ToolboxDemo

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Take care of some business first and make sure the necessary library is loaded.

```
## -- Attaching core tidyverse packages ------------------------ tidyverse 2.0.0 --
## v dplyr     1.1.3     v readr     2.1.4
## v forcats   1.0.0     v stringr   1.5.0
## v ggplot2   3.4.4     v tibble    3.2.1
## v lubridate 1.9.3     v tidyr     1.3.0
## v purrr     1.0.2
## -- Conflicts ------------------------------------------ tidyverse_conflicts() --
## x dplyr::filter() masks stats::filter()
## x dplyr::lag()    masks stats::lag()
## i Use the conflicted package (<http://conflicted.r-lib.org/>) to force all conflicts to become errors
```

Machine Ageing Rates

This is a sandbox example that uses some real-world data that was collected from 9/28/2016 to 9/27/2018. The plotting and functions know-how are from the last R class I took. The GitHub version control and RMarkdown are from this class.

Define some functions:

ReadWarrantyData(filename)

reads in the specified CSV file into a tibble.

DecimateData(data, fraction)

takes a *random sample* of the raw data and puts a fraction of it into a new data structure

CreateHrVsAgeLinPlot(data, x-limit, y-limit)

Creatse a plot with linear scales, labels, colors, etc. It groups the data by customer type

Main Program

Setup what to do...

The following lines set some **parameters** to pass to the functions.

```
# Parameters to tweak
file2load <- "../Data/HoursVsAge.csv"
pts2Plot <- 0.05  # fraction of points to plot (0.0 to 1.0)
limY <- 2000  # upper graph limit for hr/wk lines
limX <- 1000  # upper graph limit for hr/wk lines
```

Now that everything is defined and initialized,

- **read the data**

```
## [1] "Loaded 47474 rows from ../Data/HoursVsAge.csv"
```

- take a random *sample* of the data

```
## [1] "Sliced data down from 47474 to 2400 points."
```

- and then *plot* it

```
## [1] "Created plot"
```