Description

`set iterlog` and `set maxiter` control the display of the iteration log and the maximum number of iterations, respectively, for estimation commands that iterate and for the Mata optimization functions `moptimize()`, `optimize()`, and `solvenl()`.

`set iterlog` specifies whether to display the iteration log. The default setting is on, which displays the log. You can specify `set iterlog off` to suppress it. To change whether the iteration log is displayed for a particular estimation command, you need not reset `iterlog`; you can specify the `log` or `nolog` option with that command. If you do not specify `log` or `nolog`, the `iterlog` setting is used. To view the current setting of `iterlog`, type `display c(iterlog)`.

`set maxiter` specifies the default maximum number of iterations. To change the maximum number of iterations performed by a particular estimation command, you need not reset `maxiter`; you can specify the `iterate(#)` option with that command. If you do not specify `iterate(#)`, the `maxiter` value is used. To view the current setting of `maxiter`, type `display c(maxiter)`.

Syntax

Set whether to display the iteration log

```
set iterlog {on|off} [, permanently]
```

Set default maximum iterations

```
set maxiter # [, permanently]
```

# is any number between 0 and 16,000; the initial value is set to 300.

Option

`permanently` specifies that, in addition to making the change right now, the setting be remembered and become the default setting when you invoke Stata.

Remarks and examples

The `iterlog` setting is particularly useful in combination with the `nolog` and `log` options; see example 1 below. Also see [R] Maximize for details about the options. The `iterlog` setting has no effect on commands that suppress the iteration log by default, for example, commands prefixed with `svy`. To display the log with those commands, you need to use the `log` option.

You will rarely need to modify the `maxiter` setting to change the maximum number of iterations used by Stata’s iterative commands. Instead, you may want to specify the `iterate()` option with these commands. For example, specifying `iterate(0)` is useful for viewing results evaluated at the initial value of the coefficient vector.
The iterlog and maxiter settings also control the default output displayed by the Mata optimization functions `moptimize()`, `optimize()`, and `solvenl()`.

## Example 1: Display and suppress the iteration log

Stata estimation commands that iterate usually display the iteration log by default:

```stata
. sysuse auto
   (1978 Automobile Data)
. logit foreign mpg
Iteration 0: log likelihood = -45.03321
Iteration 1: log likelihood = -39.380959
Iteration 2: log likelihood = -39.288802
Iteration 3: log likelihood = -39.28864
Iteration 4: log likelihood = -39.28864
Logistic regression
   Number of obs      =        74
   LR chi2(1)         =      11.49
   Prob > chi2        =    0.0007
Log likelihood = -39.28864  Pseudo R2 = 0.1276

foreign   Coef.   Std. Err.     z   P>|z|     [95% Conf. Interval]
---------- -------- ------- ------ ------ -------------------
   mpg      0.1597621   0.0525876   3.04   0.002     0.0566922   .262832
   _cons   -4.378866    1.211295  -3.62   0.000    -6.752961  -2.004771
```

You can suppress the log by specifying the `nolog` option:

```stata
. logit foreign mpg, nolog
Logistic regression
   Number of obs      =        74
   LR chi2(1)         =      11.49
   Prob > chi2        =    0.0007
Log likelihood = -39.28864  Pseudo R2 = 0.1276

foreign   Coef.   Std. Err.     z   P>|z|     [95% Conf. Interval]
---------- -------- ------- ------ ------ -------------------
   mpg      0.1597621   0.0525876   3.04   0.002     0.0566922   .262832
   _cons   -4.378866    1.211295  -3.62   0.000    -6.752961  -2.004771
```

If you want to suppress the iteration log from all estimation commands every time they are run within the current Stata session, type

```
. set iterlog off
```

We can run `logit` again but now without the `nolog` option, and the iteration log will not be displayed:

```stata
. logit foreign mpg
Logistic regression
   Number of obs      =        74
   LR chi2(1)         =      11.49
   Prob > chi2        =    0.0007
Log likelihood = -39.28864  Pseudo R2 = 0.1276

foreign   Coef.   Std. Err.     z   P>|z|     [95% Conf. Interval]
---------- -------- ------- ------ ------ -------------------
   mpg      0.1597621   0.0525876   3.04   0.002     0.0566922   .262832
   _cons   -4.378866    1.211295  -3.62   0.000    -6.752961  -2.004771
```
Or we can run a different command, for example, `mlogit`, and the log will still be suppressed:

```
. mlogit rep78 mpg
```

```
Multinomial logistic regression
Number of obs = 69
LR chi2(4) = 15.88
Prob > chi2 = 0.0032
Log likelihood = -85.752375 Pseudo R^2 = 0.0847

```

| rep78 | Coef. | Std. Err. | z     | P>|z|  | [95% Conf. Interval] |
|-------|-------|-----------|-------|------|---------------------|
| 1     | mpg   | 0.0708122 | 0.1471461 | 0.48 | 0.630 | -0.2175888 to 0.3592132 |
|       | _cons | -4.137144 | 3.15707 | -1.31 | 0.190 | -10.32489 to 2.0506 |
| 2     | mpg   | -0.0164251 | 0.0926724 | -0.18 | 0.859 | -0.1980597 to 0.1652096 |
|       | _cons | -1.005118 | 1.822129 | -0.55 | 0.581 | -4.576426 to 2.56619 |
| 3     | (base outcome) |       |       |      |      |                      |
| 4     | mpg   | 0.0958626 | 0.063329 | 1.51 | 0.130 | -0.028267 to 0.2199927 |
|       | _cons | -2.474187 | 1.341131 | -1.84 | 0.065 | -5.102756 to 1.543813 |
| 5     | mpg   | 0.2477469 | 0.0764076 | 3.24 | 0.001 | 0.0979908 to 0.397503 |
|       | _cons | -6.653164 | 1.841794 | -3.61 | 0.000 | -10.26301 to -3.043314 |
With the `iterlog` setting off, we can display the iteration log for specific commands by specifying the `log` option:

```
.set iterlog off
.mlogit rep78 mpg, log
```

<table>
<thead>
<tr>
<th>Iteration</th>
<th>log likelihood</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>-93.692061</td>
</tr>
<tr>
<td>1</td>
<td>-86.581485</td>
</tr>
<tr>
<td>2</td>
<td>-85.767758</td>
</tr>
<tr>
<td>3</td>
<td>-85.752385</td>
</tr>
<tr>
<td>4</td>
<td>-85.752375</td>
</tr>
<tr>
<td>5</td>
<td>-85.752375</td>
</tr>
</tbody>
</table>

```
Multinomial logistic regression
Number of obs = 69
LR chi2(4) = 15.88
Prob > chi2 = 0.0032
Log likelihood = -85.752375
Pseudo R2 = 0.0847
```

| Coef. Std. Err. z P>|z| [95% Conf. Interval] |
|----------------------|---------------------|-----------------|-----------------|-----------|
| rep78                |                    |                 |                 |           |
| 1                    | mpg                 | 0.0708122 .1471461 0.48 0.630 -.2175888 .3592132 |
| _cons                | -4.137144 3.15707 -1.31 0.190 -10.32489 2.0506 |
| 2                    | mpg                 | -.0164251 .0926724 -0.18 0.859 -.1980597 .1652096 |
| _cons                | -1.005118 1.822129 -0.55 0.581 -4.576426 2.56619 |
| 3                    | (base outcome)      |                 |                 |           |
| 4                    | mpg                 | 0.0958626 .0633329 1.51 0.130 -.0282676 .2199927 |
| _cons                | -2.474187 1.341131 -1.84 0.065 -5.102756 1.543813 |
| 5                    | mpg                 | 0.2477469 .0764076 3.24 0.001 0.0979908 .397503 |
| _cons                | -6.653164 1.841794 -3.61 0.000 -10.26301 -3.043314 |

You can switch back to displaying iteration logs by typing

```
.set iterlog on
```

The default setting will be restored automatically the next time you invoke Stata. If you want the setting to be remembered for future Stata sessions, specify the `permanently` option with `set iterlog`.

**Also see**

[R] **Maximize** — Details of iterative maximization

[R] **set** — Overview of system parameters

[M-5] **moptimize()** — Model optimization

[M-5] **optimize()** — Function optimization

[M-5] **solvenl()** — Solve systems of nonlinear equations