

Tips & Tricks

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“Come out of the desert of ignorance to the OASUS of knowledge”

Data Step Debugger

Yes, you can see it how it works!



Data Step /debug;

SAS System Help

File Edit View Go Help

Hide Locate Back Forward Stop Refresh Print Options

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Using Base SAS Software

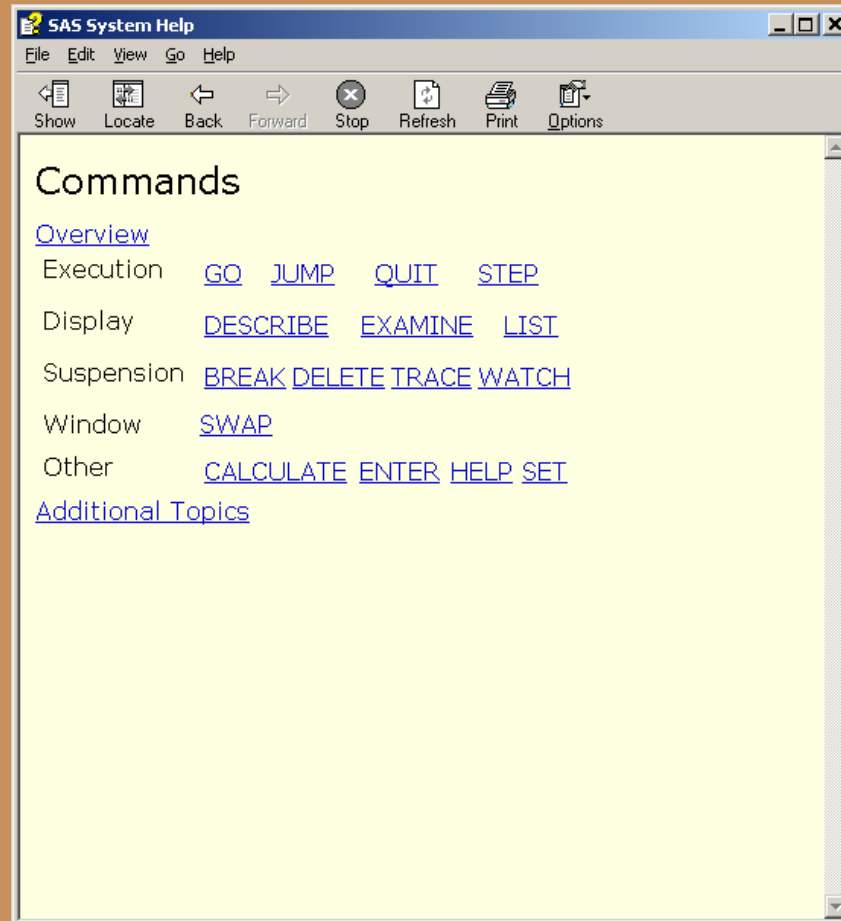
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For more information, see

- [SAS Language](#)
- [SAS Procedures](#)
- [Command Reference](#)



Data Step /debug;



Data Step /debug;

The screenshot displays the SAS interface with the following components:

- Editor - Untitled1 * DATA STEP running:**

```
1 data demo /debug;  
2 x=4.67;  
3 y=5;  
4 z=x+y;  
5 put _all_;  
6 run;  
7
```
- Log - (Untitled):**

```
256 data demo /debug;  
257 x=4.67;  
258 y=5;  
259 z=x+y;  
260 put _all_;  
261 run;  
  
x=4.67 y=5 z=9.67 _ERROR_=0 _N_=1
```
- PROC DEBUGGER LOG:**

```
DATA STEP Source Level Debugger  
  
Stopped at line 257 column 2  
> e _all_  
x = .  
y = .  
z = .  
_ERROR_ = 0  
_N_ = 1  
> step 3  
Stepped to line 258 column 2  
Stepped to line 259 column 2  
Stepped to line 260 column 2  
> e _all_  
x = 4.67  
y = 5  
z = 9.67  
_ERROR_ = 0  
_N_ = 1  
> go  
The DATA STEP program has completed execution
```
- DEBUGGER SOURCE:**

```
256 data demo /debug;  
257 x=4.67;  
258 y=5;  
259 z=x+y;  
260 put all ;  
261 run;
```

Data Step /debug;

- STEP -steps through the program
- BREAK -sets break points
- EXAMINE -show the value of a variable
- WATCH -stop when a variable changes
- ENTER -string debug commands
- QUIT -end debug



Date Checking

```
12345678;  
20041116;  
0411126;  
20041118;  
20050230;  
20041219;  
20041211;  
20041212;  
20041213;  
20041314;  
20041215;  
20041316;  
20041217;  
20041116;
```

Check a date is
good or bad before
trying to create a
SAS date.



Date Checking

```
input C_date $char8.;

length N_date 8;

if input(C_date, ?? yymmdd8.) = .
then do;
    N_date = .;
    put 'ERROR- Bad date input ' C_date ;
else do;
    N_date = input(C_date, yymmdd8.);
    put 'WARNING- Good date' N_date worddate20.;
end;
```



Date Checking

Bad date input 12345678

Good date November 16, 2004

Good date November 16, 2004

Bad date input 0411126;

Good date November 18, 2004

Good date November 18, 2004

Bad date input 20050230



Colourful Log Messages

```
1 data demo;
2 put 'WARNING: You can use colour in your SAS log';
3 put 'WARNING- to hight light messages to yourself';
4 put 'WARNING- or to your users.';
5 put;
6 put 'NOTE-Writes blue text.';
7 put;
8 put 'WARNING-Writes green text.';
9 put;
10 put 'ERROR-Writes red text.';
11 run;

13 %macro mdemo();
14 %put;
15 %put NOTE-Writes blue text.;
16 %put;
17 %put;
18 %put WARNING-Writes green text.;
19 %put;
20 %put ERROR-Writes red text.;
21 %mend;

23 %mdemo;
```

```
191 data demo;
192 put 'WARNING: You can use colour in your SAS log';
193 put 'WARNING- to hight light messages to yourself';
194 put 'WARNING- or to your users.';
195 put;
196 put 'NOTE-Writes blue text.';
197 put;
198 put 'WARNING-Writes green text.';
199 put;
200 put 'ERROR-Writes red text.';
201 run;

WARNING: You can use colour in your SAS log
to hight light messages to yourself
or to your users.

Writes blue text.

Writes green text.

Writes red text.

NOTE: The data set WORK.DEMO has 1 observations and 0 variables.
NOTE: DATA statement used:
      real time    0.05 seconds
      cpu time     0.05 seconds

202
203 %macro mdemo();
204 %put;
205 %put NOTE-Writes blue text.;
206 %put;
207 %put;
208 %put WARNING-Writes green text.;
209 %put;
210 %put ERROR-Writes red text.;
211 %mend;
212
213 %mdemo;

Writes blue text.

Writes green text.

Writes red text.
```



SAS sucks!

SAS is slow!!

Why do we use this product???

Who did this to us?!?

“Come out of the desert of ignorance to the OASUS of knowledge”

The screenshot displays the SAS software interface. On the left is the Explorer window showing the 'Contents of SAS Environment' with icons for Libraries, File Shortcuts, Favorite Folders, and a drive D-AM52317. The main area contains two windows: 'Log - (Untitled)' and 'Editor - Untitled1 *'. The Log window shows the execution of a SAS program with the following code:

```
21 data test;
22   do i=1 to 100000;
23     a=i;
24     b='SAS does not suck, sometimes it needs to be configured differently';
25     output;
26   end;
27 run;
```

The log output includes the following notes:

```
NOTE: The data set WORK.TEST has 100000 observations and 3 variables.
NOTE: DATA statement used (Total process time):
      real time          0.14 seconds
      cpu time           0.10 seconds
```

The Editor window shows the same code as the log window. The status bar at the bottom indicates 'NOTE: 7 Lines Submitted.' and 'Ln 1, Col 1'. The Windows taskbar at the bottom shows the Start button, several open applications, and the system clock displaying 9:46 AM.

“Come out of the desert of ignorance to the OASUS of knowledge”

The screenshot displays the SAS software interface. On the left is the Explorer window showing the 'SAS Environment' with folders for Libraries, File Shortcuts, Favorite Folders, and D-AM52317. The main window is split into two panes. The top pane, titled 'Log - (Untitled)', shows the following log output:

```
i=99892 a=1 b=SAS does not suck, sometimes it needs to be configured differently _ERROR_=0 _N_=1
i=99893 a=1 b=SAS does not suck, sometimes it needs to be configured differently _ERROR_=0 _N_=1
i=99894 a=1 b=SAS does not suck, sometimes it needs to be configured differently _ERROR_=0 _N_=1
i=99895 a=1 b=SAS does not suck, sometimes it needs to be configured differently _ERROR_=0 _N_=1
i=99896 a=1 b=SAS does not suck, sometimes it needs to be configured differently _ERROR_=0 _N_=1
i=99897 a=1 b=SAS does not suck, sometimes it needs to be configured differently _ERROR_=0 _N_=1
i=99898 a=1 b=SAS does not suck, sometimes it needs to be configured differently _ERROR_=0 _N_=1
i=99899 a=1 b=SAS does not suck, sometimes it needs to be configured differently _ERROR_=0 _N_=1
i=99900 a=1 b=SAS does not suck, sometimes it needs to be configured differently _ERROR_=0 _N_=1
NOTE: There were 1 observations read from the data set WORK.TEST.
NOTE: DATA statement used (Total process time):
      real time           1:06.39
      cpu time            1:04.92
```

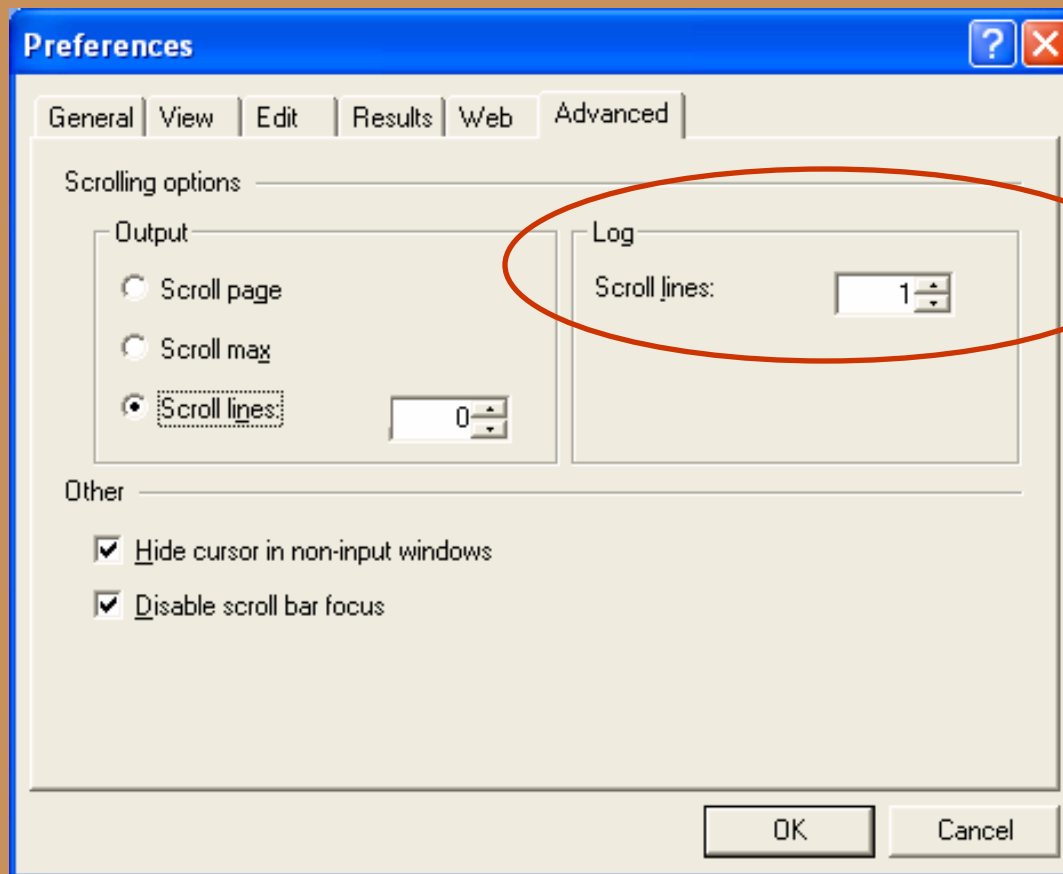
The bottom pane, titled 'Editor - Untitled1 *', contains the following SAS code:

```
data _null_ ;
set test;
do i=1 to 99900 ;
put _all_ ;
end ;
stop ;
run ;
```

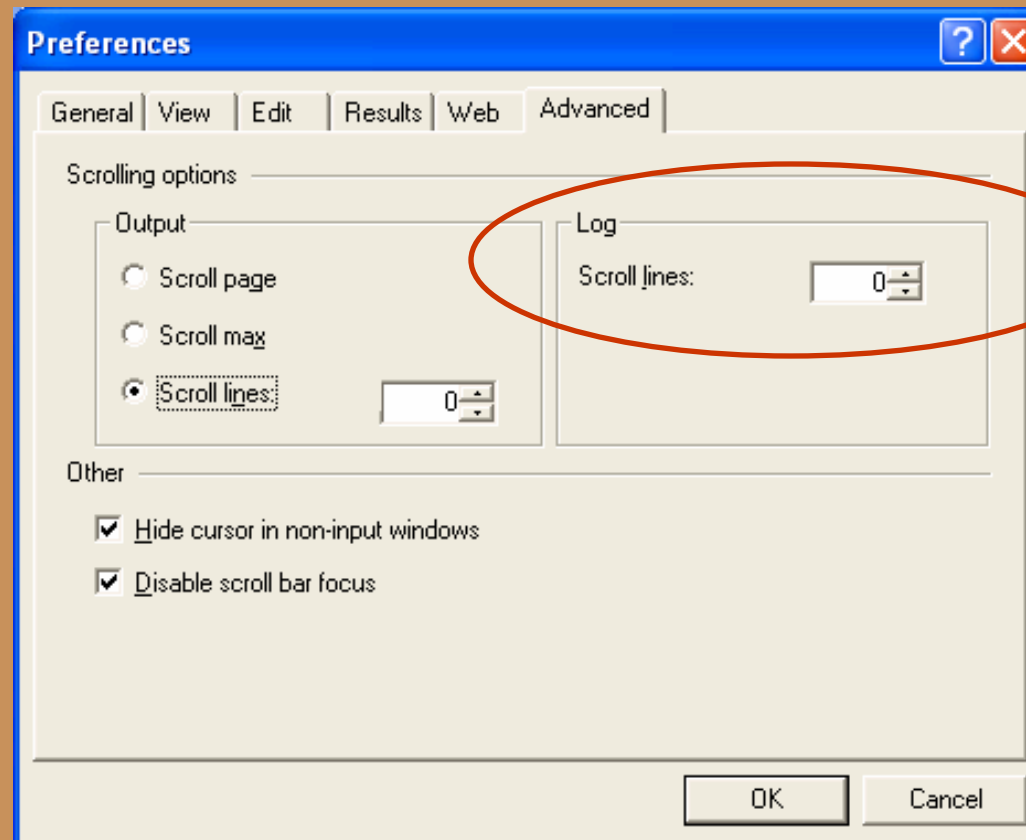
The taskbar at the bottom shows the Windows Start button, several open applications including Microsoft Office, In the Know, and a web browser, and the system tray with the time 9:48 AM.

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Tools/Options/Preferences



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The screenshot displays the SAS software interface. On the left is the Explorer window showing the 'SAS Environment' with folders for Libraries, File Shortcuts, Favorite Folders, and D-AM52317. The main window is split into two panes. The top pane is the Log window, titled 'Log - (Untitled)', which contains the following text:

```
=99892 a=1 b=SAS does not suck, sometimes it needs to be configured differently _ERROR_=0 _N_=1
i=99893 a=1 b=SAS does not suck, sometimes it needs to be configured differently _ERROR_=0 _N_=1
i=99894 a=1 b=SAS does not suck, sometimes it needs to be configured differently _ERROR_=0 _N_=1
i=99895 a=1 b=SAS does not suck, sometimes it needs to be configured differently _ERROR_=0 _N_=1
i=99896 a=1 b=SAS does not suck, sometimes it needs to be configured differently _ERROR_=0 _N_=1
i=99897 a=1 b=SAS does not suck, sometimes it needs to be configured differently _ERROR_=0 _N_=1
i=99898 a=1 b=SAS does not suck, sometimes it needs to be configured differently _ERROR_=0 _N_=1
i=99899 a=1 b=SAS does not suck, sometimes it needs to be configured differently _ERROR_=0 _N_=1
i=99900 a=1 b=SAS does not suck, sometimes it needs to be configured differently _ERROR_=0 _N_=1
NOTE: There were 1 observations read from the data set WORK.TEST.
NOTE: DATA statement used (Total process time):
      real time           0.68 seconds
      cpu time            0.62 seconds
```

The bottom pane is the Editor window, titled 'Editor - Untitled1 *', containing the following SAS code:

```
data _null_ ;
  set test;
  do i=1 to 99900 ;
  put _all_ ;
  end ;
  stop ;
  run ;
```

At the bottom of the window, the taskbar shows the Start button, several open applications (3 Microsoft..., In the Kno..., http://sup..., SAS, OASUS, Microsoft P...), and the system tray with the time 9:53 AM.

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The screenshot displays the SAS software interface. On the left, the Explorer window shows the 'Contents of SAS Environment' with icons for Libraries, File Shortcuts, Favorite Folders, and a drive D-AM52317. The main window is divided into two panes. The top pane, titled 'Log - (Untitled)', contains the following text:

```
=99892 a=1 b=SAS does not suck, sometimes it needs to be configured differently _ERROR_=0 _N_=1
i=99893 a=1 b=SAS does not suck, sometimes it needs to be configured differently _ERROR_=0 _N_=1
i=99894 a=1 b=SAS does not suck, sometimes it needs to be configured differently _ERROR_=0 _N_=1
i=99895 a=1 b=SAS does not suck, sometimes it needs to be configured differently _ERROR_=0 _N_=1
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i=99897 a=1 b=SAS does not suck, sometimes it needs to be configured differently _ERROR_=0 _N_=1
i=99898 a=1 b=SAS does not suck, sometimes it needs to be configured differently _ERROR_=0 _N_=1
i=99899 a=1 b=SAS does not suck, sometimes it needs to be configured differently _ERROR_=0 _N_=1
i=99900 a=1 b=SAS does not suck, sometimes it needs to be configured differently _ERROR_=0 _N_=1
NOTE: There were 1 observations read from the data set WORK.TEST.
NOTE: DATA statement used (Total process time):
      real time           0.68 seconds
      cpu time            0.62 seconds
```

The bottom pane, titled 'Editor - Untitled1 *', contains the following SAS code:

```
data _null_ ;
  set test;
  do i=1 to 99900 ;
  put _all_ ;
  end ;
  stop ;
  run ;
```

At the bottom of the window, the taskbar shows the Start button, several open applications (3 Microsoft..., In the Kno..., http://sup..., SAS, OASUS, Microsoft P...), and the system tray with the date and time 9:53 AM.

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