0.1 `setx`: Setting Explanatory Variable Values

Description

The `setx` command uses the variables identified in the `formula` generated by `zelig` and sets the values of the explanatory variables to the selected values. Use `setx` after `zelig` and before `sim` to simulate quantities of interest.

Usage

```
x.out <- setx(object, fn = list(numeric = mean, ordered = median,
                                others = mode),
              data = NULL, cond = FALSE, ...)
```

Arguments

`object`	the saved output from `zelig`.
`fn`	a list of functions to apply to three types of variables:
numeric	`numeric` variables are set to their mean by default, but you may select any mathematical function to apply to numeric variables.
ordered	`ordered` factors are set to their meidan by default, and most mathematical operations will work on them. If you select `ordered = mean`, however, `setx` will default to median with a warning.
other	variables may consist of unordered factors, character strings, or logical variables. The `other` variables may only be set to their mode. If you wish to set one of the other variables to a specific value, you may do so using ... below. In the special case `fn = NULL`, `setx` will return all of the observations without applying any function to the data.
`data`	a new data frame used to set the values of explanatory variables. If `data = NULL` (the default), the data frame called in `zelig` is used.
`cond`	a logical value indicating whether unconditional (default) or conditional (choose `cond = TRUE`) prediction should be performed. If you choose `cond = TRUE`, `setx` will coerce `fn = NULL` and ignore the additional arguments in .... If `cond = TRUE` and `data = NULL`, `setx` will prompt you for a data frame.
...	user-defined values of specific variables overwriting the default values set by the function `fn`. For example, adding `var1 = mean(data$var1)` or `x1 = 12` explicitly sets the value of `x1` to 12. In addition, you may specify one explanatory variable as a range of values, creating one observation for every unique value in the range of values.

Value

For unconditional prediction, `x.out` is a model matrix based on the specified values for the explanatory variables. For multiple analyses (i.e., when choosing the `by` option in `zelig`, `setx` returns the selected values calculated over the entire data frame. If you wish to calculate values over just one subset of the data frame, the 5th subset for example, you may use: `x.out <- setx(z.out[[5]])`

For conditional prediction, `x.out` includes the model matrix and the dependent variables. For multiple analyses (when choosing the `by` option in `zelig`), `setx` returns the observed explanatory variables in each subset.

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See Also

The full Zelig manual may be accessed online at `http://gking.harvard.edu/zelig`.

Examples

```
# Unconditional prediction:
data(turnout)
z.out <- zelig(vote ~ race + educate, model = "logit", data = turnout)
x.out <- setx(z.out)
s.out <- sim(z.out, x = x.out)


# Unconditional prediction with all observations:
x.out <- setx(z.out, fn = NULL)
s.out <- sim(z.out, x = x.out)


# Unconditional prediction with out of sample data:
z.out <- zelig(vote ~ race + educate, model = "logit",
               data = turnout[1:1000,])
x.out <- setx(z.out, data = turnout[1001:2000,])
s.out <- sim(z.out, x = x.out)


# Using a user-defined function in fn:
## Not run:
quants <- function(x)
  quantile(x, 0.25)
x.out <- setx(z.out, fn = list(numeric = quants))
## End(Not run)
```

```
# Conditional prediction:
## Not run:
library(MatchIt)
data(lalonde)
match.out <- matchit(treat ~ age + educ + black + hispan + married +
                     nodegree + re74 + re75, data = lalonde)
z.out <- zelig(re78 ~ distance, data = match.data(match.out, "control"),
               model = "ls")
x.out <- setx(z.out, fn = NULL, data = match.data(match.out, "treat"),
              cond = TRUE)
s.out <- sim(z.out, x = x.out)
## End(Not run)
```