Euredit utility function: summ_stats

1 Purpose

summ_stats calculates summary statistics on variables.

2 Specification

```
#include <euredit_sys.h>


void summ_stats (long n, long m, double miss_val, double *data, long *n_cat,
                 long *cat_val, long max_cat, double *mean, double *sd,
                 double *vmin, double *vmax, long *n_valid, double *mid_pts,
                 long *counts, long info[2])
```

3 Parameters

n
> *Input:* the number of observations in the data.
>
> *Constraint:* $\mathbf{n} \geq 1$.

m
> *Input:* the number of variables in the data.
>
> *Constraint:* $\mathbf{m} \geq 1$.

miss_val
> *Input:* the missing value indicator.

data[n*m]
> *Input:* the data stored by row.

n_cat[m]
> *Input:* the number of categories present if a categorical variable.

cat_val[m*maxcat]
> *Input:* the categories for the categorical variables. The categories for the i variable are stored in **catval**[i***maxcat**$+j$] for $j = 1, 2, \ldots,$ n_cat[i].

maxcat
> *Input:* the maximum number of categories in any variable.

mean[m]
> *Output:* variable mean for continuous variables.

sd[m]
> *Output:* standard deviation for continuous variables.

vmin[m]
> *Output:* the minmum for continuous variables.

vmax[m]
> *Output:* the maximum for continuous variables.

n_valid[m]
> *Output:* the number of non-missing observations

mid_pts[m*max_cat]
> *Output:* the mid-points of of the histogram classes for continous variables.

counts[m*max_cat]
> *Output:* the histogram/bar-chart counts.

info

Output: information on the success of the function call.

info[0] = 0: the function successfully completed its task.

info[0] = i: the specification of the ith formal parameter was incorrect, $i = 1, 2, \ldots, 9$.

info[0] = 10: a category is not valid (**info**[1] contains 10000*variable plus category).

info[0] = 99: the function failed to allocate enough memory.

info[1] contains additional information for system debugging.