting and
control programs. To download go to http://www.windmill.co.uk/jsarrpsrr.htm

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monitor@windmillsoft.com.

Windmill Software Ltd, PO Box 58, North District Office,
Manchester, M8 8QR, UK
Telephone: +44 (0)161 833 2782
Facsimile: +44 (0)161 833 2190
E-mail: monitor@windmillsoft.com
http://www.windmill.co.uk/
https://www.windmillsoft.com/
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