confintervals

syntax: `confintervals( data, statistic, conflevel)`

purpose: Automatically carry out a bootstrap estimate of the confidence interval of the given statistic for the given data. All you need to provide is

- the data
- the statistic whose confidence interval you want
- the confidence level (e.g., .90, .95 for 90% and 95% respectively)

`confintervals` uses between 500 and 5000 resampling trials, depending on the confidence level you specify.

examples: To compute the 90% confidence interval of the mean of a dataset

```
data = [1 2 3 4 5 6 7 8 9 10];
≫  confintervals(data, 'mean(#)', .90)
  ans:    4.1 7.1
```

Note that the statistic is written as a single-quoted string. Inside the string is a MATLAB expression, and `#` is used to indicate where the data set goes in that expression. (This is explained more fully under LAMBDA.)

To illustrate how a more complicated expression can be used as the statistic, consider the confidence interval of the difference between the median and the mean.

```
≫  confintervals(data, 'median(#)-mean(#)', .90)
  ans:    -1.2 1.1
```

Note that `#` goes in each place the data would appear in the MATLAB expression to compute the statistic.

warning: Guard against forgetting to use `#` and accidentally writing something like

```
≫  confintervals(data, 'mean(data)', .90)
```

This will generate an error message from the `runlambda` routines which will be incomprehensible. Use `#` whereever the resampled data set is to be used in the statistic.

see also: JAB, SAMPLESIZE, BOOTSTRAP, HYPOTHTEST, LAMBDA, RUNLAMBDA

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