



## Work Done

data	for adding time series one at a time to the workspace bank
matdata	for adding a number of time series arranged in a matrix to the workspace bank
type	for displaying a time series in the workspace numerically on the results screen
f	for forming a new variable in the workspace bank
by	arithmetic operations with existing series.
The log() recognized.	and exp() functions are also
r	for performing linear regression of one variable on a number of others
gr	for graphing one or more variables.
title	to provide a title for a regression or graph
subtitle	to provide a subtitle for a regression or graph
_dates	tdates, fdates, rdates, and gdates, to provide date ranges for the <i>type</i> , <i>f</i> , <i>r</i> , and <i>gr</i> commands
add	to execute any of the above command from a file specified following the <i>add</i> command.
quit	to exit the program.

# To Do

enrich the graph command with vertical range control, saving and various options.

other bank commands – *bank*, *cbk*, *hbk*, and *vam*  
extend the *r* command with *con*, *sma*, *showt*, and  
the saving commands *sav* and *cat*.

tabular display of items in a *vam* file

matrix algebra on matrices and vectors  
in a *vam* file

more functions for use in *f* commands.

specialized regression commands *recur* and *sur*

Here is timed:

1970 1

1.000	2.000	3.000	4.000	5.000	6.000	7.000
8.000	9.000	10.000	11.000	12.000	13.000	14.000
15.000	16.000	17.000	18.000	19.000	20.000	21.000
22.000	23.000	24.000	25.000	26.000	27.000	28.000
29.000	30.000	31.000				

1970 2

32.000	33.000	34.000	35.000	36.000	37.000	38.000
39.000	40.000	41.000	42.000	43.000	44.000	45.000
46.000	47.000	48.000	49.000	50.000	51.000	52.000
53.000	54.000	55.000	56.000	57.000	58.000	59.000

matdata 2009q1 21

CoalElec CoalCoke CoalOthInd CoalTotal

# The 21 in the first line means to skip the first 21 spaces  
# on each data line. A line beginning with a # is just a  
comment.

#		U.S. Coal Consumption			
#		(Thousand Short Tons)			
#	Year and	Electric	Coke	Other	Total
#	Quarter	Power	Plants	Industry	
#2009					
	January - March	236842	4398	12075	254383
	April - June	216502	3402	10542	231110
	July - September	244445	3450	11107	259621
	October - December	235838	4076	11590	252363
#					
#2010					
	January - March	246445	4857	12600	264939
	April - June	229469	5353	11914	247344
	July - September	267943	5491	12284	286361
	October - December	231195	5391	12490	249870
#					
#2011					
	January - March	234847	5188	12489	253541
	April - June	223540	5392	11036	240611
	July - September	261534	5407	11168	278638
	October - December	208637	5447	11543	226233 ;

## New Date Formats

2010q1                      the first quarter of 2010

2010m01                     January of 2010

2010m07d04      2010 July 4

Note that the month and day must always be two characters.

## New Date Formats

2010q1                      the first quarter of 2010

2010m01                     January of 2010

2010m07d04      2010 July 4

Note that the month and day must always be two characters.

f CoalSum = CoalElec + CoalCoke + CoalOthInd  
f CoalResid = CoalTotal - CoalSum  
f ShareElec = 100.\*CoalElec/(CoalElec + CoalCoke + CoalOthInd + CoalResid)  
type ShareElec

with this result

Here is ShareElec:

2009q1	93.104	93.679	94.155	93.452
2010q1	93.020	92.773	93.568	92.526
2011q1	92.627	92.905	93.862	92.222

r



And we can now illustrate regression with a somewhat nonsensical example:

title Coal Used for Coke

r CoalCoke = CoalResid,CoalOthInd

The result looks like this:

```

:
SEE =          567.6  RSQ =          0.870  RHO =          0.735  DW =          0.531
Variable name      RegCoef  Mexval   Elas   NorRes   Means
1 intercept        -162.19922    0.3   -0.03    7.69     1.00
2 CoalResid         -1.86559    12.2   -0.29    4.31    757.25
3 CoalOthInd         0.54496   107.5    1.33    1.00   11736.50
```

# Coal Used for Coke

