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THE STATA JOURNAL

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Stata tip 41: Monitoring loop iterations

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If, like me, you have ever started a Stata program running and returned hours later to find it still running with no idea of whether it is actually getting anywhere, then you will be looking for a simple method to monitor your loops. The commands `bootstrap` and `jackknife` produce an attractive table of dots for just this purpose by using the undocumented command `_dots`.

Any loop can easily be modified to report its progress by using `_dots`:

```
nois _dots 0, title(Loop running) reps(100)
forvalues i = 1/100 {
    (main body of loop)
    nois _dots 'i' 0
}
Loop running (100)
-----|----- 1 -----|----- 2 -----|----- 3 -----|----- 4 -----|----- 5
..... 50
..... 100
```

The first `_dots` command, called with the argument 0, sets up the graduated header line. The title and number of repetitions are optional. Further calls to `_dots` take two arguments: the repetition number and a return code. The return code 0 (as used above) indicates a successful repetition, and a dot is displayed. Alternative return codes produce a green 's' (-1) or a red 'x' (1), 'e' (2), 'n' (3) or '?' (any other value).

Below is a more complicated example using a `while` loop. Here, the loop runs until 70 successes are achieved. For this contrived example, each iteration succeeds at random with 80% probability. Successes are reported with a dot (.) and failures with an x.

```
nois _dots 0, title(Looping until 70 successes...)
local rep 1
local nsuccess 0
while 'nsuccess' < 70 {
    local fail = uniform() < .2
    local nsuccess = 'nsuccess' + ('fail' == 0)
    nois _dots 'rep++' 'fail'
}
Looping until 70 successes...
-----|----- 1 -----|----- 2 -----|----- 3 -----|----- 4 -----|----- 5
xx...x...x...xx...xx...x.....x..... 50
.x.....x.x.x.x.....
```