Description

_program define defines and manipulates programs. _define is required if _program_name is any of the words: _define, _dir, _drop, _list, or _plugin.

_program dir lists the names of all the programs stored in memory.

_program list lists the contents of the named program or programs. _program list _all lists the contents of all programs stored in memory.

_program drop eliminates the named program or programs from memory. _program drop _all eliminates all programs stored in memory. _program drop _allado eliminates all programs stored in memory that were loaded from ado-files. See [U] 17 Ado-files for an explanation of ado-files.

See [U] 18 Programming Stata for a description of programs. The remarks below address only the use of the _program dir, _program drop, and _program list commands.

See [P] trace for information on debugging programs.

See the Combined subject table of contents, which immediately follows the Contents, for a subject summary of the programming commands.

Syntax

Define program

_program [ _define ] _program_name [, _nclass|rclass|eclass|sclass] _bysable(_recall[, _noheader] _onencall) _properties(_namelist) _sortpreserve _plugin

List names of programs stored in memory

_program dir

Eliminate program from memory

_program drop { _program_name [ _program_name [ ... ] ] _all _allado }

List contents of program

_program list [ _program_name [ _program_name [ ... ] ] _all ]

Options

_nclass states that the program being defined does not return results in _r(), _e(), or _s(), and is the default.
rclass states that the program being defined returns results in \( r() \). This is done using the `return` command; see [P] return. If the program is not explicitly declared to be rclass, then it may not change or replace results in \( r() \).

eclass states that the program being defined returns results in \( e() \) or modifies already existing results in \( e() \). This is done using the `ereturn` command; see [P] return and [P] ereturn. If the program is not explicitly declared to be eclass, it may not directly replace or change results in \( e() \).

sclass states that the program being defined returns results in \( s() \). This is done using the `sreturn` command; see [P] return. If the program is not explicitly declared to be sclass, then it may not directly change or replace results in \( s() \), but it still may clear \( s() \) by using `sreturn clear`.

`byable(recall[,] noheader | onecall)` specifies that the program allow Stata’s by `varlist` prefix. There are two styles for writing byable programs: `byable(recall)` and `byable(onecall)`. The writing of byable programs is discussed in [P] byable.

`properties(namelist)` states that program `program_name` has the specified properties. `namelist` may contain up to 80 characters, including separating spaces. See [P] program properties.

`sortpreserve` states that the program changes the sort order of the data and that Stata is to restore the original order when the program concludes; see [P] sortpreserve.

`plugin` specifies that a plugin (a specially compiled C program) be dynamically loaded and that the plugin define the new command; see [P] plugin.

Remarks and examples

The `program dir` command lists the names of all the programs stored in memory. `program list` lists contents of the program or programs.

Example 1

When you start Stata, there are no programs stored in memory. If you type `program dir`, Stata displays an empty list:

```
. program dir
```
Later during the session, you might see

    . program dir
    (output omitted)
    ado  756  _pred_se
    ado  644  logit_p.GenScores
    ado   306  logit_p.GetRhs
    ado  5296  logit_p
    ado    339  predict
    (output omitted)
    ado   559  logit.Replay
    ado  4272  logit.Estimate
    ado   827  logit
    ado   287  webuse.Query
    ado   588  webuse.Set
    ado   269  webuse.GetDefault
    ado    686  webuse

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The ado in front indicates that the program was automatically loaded and thus can be automatically dropped should memory become scarce; see [U] 17 Ado-files. The number is the size, in bytes, of the program. The total amount of memory occupied by programs is 114,306 bytes. Notice the logit_p.GetRhs and logit_p.GenScores entries. These programs are defined in the logit_p.ado file and were loaded when logit_p was loaded.

Let's now create two of our own programs with program:

    . program rng
    1. args n a b
    2. if "'b'"==""
    3. display "You must type three arguments: n a b"
    4. exit
    5. }
    6. drop _all
    7. set obs 'n'
    8. generate x = (_n-1)/(_N-1)*('b'-'a')+'a'
    9. end

    . program smooth
    1. args v1 v2
    2. confirm variable 'v1'
    3. confirm new variable 'v2'
    4. generate 'v2' = cond(_n==1|_n==_N,'v1',('v1[_n-1]+v1+v1[_n+1])/3)
    5. end
After you type `program`, lines are collected until you type a line with the word `end`. For our purposes, it does not matter what these programs do. If we were now to type `program dir`, we would see:

```
. program dir
  286  smooth
  319  rng
(output omitted)
ado  756  _pred_se
ado  644  logit_p.GenScores
ado  306  logit_p.GetRhs
ado  5296 logit_p
ado  339  predict
(output omitted)
ado  559  logit.Replay
ado  4272 logit.Estimate
ado  827  logit
ado  287  webuse.Query
ado  588  webuse.Set
ado  269  webuse.GetDefault
ado  686  webuse
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```

We can list a program by using the `program list` command:

```
. program list smooth
smooth:
  1. args v1 v2
  2. confirm variable `v1`
  3. confirm new variable `v2`
  4. generate `v2' = cond(_n==1|_n==_N,'v1',('v1'[_n-1]+`v1'+`v1'[_n+1])/3)
```

If we do not specify the program that we want listed, `program list` lists all the programs stored in memory.
The `program drop` command eliminates programs from memory. Typing `program drop program_name` eliminates `program_name` from memory. Typing `program drop _all` eliminates all programs from memory.

```
. program drop smooth
. program dir
            319    rng
(output omitted)
ado    756    _pred_se
ado    644    logit_p.GenScores
ado    306    logit_p.GetRhs
ado    5296   logit_p
ado    339    predict
(output omitted)
ado    559    logit.Replay
ado    4272   logit.Estimate
ado    827    logit
ado    287    webuse.Query
ado    588    webuse.Set
ado    269    webuse.GetDefault
ado    686    webuse

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. program drop _all
. program dir
```

**Also see**

[P] byable — Make programs byable

[P] discard — Drop automatically loaded programs

[P] sortpreserve — Sort within programs

[P] trace — Debug Stata programs

[D] clear — Clear memory

[R] query — Display system parameters

[U] 18 Programming Stata