The date error problem Microsoft versus R

1. What is the base for your datetime (Minute) date number?  It isn’t Jan 1, 1970, so I thought I’d ask you.

I thought it was the start of 1900 = end of  31/12/1899 23.59  
and it works OK like that in Windows, and you can generate a Windows date/time from   MinuteN /1440   and add the microseconds as a fraction of the microsecs in a day.  
  
But in R it comes out with a 2 day error!   Microsoft used wrong assumptions about leap days at the millennium.   So the R reference is 2 days earlier.  
  
Leah Crowe - a PhD student in New Zealand discovered and unpacked this anomaly and says:

To clarify what I uncovered: if you use the datetime previously rendered through Nick's software, you're good. If you do the conversion from the value in the "Minute" column to datetime by using anything other than excel, you need to use the origin date of '1899-12-30 00:00:00'. Excel has built-in conversions to account for some of its early design quirks.

Below are more details:

<https://stackoverflow.com/questions/43230470/how-to-convert-excel-date-format-to-proper-date-in-r>

<https://social.msdn.microsoft.com/Forums/office/en-US/f1eef5fe-ef5e-4ab6-9d92-0998d3fa6e14/what-is-story-behind-december-30-1899-as-base-date?forum=accessdev>

<https://www.explainxkcd.com/wiki/index.php/2676:_Historical_Dates#:~:text=Dec%2030th%2C%201899%20comes%20from,is%20number%201%20%5B1%5D.>

<https://learn.microsoft.com/en-us/office/troubleshoot/excel/wrongly-assumes-1900-is-leap-year>

A screenshot of a computer

Description automatically generated with medium confidence

Minute 0 is a non-date (essentially, 31/12/1899 00:00), and to get to the start of 1900 in Excel, you have to already be at 1440 minutes (one day). There is also a leap year work around they do in 1900 where they add in an extra day, so time origin for Excel is actually 1899-12-30 00:00:00.