

Time Series Programming Kernel *tframe* Package

August 16, 2024

The functions in this package are made available with

```
> library("tframe")
```

The code from the vignette that generates this guide can be loaded into an editor with `edit(vignette("Guide", package="tframe"))`. This uses the default editor, which can be changed using `options()`.

The *tframe* functions are programming utilities used by other packages. For example, packages *dse*, *tsfa*, *TSdbi* use this set of utilities. (See the *tframe* for some user utilities that were previously included in this package.) The object of these functions is to be able to write code with `tframe(y) <- tframe(x)`, to assign the time attributes (tframe) of *x* to *y*, without needing to handle details of the time representation and without concern for the number of series in *x* and *y*, which need not be the same. A check is made to ensure the number of periods in the data correspond with the number implied by the tframe.

The hope is that this is done in a way that allows easy extension in the future. That is, code using *tframe* should not need to be changed if some data has a newly introduced time representation. This may require some changes to *tframe* itself, but the design should usually allow new representations to be accommodated by additional methods for those representations.

There is an attempt to use the same time representation for *y* as *x* has (e.g. *ts*, *zoo*, *its*), but this cannot be guaranteed because *y* may not be representable using the *x* representation. For example, *x* might be an "mts" constructed with `ts()` whereas *y* is a list with some data structures. In this case, a "pure tframe" approach is used.

The main programming utilities are *tframe* and *tframe<-*. For additional details see the help for these and *tframe-package*.