

# 1998 SASware Ballot® Results

## I SAS Language

### General

Overall Rank	Part Rank	Number of Votes	Item Number		Overall Rank	Part Rank	Number of Votes	Item Number	
4.0	1.0	676	23	provide the ability to create stand-alone executable programs from base SAS software	199.5	51.5	128	13	provide a NOWARN system option to prevent any WARNING messages from being written to the SAS LOG
9.5	3.5	552	22	allow options on the TITLE and FOOTNOTE statements to specify bold or underlined text	266.0	66.5	93	19	enhance the behavior of the ERRORABEND system option to pop up a window requesting whether an interactive SAS session should be terminated
11.0	5.0	541	1	provide the ability to display the current date and time in the SAS LOG and OUTPUT (not just the date and time the session began) for an interactive SAS session	311.0	70.0	75	18	add a system option to globally set the default rounding unit to be used in conditional evaluation
18.0	8.0	482	2	provide a system option to control the number of decimal places printed for any output	328.0	72.0	67	17	provide an LRECL=system option
21.0	10.0	453	11	allow complete control of placement and format of date and page number in SAS output	356.5	75.5	59	16	provide the ability to retrieve values by an index in descending order
27.0	12.0	418	6	allow the use of meta-characters or wildcards when referencing SAS data set names, variable names, or character strings	378.5	80.0	54	7	provide a system option to specify what currency symbol to use, with the default being the dollar sign
29.0	14.0	41	512	allow separate justification for TITLE and FOOTNOTE statements	438.0	85.0	39	8	allow the ERRORS= system option to control the number of informational messages that are printed from the MSGLEVEL=I system option
55.0	20.0	340	9	add an option to display a running total of CPU time, memory usage, and space utilization after each step	507.0	92.0	26	14	provide the ability to control the number of notes generated similar to the ERRORS=option
88.0	25.0	266	20	provide a system option similar to the MISSING option to designate a character to print for missing character variable values	<b>DATA Step</b>				
90.0	26.0	262	3	provide a system option to reset all options back to the default setting at initialization of the SAS System	9.5	3.5	552	27	display the "nesting level" for DO-END blocks in the SAS LOG
95.0	27.0	25	110	specify the name(s) of the variable(s) formatted with the BEST. format in the note issued when any assigned format is overridden	12.0	6.0	532	29	provide support for the LIKE, CONTAINS, and BETWEEN-AND operators for the IF statement
96.5	28.0	248	15	provide an option to store numbers using integer representation rather than floating point	26.0	11.0	420	24	provide a note in the SAS LOG that displays the name, number of observations, and number of variables for a data set on a SET, MERGE, or MODIFY statement
111.5	30.0	226	21	provide a FORMAT/NOFORMAT system option to indicate whether to use associated formats in the DATA step or procedures	35.0	15.0	390	26	provide a WARNING to indicate that a MERGE statement has been used without a BY statement
117.0	32.0	219	5	provide the ability to specify different line size values for the log and listing files	48.5	17.0	354	25	allow the IN operator to accept expressions and variable names
118.0	33.0	216	4	provide a functionality similar to AUTOEXEC that allows a set of code to be executed at termination of the SAS session	52.0	19.0	348	30	add the name of the array to the message: ARRAY SUBSCRIPT OUT OF RANGE
					83.5	24.0	278	31	add a MISSING=option to the INFILE statement to designate alternate characters to be read as missing values
					107.0	29.0	230	40	provide an option for the MERGE statement to perform a full join

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Overall Rank	Part Rank	Number of Votes	Item Number	Description	Overall Rank	Part Rank	Number of Votes	Item Number	Description
114.5	31.0	222	38	compute the value for the NOBS=option on the SET statement after subsetting using the WHERE=data set option	543.5	100.0	17	37	increase the number of lines available to the output pointer using the N=option on the FILE statement
129.0	35.	0204	50	provide a CENTER option on the PUT statement to automatically center literal text	572.5	102.0	10	34	allow index retrieval on a MODIFY with the BY statement without specifying a transaction data set
149.5	41.0	177	46	allow the label created with the LABEL=data set option to be carried over to a newly created data set	<b>Functions</b>				
158.5	43.0	167	42	allow the use of the special subscript asterisk (*) to refer to all elements in temporary arrays and multidimensional arrays	17.0	7.0	493	51	implement a MEDIAN function to compute the median across a group of variables
183.0	47.0	143	41	provide a system option to control whether the VARIABLE IS UNINITIALIZED message is a NOTE, a WARNING, or an ERROR and set the step condition code appropriately	39.0	16.0	376	53	add an option to the ROUND function to round down, up, or truncate values
207.0	53.0	123	28	provide a method for the OR operator to differentiate between both conditions being true and one of the conditions being true	61.0	22.0	310	55	add a function to uppercase the first letter of each word in a string
227.5	56.5	115	32	allow the KEY= option to take advantage of a DBMS index	65.0	23.0	300	54	allow variable lists like X=SUM(OF A:) to sum all variables beginning with an 'A'
234.0	59.0	113	45	provide the ability to save the source code as part of the view when creating DATA step views	124.0	34.0	208	58	add a function to return the name of the variable that contains the minimum or maximum value for a group of variables
238.5	61.0	111	33	add a way for a user to set a warning condition during execution	199.5	51.5	128	52	add functions for scientific conversions, for example: atmospheres to inches of mercury, metric to English
252.5	63.0	101	47	allow the use of data set lists in the DATA, SET, MERGE, UPDATE, and OUTPUT statements	236.0	60.0	112	56	provide a function to convert a ZIP code to a county FIPS code
266.0	66.5	93	43	provide an argument to the ABORT statement that terminates the current DATA step and ignores any pending DATA or PROC steps when running interactively	364.0	77.0	57	57	add functions to generate a group of incremental sums and means for the elements of an array
320.5	71.0	70	49	provide an option to require programmers to explicitly define all variables used in the DATA step	366.5	78.0	56	59	create a function to add single quotes to a data value
341.0	73.0	64	36	add a numeric option to the LEAVE statement to exit two or more nested loops at once	<b>Informats and Formats</b>				
466.5	88.0	34	35	add a numeric option to the CONTINUE statement to branch to the return point of any nested loop	46.0	18.0	349	60	provide a date format to display the month and year in the form: January 1994
493.0	91.0	29	44	issue a note when only one data set is specified in a MERGE statement to indicate that two or more data sets should be used	137.0	37.0	194	65	provide a SAS format and informat similar to DATE with the pattern DD-MMM-YY
529.5	97.0	20	48	provide an option to specify that an external file is in a non-native character set	146.0	39.0	184	61	provide a format to write leading zeros as well as commas
533.5	98.0	19	39	provide a data set option to handle duplicates on the master and transaction data sets when using the MODIFY statement with the KEY=option	211.0	54.5	122	78	provide a format to write time in military form with leading zeros for times before 10:00 am
					243.5	62.0	107	64	create a duration format to display a datetime value as days: hr:mm:ss
					269.0	68.0	91	69	provide a significant digits format to display the significant digits, including zero
					307.5	69.0	76	68	provide an informat like \$CHARZB to be used on ascii systems to read ebcdic data, convert it to the native format and convert any byte containing a binary zero to a blank

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Overall Rank	Part Rank	Number of Votes	Item Number		Overall Rank	Part Rank	Number of Votes	Item Number	
351.0	74.0	61	70	add an informat to handle Julian dates in the form of cyyddd where the c is the century indicator	56.5	21.	033	482	provide a syntax checking utility
371.5	79.0	55	62	provide an informat that considers time or datetime values with a minute value greater than 59 as invalid	133.0	36.0	197	85	add a source code formatter
409.0	81.0	44	66	provide a format, similar to BEST., that only displays non-zero decimal values and also aligns all values according to both the explicit and implicit decimal points	141.0	38.0	188	89	provide the ability to click on a statement in the PROGRAM EDITOR and receive context-sensitive help when pressing F1
414.5	82.5	43	71	allow the COMMA informat to also remove single quotes from the input data	147.0	40.0	181	98	enhance the FIND command so it highlights the found string instead of positioning the cursor on the first character
414.5	82.5	43	73	add an informat and a format to handle the conversion of amounts to Euro-dollar amounts	154.0	42.	017	197	include a list of recently used files under the FILE pull-down menu
425.0	84.0	41	77	add a YMMxw informat	167.5	44.0	157	105	provide the ability to choose whether to view data using FSVIEW, FSEDIT, or VIEWTABLE
451.5	86.0	37	63	add an informat and format to read and write dates in the form: Thu Mar 21 13:59:34 CST 1996	175.0	45.0	148	104	provide a confirmation window to verify that the entry name a program is being saved to is the desired entry name
457.0	87.0	36	72	provide an informat similar to S370FZDTw.d to process native ASCII numeric data with a trailing sign	186.0	48.5	141	91	provide the ability to SAVE or SAVE AS from a list of the last 5 files included into the PROGRAM EDITOR
511.0	93.5	25	74	provide a format to display a numeric value in the form of Day Hour Minute	186.0	48.5	141	95	provide a command to insert templates of selected SAS procedure steps into the PROGRAM EDITOR
515.0	95.0	24	76	provide an informat similar to the SMFSTAMP to read date-time values where the date portion is a packed decimal julian date with a 4 digit year (yyyydddF)	195.0	50.0	130	83	add an FMTLIB window to display the format values for a given entry in a FORMAT catalog, similar to the information given by the FMTLIB option in PROC FORMAT
537.5	99.0	18	75	provide an informat and format like the VMSZnw for all systems to be able to read or write zoned decimal values that are produced by other software on ascii systems	211.0	54.5	122	103	provide the ability to change the colors of designated lines of code in the PROGRAM EDITOR and save these color changes with the program file to make it easier to find frequently edited sections of code
583.0	104.0	5	67	add a \$PHEXw format	227.5	56.5	115	102	provide the ability to choose colors or bold text for key words like DATA, SET, RUN when the source lines are displayed in the LOG
<b>WHERE Statement</b>					231.0	58.0	114	87	allow the selection of more than one program to include into the PROGRAM EDITOR from the pop-up file selection window
8.0	2.0	553	80	add a note indicating the number of observations that meet the WHERE condition	260.0	64.5	97	90	add the capability to the PROGRAM EDITOR to exclude one line or a block of lines (similar to the MVS ISPF Editor line command X)
28.0	13.0	417	79	provide the ability to display the WHERE clause in printed output	260.0	64.5	97	96	modify the behavior of the PROGRAM EDITOR such that when an arrow key is depressed for navigation, any marked text is unmarked
177.0	46.0	147	81	allow a WHERE statement to be merged in a DATA step or PROC SQL view of a SAS data set at execution time	356.5	75.5	59	88	allow different fonts for different windows
<b>Text Editor (DMS, SAS/FSP, SAS/AF Software)</b>					473.0	89.0	33	100	provide an option to reset the line numbers in the LOG window to a specified value
19.0	9.0	481	86	add an option to reset the SAS session by deleting temporary data sets, updating the date and time, resetting page and line numbers, cancelling unmatched quotes, and correcting missing %MEND errors	488.5	90.0	30	101	allow "SAVE AS" and "FILE OPEN" to work with filenames directly for data sets and graphics

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Overall Rank	Part Rank	Number of Votes	Item Number	
511.0	93.5	25	84	add an option to choose the placement of a page eject at the beginning or the end of the output
523.0	96.0	22	94	allow the title bar to reflect the catalog entry name if the text has been saved to an object rather than a file
554.0	101.0	14	99	prompt only to quit SAS, not for each window that contains unsaved information
581.0	103.0	6	93	provide the ability to modify the Ctrl-S and Ctrl-O keys
585.5	105.0	4	92	provide a command to invoke a Windows help file, similar to the SCL WINHELP() function

## PART II Base SAS Procedures

## All Procedures

Overall Rank	Part Rank	Number of Votes	Item Number	
36.0	8.0	385	114	provide the ability to specify more than one data set as input to all procedures
37.0	9.0	384	112	provide an option to allow the page number to be reset when a BY value changes
38.0	10.0	382	109	provide the ability to use -L, -C, and -R with formats on a FORMAT statement to left align, center, and right align
41.5	11.0	374	115	implement wizards for more difficult procedures such as TABULATE
52.0	15.0	348	108	provide the ability to order categorical variables by a user-defined ordering scheme
56.5	16.0	334	111	provide the SPLIT= functionality in all procedures that allow labeling
67.0	22.0	297	107	provide the ability to display all format ranges for a categorical variable, whether or not the values in the range actually occur in the input data set
77.5	26.0	282	106	provide the ability to compute weighted and unweighted statistics in the same step for all applicable procedures
138.5	39.0	190	110	provide an option to produce a header line when the input data set contains no observations
153.0	43.0	172	116	provide an option to separate columns in the OUTPUT window with tabs instead of spaces
186.0	50.0	141	113	provide the ability to access BY-groups that are ordered by formatted values

## New Procedures

Overall Rank	Part Rank	Number of Votes	Item Number	
43.0	12.0	372	117	provide a procedure to analyze multiple-response data

## PROC CHART

Overall Rank	Part Rank	Number of Votes	Item Number	
64.0	21.0	302	118	add an option to allow uniform axis scaling across BY groups

## PROC CIMPORT

Overall Rank	Part Rank	Number of Votes	Item Number	
158.5	44.0	167	119	provide the ability to select specific data sets or catalogs from a transport file when importing

## PROC COMPARE

Overall Rank	Part Rank	Number of Votes	Item Number	
332.5	64.5	66	122	provide the ability to list only the base and comparison values without the difference and percent difference
446.0	76.0	38	120	provide the ability to print the variable labels either in place of, or in addition to, the variable names when using the TRANSPOSE option
473.0	79.0	33	121	provide the ability to print the variables in the order they are specified in the VAR statement when using the TRANSPOSE option

## PROC CONTENTS

Overall Rank	Part Rank	Number of Votes	Item Number	
58.0	17.0	328	124	provide the ability to suppress the alphabetical listing of variables when requesting the POSITION option
80.5	27.0	281	123	add a variable to the OUT= data set that contains the size of the data set in bytes or megabytes

## PROC COPY

Overall Rank	Part Rank	Number of Votes	Item Number	
105.0	33.0	234	125	provide the ability to copy SAS data sets without changing the Created and Last Modified dates
188.5	51.0	139	127	provide the ability to copy an index rather than re-create it
446.0	76.0	38	126	provide an option to only copy data sets with observations to the OUT=data library

## PROC CORR

Overall Rank	Part Rank	Number of Votes	Item Number	
351.0	66.0	61	128	allow pairwise deletion of missing values in VAR or WITH variables when a PARTIAL statement is used

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**PROC CPORT**

Overall Rank	Part Rank	Number of Votes	Item Number	
151.0	42.0	176	131	provide a way to display contents information for a transport file
269.0	56.5	91	129	provide the ability to maintain data set compression when a data set is transported

Overall Rank	Part Rank	Number of Votes	Item Number	
378.5	68.0	54	132	provide a way to maintain read passwords on data sets when transporting
479.5	81.5	32	130	provide the ability to transport KEYS entries between different operating systems

**PROC DATASETS**

Overall Rank	Part Rank	Number of Votes	Item Number	
311.0	62.0	75	134	allow the use of the WHERE statement with a SELECT statement
473.0	79.0	33	133	provide the ability to age all data sets on the AGE statement even when the first data set does not exist

**PROC FORMAT**

Overall Rank	Part Rank	Number of Votes	Item Number	
62.0	19.0	307	135	provide the ability to prevent an existing format from being overwritten
298.5	61.0	80	136	change the NOTE issued when trying to create a format with the same name as a SAS supplied format to an ERROR

**PROC FREQ**

Overall Rank	Part Rank	Number of Votes	Item Number	
30.0	5.04	11	137	provide the ability to output information from more than one table request to a single data set
109.0	34.0	228	139	add the ability to format the cell statistics
113.0	35.0	224	138	add an option to output the number of unique values for a variable in the TABLES statement
127.5	37.0	206	142	provide an exact confidence interval for the relative risk
180.5	48.0	145	140	provide Monte Carlo methods for tables too large for exact methods
249.0	54.0	103	141	provide the variance estimator due to Robins, Breslow, and Greenland (1986) for the Mantel-Haenszel odds ratio estimator

**PROC MEANS/PROC SUMMARY**

Overall Rank	Part Rank	Number of Votes	Item Number	
71.0	24.0	288	143	provide the ability to compute geometric means and variances

**PROC PLOT**

Overall Rank	Part Rank	Number of Votes	Item Number	
69.0	23.0	294	144	provide a UNIFORM option to uniformly scale axes across BY-groups
72.5	25.0	285	145	provide the ability to connect points on a plot

**PROC PRINT**

Overall Rank	Part Rank	Number of Votes	Item Number	
14.0	3.0	516	146	provide explicit control of the number of observations that can be printed on a page
32.0	6.0	396	147	provide an option to force a page eject if all observations in the current BY group will not fit on the remainder of the page
44.0	13.0	366	150	allow the OBS column header and the N statistic to be labeled
45.0	14.0	358	149	provide the ability to explicitly control where output will wrap
59.0	18.0	321	155	provide an option to allow every nth observation to be printed
63.0	20.0	305	152	allow the label of the BY variable to be printed on the subtotal line when using the BY and SUM or BY and SUMBY statements
89.0	28.0	265	148	provide the ability to control the number of blank lines to print between observations and between BY groups
104.0	32.0	235	153	provide an option to choose whether or not to print the grand total when using SUM or SUMBY
121.5	36.0	210	154	provide an option to print headers only once at the top of the first page
142.0	40.0	187	151	provide an option to suppress printing any variables that have only missing values

**PROC PRINTTO**

Overall Rank	Part Rank	Number of Votes	Item Number	
100.0	30.5	244	156	provide an option to send output to both the specified file or printer and the default output location simultaneously
217.5	52.0	120	157	provide an option to remove the carriage control characters on the first page of the output to prevent printing a blank page
438.0	74.0	39	158	add a FORM=option to provide forms support for rerouted output in both batch and interactive mode

**PROC RANK**

Overall Rank	Part Rank	Number of Votes	Item Number	
332.5	64.5	66	159	add a ROUND option to specify the number of decimal places to consider when ranking values

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Overall Rank	Part Rank	Number of Votes	Item Number	
371.5	67.0	55	160	provide an option to allow tied values to be assigned unique ranks and to be placed into different groups when using the GROUPS=option

**PROC REPORT**

Overall Rank	Part Rank	Number of Votes	Item Number	
134.5	38.0	196	161	provide an option to specify a "Continued" message between pages of a report
143.0	41.0	186	162	provide the ability to suppress summary lines when there is only one observation for a group
184.0	49.0	142	164	provide the ability to conditionally insert page breaks
256.5	55.0	98	166	provide the ability to group by computed columns
269.0	56.5	91	168	provide the ability to stack variables one above the other within a single column
281.5	59.0	87	172	provide the ability to display cumulative frequencies, sums and percentages
394.5	70.0	48	176	provide the ability to summarize information across all BY groups
414.5	71.0	43	167	provide the ability to add multiple variables to a report in the REPORT window and give them all the same definition attributes without having to define each one individually
425.0	72.5	41	177	enhance the REPORT window to allow the scrollbar to be used to scroll from one page to the next
446.0	76.0	38	163	add the ability to dynamically align text from LINE statements with report columns
479.5	81.5	32	171	provide the ability to wrap groups of observations, rather than one observation at a time, similar to the way PROC PRINT wraps
497.0	83.0	28	170	provide a NOPRINT option on the PROC statement to suppress any printed output from being generated when the OUT=option is also specified
519.5	85.0	23	175	modify the REPORT window to use the SQL Query Window WHERE builder
554.0	86.0	14	165	provide the ability to select the panel(s) that a LINE statement is written under
572.5	87.0	10	169	provide the ability to add a description when saving the report template in batch
576.5	88.0	9	174	provide the ability to return to the same page rather than the first page after making a change in the REPORT window
583.0	89.0	5	173	allow the ITEMHELP option in the DEFINE window to default to the column name

**PROC SORT**

Overall Rank	Part Rank	Number of Votes	Item Number	
6.0	1.06	10	181	provide the ability to sort multiple data sets in one step
7.0	2.0	604	178	allow the KEEP and DROP statements
20.0	4.0	463	180	add an option to output deleted observations to a data set
91.0	29.0	260	179	provide the ability to specify a function in the BY statement and sort by its result

**PROC SQL**

Overall Rank	Part Rank	Number of Votes	Item Number	
163.5	45.0	160	183	allow the automatic conversion of variables from character to numeric when performing arithmetic expressions in a query
271.5	58.0	90	182	implement an IN operator construct in which the column value on the left of the operator can contain more than one column to be compared to multiple columns in the subquery on the right of the operator
295.0	60.0	81	188	allow a conversion method similar to the ACCESS products in SQL Passthrough to rename DBMS column names to SAS variable names
387.0	69.0	50	185	allow a WHERE statement to be merged into an ACCESS or DATA Step view to filter the amount of data processed
425.0	72.5	41	184	provide an option to suppress the warning message issued when duplicate variables are found while creating a SAS data set using the CREATE TABLE statement
473.0	79.0	33	186	implement a dictionary table containing graphics option settings
515.0	84.0	24	187	allow all concatenated directories allocated to a FILENAME fileref to be retrieved from the dictionary table DICTONARY.EXTFILE

**PROC TABULATE**

Overall Rank	Part Rank	Number of Votes	Item Number	
100.0	30.5	244	189	provide an option to suppress the ALL line if the group being summed only has one level

**PROC TRANSPOSE**

Overall Rank	Part Rank	Number of Votes	Item Number	
169.0	46.0	153	190	create a macro variable to contain the number of COLn variables written to the output data set

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## PROC UNIVARIATE

Overall Rank	Part Rank	Number of Votes	Item Number	Description	Overall Rank	Part Rank	Number of Votes	Item Number	Description
					195.0	28.0	130	207	provide the ability to save a graph in the GRAPH window into a given catalog without using the GRAPHICS EDITOR
34.0	7.0	391	191	provide standard errors and confidence intervals for all of the computed statistics					
170.0	47.0	152	193	add an EXTREMES=n option for specifying the number of largest and smallest values to output	227.5	33.0	115	208	add an option to allow procedures to replace GRSEG entries if an entry by that name already exists
247.	553.0	104	192	use all of the ID variables for labeling extreme observations					
316.0	63.0	73	194	support SAS time formats on the analysis variable					

## PART III SAS Macro Facility

Overall Rank	Part Rank	Number of Votes	Item Number	Description
13.0	1.05	29	195	add line numbers to MPRINT output, so line numbers are continuous in the SAS LOG
23.0	2.0	440	196	provide the ability to delete macro variables
47.0	3.0	355	197	provide the ability to retrieve the original source code for a stored compiled macro
86.0	4.0	269	203	enhance the %PUT statement to allow text to be displayed in different colors in order to generate messages that look like SAS-generated NOTE, WARNING, and ERROR messages
109.0	5.0	228	202	provide the ability to determine the autocall library from which a macro was invoked
241.0	6.0	110	201	provide a macro function to return the position of a word based on a delimited list
281.5	7.0	87	199	provide a macro function to remove a token from a string
507.0	8.0	26	200	allow NO\$RESERVEDB1 to free the MPRINT file within the same SAS session it was created
543.5	9.0	17	198	provide an option to detect macro triggers in CALL EXECUTE routines

## PART IV SAS/GRAPH Software

## All Procedures

Overall Rank	Part Rank	Number of Votes	Item Number	Description
48.5	3.0	354	204	provide an option to label reference lines
92.0	10.0	254	209	provide the ability to close the GRAPH window without viewing all the graphs generated by submitted statements
134.5	20.0	196	205	provide the ability to number graphics output and specify the starting page number
177.0	27.0	147	206	provide the ability to use variable values as part of the NAME and DESCRIPTION of a graph when BY-processing is used

## New Procedures

Overall Rank	Part Rank	Number of Votes	Item Number	Description
41.5	2.0	374	210	provide the ability to automatically overlay bars and plot lines
225.0	32.0	116	213	add a graphics procedure comparable to PROC TIMEPLOT
289.0	37.0	85	212	provide a procedure to produce "wind rose" or "radar" charts
405.0	44.0	45	211	provide the ability to create ternary plots

Global Statements  
(AXIS, LEGEND, SYMBOL, etc.)

Overall Rank	Part Rank	Number of Votes	Item Number	Description
66.0	6.0	299	221	provide the ability to specify a 'break' symbol (double slashes or double lightning bolt) to signify an axis break
75.0	7.0	283	217	provide superscripts and subscripts in fonts
80.5	8.0	281	214	provide the ability to specify just axis end points or just an increment value, and let the procedure fill in the other elements
98.0	12.0	247	215	provide options to produce horizontal axes on the top and bottom, and vertical axes on both the right and left sides of the graph
119.0	16.0	211	220	provide the ability to specify uneven intervals between tickmarks
125.5	17.0	207	226	provide more patterns than just cross hatching, solid, empty, and leaning lines
130.0	19.0	202	219	provide the ability to order axis values based on the order the data are read in
158.5	23.0	167	218	provide options to create and customize boxes of text on graphics output, including rounded corners, drop shadows, block effects, and stacks
163.5	25.0	160	216	provide a GOPTIONS window
165.5	26.0	159	222	provide a LEGEND statement option to allow reordering of legend entries
197.0	29.0	129	224	add true dotted lines to the list of dashed line styles
250.5	35.0	102	223	add options to control the widths of all bars and boxes in SYMBOL statements when using the STD and BOX interpolation methods

## 1998 SASware Ballot Results

Overall Rank	Part Rank	Number of Votes	Item Number	
364.0	41.0	57	225	add an option to the LEGEND statement to control the number of symbols that display for each legend value
502.0	50.0	27	227	provide an option on the LEGEND statement to draw a box around each individual entry in the legend

**Annotate Facility**

Overall Rank	Part Rank	Number of Votes	Item Number	
109.0	14.0	228	228	provide a function to produce arrows
318.5	39.0	71	229	provide the ability to return the actual (X,Y) coordinate from text that was positioned with relative move coordinates

**DATA Step Graphics Interface**

Overall Rank	Part Rank	Number of Votes	Item Number	
549.0	55.0	16	230	provide the ability to place values on a GRSEG entry using the data coordinate system that the annotate facility uses

**Fonts**

Overall Rank	Part Rank	Number of Votes	Item Number	
138.5	22.0	190	231	provide the ability to easily integrate user-supplied hardware and system fonts into the SAS system for use across products

**Graphics Editor**

Overall Rank	Part Rank	Number of Votes	Item Number	
277.0	36.0	88	232	provide an option to change the background color of the graph
519.5	52.0	23	233	provide the ability to edit a pre-existing paragraph as a paragraph instead of on a line-by-line basis

**Graphics Devices**

Overall Rank	Part Rank	Number of Votes	Item Number	
33.0	1.0	392	234	provide a "fit to page" printing option

**PROC GCHART**

Overall Rank	Part Rank	Number of Votes	Item Number	
52.0	4.0	348	235	provide the ability to specify ranges for bar values, rather than midpoints
93.5	11.0	253	236	provide an option to place values and labels inside bars when doing vertical or horizontal bar charts
111.5	15.0	226	237	provide the ability to have more than one variable charted on the same set of axes

Overall Rank	Part Rank	Number of Votes	Item Number	
136.0	21.0	195	239	implement a UNIFORM option
332.5	40.0	66	240	provide the ability to change the label of the statistics on an HBAR graph

Overall Rank	Part Rank	Number of Votes	Item Number	
414.5	46.0	43	238	add an option to the BLOCK statement to allow the width of the block to be determined by a variable's value
451.5	48.0	37	241	provide notes in the LOG with recommended solutions when the bars are not wide enough for the statistics to print on top

**PROC GCONTOUR**

Overall Rank	Part Rank	Number of Votes	Item Number	
488.5	49.0	30	242	provide the ability to create an output data set that contains the coordinates for the lines that are drawn for the contour levels

**PROC GIMPORT**

Overall Rank	Part Rank	Number of Votes	Item Number	
378.5	42.0	54	243	provide the ability to import PDF files

**PROC GMAP**

Overall Rank	Part Rank	Number of Votes	Item Number	
394.5	43.0	48	245	provide the ability to create dot-density maps
431.5	47.0	40	244	provide the ability to specify a pattern for an area when the ID value is not in the response data set
526.0	53.0	21	247	provide an option to specify the line style for map unit areas
543.5	54.0	17	246	provide WEMPTY and WOUTLINE options to enable specification of line widths for boundary outlines

**PROC GPLOT**

Overall Rank	Part Rank	Number of Votes	Item Number	
60.0	5.0	314	248	provide an option to automatically label plot points on the graph with the corresponding (x,y) coordinate values
85.0	9.0	272	249	provide an option to label X axes in groups, such as months within years
106.0	13.0	233	250	increase the number of plot symbols available, including more filled symbols
127.5	18.0	206	255	add an option to automatically place the horizontal axis at zero on the vertical axis when there are positive and negative y values
161.5	24.0	163	252	provide the ability to label the points with a frequency value that represents the number of observations with the same x-y coordinates



## 1998 SASware Ballot Results

Overall Rank	Part Rank	Number of Votes	Item Number	
211.0	31.0	122	251	provide an option to draw confidence ellipses for the data and centroid
295.0	38.0	81	253	add a MISSING option to allow observations with a missing value for the dependent (Y) variable to be considered valid for determining the horizontal axis range on the plot
409.0	45.0	44	254	add an option to force axis ranges to include the entire line when the SPLINE interpolation method is used

**PROC GREPLAY**

Overall Rank	Part Rank	Number of Votes	Item Number	
199.5	30.0	128	257	provide the ability to create a template containing a certain number of panels and have GREPLAY calculate the coordinates for the panels automatically
234.0	34.0	113	256	provide the ability to specify TITLE and FOOTNOTE statements to be applied to replayed graphs
515.0	51.0	24	259	provide the ability to distinguish a group entry from an individual entry when using the REPLAY_ALL_ statement
580.0	56.0	7	258	provide an option in the fullscreen window to allow a list of the selected GRSEG entries to be stored in a SAS data set

**PART V SAS/GIS Software**

Overall Rank	Part Rank	Number of Votes	Item Number	
366.5	1.0	56	261	provide the ability to use alternate (non-US) postal codes in the geocoding facility
446.0	2.0	8	260	provide the ability to digitize raster data into vector data
457.0	3.0	36	265	provide the ability to create dot-density maps
473.0	4.0	33	264	provide the ability to create surfaces as a GIS layer (isopleth mapping)
493.0	5.0	29	263	provide the ability to perform routing and minimum distance analysis
559.5	6.0	13	266	allow the thematic ranges to be predefined according to the theme variable's format
563.0	7.0	12	262	provide options to perform quality and buffering analysis

**PART VI SAS/SPECTRAVIEW Software**

Overall Rank	Part Rank	Number of Votes	Item Number	
318.5	1.07	1	267	provide the ability to specify a data set on the PROC statement

Overall Rank	Part Rank	Number of Votes	Item Number	
519.5	2.0	23	268	add the ability to 'brush' data points in a scatterplot

**PART VII SAS/ASSIST Software****General**

Overall Rank	Part Rank	Number of Votes	Item Number	
116.0	1.0	221	269	provide an option to include the WHERE subset in the title of reports
193.0	2.0	132	271	include user-defined formats in the selection list of formats
217.5	3.0	120	279	provide the ability to reset the PAGENO=option
274.5	5.0	89	275	provide the ability to specify options in the LIBNAME and FILENAME statements for local and remote execution
281.5	6.0	87	270	provide the ability to define formats for variables in all reporting windows
295.0	8.0	81	273	provide one window for specifying all titles and footnotes
325.5	9.0	68	278	make the RUN button on the toolbar behave as a local RUN
360.5	10.0	58	272	use SQL in BY combinations of datasets so ordering is not required
425.0	11.0	41	277	provide the ability to pass a WHERE condition to the Design Report/Report window
507.0	12.0	26	276	allow specification of engine/host options for SAS/SHARE when assigning a libref
554.0	13.0	14	274	provide the ability to specify a KEYLABEL for something other than ALL in the sixth style table report
563.0	14.0	12	280	provide the necessary information to cut SMF records

**Graphics**

Overall Rank	Part Rank	Number of Votes	Item Number	
256.5	4.0	98	281	provide a way to set all possible options available to graphical procedures such as GPLOT and GCHART

**SAS Query & Reporting**

Overall Rank	Part Rank	Number of Votes	Item Number	
286.5	7.0	86	282	provide the ability to automatically deselect all variables in the Report Engine window to prevent having to deselect a large number of them one by one when only a few are desired

## 1998 SASware Ballot Results

**PART VIII SAS/AF Software**

Overall Rank	Part Rank	Number of Votes	Item Number	Description	Overall Rank	Part Rank	Number of Votes	Item Number	Description
					347.5	24.5	62	289	provide corresponding catalog IMAGE entries for use with Image Icon and Image objects and SAS ICONs for use with the Icon object and SAS toolbar
46.0	1.0	357	338	provide the functionality to completely document FRAME applications					
121.5	2.5	210	284	provide a text editor object for FRAME	347.5	24.5	62	290	provide an option to display multiple messages in a dialog window instead of the message window for Data Form and Data Table objects
121.5	2.5	210	297	provide the ability to copy data from a Data Table object into an Excel spreadsheet without having to write any SCL code	360.5	26.0	58	303	provide a way to debug SCL code running on a remote host
165.5	4.0	159	340	eliminate excessive flashing of display windows	371.5	29.0	55	311	provide methods in the FRAME Graphics object to query the minimum and maximum axis values
173.0	5.0	149	336	provide the ability to hide the blinking cursor on FRAME windows	371.5	29.0	55	328	permit the deletion of more than one row within a VIEWTABLE (table view)
190.0	6.0	138	293	provide the ability to specify titles and footnotes when printing a Data Table	371.5	29.0	55	329	provide the ability to subset data displayed in a Data Table or Data Form object using the FIRST.variable and LAST.variable notation
211.0	7.5	122	286	provide a grid for lining up labels and columns within a Data Form					
211.0	7.5	122	334	provide the ability to compare SCL entries line by line					
220.0	9.5	119	288	provide the ability for the _POPOP_ method to popup a real pmenu rather than an SCL list	371.5	29.0	55	330	provide the ability to determine if a libref is read-only in the SAS LIBRARY class
220.0	9.5	119	298	provide a spreadsheet object for FRAME entries	371.5	29.0	55	349	enhance the Graphics class to allow the specification of axis end points
238.5	11.5	111	291	provide a way to create and delete directories with the SAS External File class	378.5	32.0	54	301	provide the ability to edit cells in the Data Table object using the keyboard
238.5	11.5	111	314	provide the ability to turn off the window control buttons on individual AF windows	383.5	33.0	52	302	provide a method to set the font for host widgets
256.5	13.0	98	306	provide the ability to use the enter key to select items in a list box	390.5	34.5	49	337	provide the ability to dynamically create RANGE entries
263.0	14.0	95	315	provide the ability to specify a method to run when a user ends SAS while a FRAME application is executing	390.5	34.5	49	346	provide an interface between SCL and SAS/INSIGHT graphics
281.5	15.0	87	351	provide a way to view SLIST entries without writing code	398.5	36.0	47	309	allow more than 40 characters to be displayed on axis value labels on the Graphics Object
289.0	16.0	85	339	provide system independent and hardware independent functionality for capturing screen displays	402.0	37.0	46	313	provide the ability to specify a column and scroll directly to that column in VIEWTABLE
298.5	17.0	80	321	provide a _PRINT_ method for the Data Form object	405.0	38.0	45	345	alter the 'make' selection list on a FRAME entry to contain graphic representations of available objects instead of the current description list
306.0	18.0	77	285	provide the ability to define a shortcut key as an attribute on an object					
314.5	19.0	74	312	add a method to allow customization of the legend label in the FRAME Graphics object	414.5	39.0	43	300	provide the ability to display row and column information in a Data Table with cursor tracking
320.5	20.0	70	308	provide the ability to save and include saved WHERE clause expressions in the Data Form and Data Tables' WHERE window	419.0	40.0	42	283	provide the ability to customize the toolbar on a Process Flow Diagram
322.5	21.0	69	325	provide the ability to define cursor shapes	425.0	41.0	41	324	provide the ability to specify a row and scroll the table so that row is displayed as the top row in the VIEWTABLE window
332.5	22.0	66	294	provide the ability to automatically move from one column to the next when pressing the enter key in a Data Form	431.5	42.0	40	333	provide more symbols for the CONTROL object
341.0	23.0	64	350	provide the ability to create code in an SCL entry in batch	438.0	43.0	39	307	provide a _SET_SELECTIONS_ method for the Data Table and Table Editor classes
					446.0	44.0	38	348	provide "rubber band/box" methods for the Graphics class to allow run-time selection of multiple values on a graph

## 1998 SASware Ballot Results

Overall Rank	Part Rank	Number of Votes	Item Number	Description	Overall Rank	Part Rank	Number of Votes	Item Number	Description	
451.5	45.5	37	316	add log scale to the Graphics object	554.0	65.0	14	317	add a method to allow highlighting of more than one point on a Graphics Object without having to hold down the shift key	
451.5	45.5	37	323	provide the ability to define lookup tables in the VIEWTABLE window						
457.04	7.5	36	292	provide the ability to have a locked row when the Data Table object initially displays	559.5	66.5	13	3	19	provide the ability to use the arrow keys to lock a row in the Data Table object
457.0	47.5	36	344	provide the ability to scroll row labels in the Table Editor object	559.5	66.5	13		343	provide the ability to display titles and footnotes in the MAP object
462.0	49.0	35	352	add an option to the SAS/AF Development Tools (primarily the Performance Analyzer and the List Diagnostic Utility) to save the information generated to an external file	563.0	68.0	12		296	provide the ability to use the ICON function outside of a FRAME INIT section
					572.5	69.5	10		326	provide a start-up option to define held columns in the VIEWTABLE window
479.5	50.5	32	304	display column labels in the WHERE Expression window and other secondary VIEWTABLE windows	572.5	69.5	10		342	provide an SCL list with the _RESPOND_TO_DRAG_ONTO_ so validation can be performed
479.5	50.5	32	331	clear the print options when the BUILD procedure has finished printing	587.0	71.0	2		320	provide the ability to edit and compile model SCL from the VIEWTABLE window
484.0	52.0	31	327	provide the ability to display column labels in the WHERE Expression window for the Data Form and Data Table objects						
493.0	53.0	29	347	provide an option for the Graphics object to 'break' a line when the dependent variable has a missing value						
497.0	54.5	28	305	provide the ability to build classes using PROC BUILD in batch mode	72.5	1.0	285		357	provide a selection list of previously applied WHERE clauses
497.0	54.5	28	322	provide the ability to treat screen fields in a PROGRAM entry as items in an SCL list	207.0	3.0	123		356	provide the ability to display label information with help on a variable
502.0	56.0	27	310	provide the ability to print the current screen only in VIEWTABLE without having to actually print to save the setting	293.0	5.0	82		355	add the PRINT item and the ability to scroll between pages of a screen to the default FSEDIT toolbox
507.0	57.0	26	353	disable the ability to sort a data set opened in browse mode in the VIEWTABLE window	304.5	6.0	78		354	provide the ability to remove the message line from the FSEDIT window
526.0	58.0	21	295	provide the ability to edit and/or compile the model SCL entry from the Data Table or Data Form Attributes window	360.5	7.0	58		358	provide an option to specify a default of CAPS=YES or CAPS=NO for all variables when a screen is not used
529.5	59.0	20	341	provide a default GETROW label for dynamic Extended Tables	497.0	9.0	28		359	provide a horizontal scroll bar in the NEW window
533.5	60.0	19	287	allow HELPMODE on a List Box object to display object help even if the list box has no items						
537.5	61.0	18	299	provide a way to programmatically save a subclass created using the _NEW_ method						
543.5	62.5	17	318	provide the ability to save customizations to a DATAFORM entry from the VIEWTABLE window						
543.5	62.5	17	3	32	provide an automatic active cell on a new row in the Data Table object					
549.0	64.0	16	335	provide the ability to change all instance variable values at execution time						

## PART IX SAS/FSP Software

## PROC FSEDIT

Overall Rank	Part Rank	Number of Votes	Item Number	Description
72.5	1.0	285	357	provide a selection list of previously applied WHERE clauses
207.0	3.0	123	356	provide the ability to display label information with help on a variable
293.0	5.0	82	355	add the PRINT item and the ability to scroll between pages of a screen to the default FSEDIT toolbox
304.5	6.0	78	354	provide the ability to remove the message line from the FSEDIT window
360.5	7.0	58	358	provide an option to specify a default of CAPS=YES or CAPS=NO for all variables when a screen is not used
497.0	9.0	28	359	provide a horizontal scroll bar in the NEW window

## PROC FSLETTER

Overall Rank	Part Rank	Number of Votes	Item Number	Description
488.5	8.0	30	360	provide the ability to associate an SCL program to a LETTER entry

## PROC FSLIST

Overall Rank	Part Rank	Number of Votes	Item Number	Description
549.0	10.0	16	361	provide an option to define the maximum record length of the file to be opened

## 1998 SASware Ballot Results

## PROC FSVIEW

Overall Rank	Part Rank	Number of Votes	Item Number	
				Overall Rank Part Rank Number of Votes Item Number
378.5	19.0	54	366	provide the ability to perform a correlated subquery (query two data sets with the same WHERE clause) as can be done in SQL
188.5	2.0	139	362	provide filters to search for data values
238.5	4.0	111	363	provide the ability to use the WHERE Expression window to build a WHERE subset in the FSVIEW window

## PART X Screen Control Language

Overall Rank	Part Rank	Number of Votes	Item Number	
82.0	1.0	279	381	provide a function to close all open files
102.0	2.0	243	369	provide a warning when an application is nearing system resource limits to allow the situation to be corrected before terminating abnormally
155.5	3.0	169	382	enhance the SORT function to allow sorting by formatted values

Overall Rank	Part Rank	Number of Votes	Item Number	
173.0	4.0	149	365	provide the ability to determine the relative observation number of the current observation in a WHERE subset
180.5	5.0	145	376	provide a BY function to allow a data set to be read in SCL in the same way a BY variable works in the DATA step
202.0	6.0	127	383	provide the ability to recall commands in the debugger
205.0	7.0	124	368	allow the addition or modification of variable definitions in an existing SAS data set
215.0	8.0	121	370	provide a function to determine the size of an external file
223.0	9.0	117	375	provide a return code for listing functions that indicates whether the user cancelled or ended out of the window
256.5	10.0	98	384	provide the ability to capture global commands
271.5	11.0	90	372	provide the ability to specify wild cards in the FIND window of DATALISTC and DATALISTN
274.5	12.0	89	373	provide the ability to query the date and time a catalog was last modified
291.5	13.0	83	379	provide the ability to specify the clauses for the WHERE function in an SCL list
298.5	14.0	80	364	provide the ability for ENVLIST to directly reference global or local sublists or items by name
311.0	15.0	75	374	provide the ability to embed other language routines
317.0	16.0	72	371	provide a function to delete a directory
338.0	17.0	65	377	provide a way to obtain the current DEBUG state to determine if DEBUG is on or off
344.0	18.0	63	380	provide the ability to specify all PROC FSEDIT options on the CALL FSEDIT routine

## PART XI SAS/CALC Software

Overall Rank	Part Rank	Number of Votes	Item Number	
252.5	1.0	101	385	provide the ability to directly import data, formulas, and macros from other vendors' spreadsheets

## PART XII SAS/EIS Software

Overall Rank	Part Rank	Number of Votes	Item Number	
260.0	1.0	97	392	provide the ability to send all information, including titles and logo to the printer and to specify fonts for printing
291.5	2.0	83	396	provide an option to omit the NWAY table when creating an MDDB
338.0	3.0	65	393	provide the ability to specify the DISPLAY=YES option for hierarchies in the Multidimensional Database Object and have them automatically registered in the metabase
390.5	4.0	49	390	provide the ability to specify a font for the icon labels in the SAS/EIS Desktop
431.5	5.0	40	401	provide the ability to specify macro invocations in computed column definitions
438.0	6.0	39	394	provide the ability to paste text from the PROGRAM EDITOR, LOG or OUTPUT window when creating slides using EIS/PRESENTS
466.5	7.5	3	398	provide the ability for the SUBSET BY DIMENSION window to display values meeting previously selected category variable values rather than all possible values
466.5	7.5	34	399	provide the ability for the MultiColumn report to display the summarized values for the presummarized data set when Total Row On is selected rather than calculating it
479.5	9.0	32	387	provide support for Microsoft Metafile format in EIS/Presents
497.0	10.0	28	388	provide the ability to use customized labels for the generated chart when using pre-summarized data in the MULTICOLUMN REPORT object

## 1998 SASware Ballot Results

Overall Rank	Part Rank	Number of Votes	Item Number	
502.0	11.5	27	386	add the ability to print gray-scale patterns from EIS Objects with non-postscript devices
502.0	11.5	27	400	provide all chart types for the CONTROL chart object
515.0	13.0	24	395	provide the ability to save the current settings chosen when developing a slide presentation using EIS/PRESENTS for use in subsequent presentations
543.5	14.0	17	391	provide the ability to turn off the default SAS/EIS Software search path when invoking SAS/AF application objects
567.0	15.0	11	397	provide the ability to specify the justification for the category variables
583.0	16.0	5	389	provide the ability to use a subgroup size of 1 for a continuous process in the CONTROL CHART object

**PART XIII SAS/STAT Software****All Procedures**

Overall Rank	Part Rank	Number of Votes	Item Number	
1.0	1.0	733	402	calculate confidence intervals for all appropriate statistics
3.0	2.0	681	405	provide power analysis and sample-size determination in all applicable procedures
15.0	3.0	501	403	provide more extensive non-parametric statistics and tests, including multiple comparisons
31.0	5.0	403	406	provide an option to obtain one-tailed tests
74.0	8.0	284	404	enhance the CLASS statement to allow dummy coding with selection of reference level, full-rank coding (like CATMOD), polynomial coding, ordinal coding, and others

**New Procedures**

Overall Rank	Part Rank	Number of Votes	Item Number	
16.0	4.0	499	409	provide a procedure to support sampling replication techniques, such as jackknife and bootstrap resampling
54.0	6.0	342	408	provide a procedure for multivariate outlier detection based on robust methods
77.5	10.0	282	410	provide a procedure to test for multivariate normality
152.0	15.0	174	411	provide a procedure for meta-analysis
207.0	21.0	123	407	increase support for preclinical data analysis, including bio-equivalence tests
223.0	23.5	117	414	add a procedure for fitting nested or mixed logit (discrete choice) models
234.0	26.0	113	412	provide a specific procedure to do sequential analysis
302.0	34.0	79	413	add a procedure to analyze limited dependent variable problems such as left truncation

Overall Rank	Part Rank	Number of Votes	Item Number	
405.0	43.0	45	415	provide a procedure to perform projection pursuit

**PROC DISCRIM**

Overall Rank	Part Rank	Number of Votes	Item Number	
394.5	38.5	48	416	incorporate misclassification costs into the discriminant functions

**PROC GENMOD**

Overall Rank	Part Rank	Number of Votes	Item Number	
266.0	29.0	93	418	add Generalized Additive Models
281.5	31.5	87	419	allow fitting generalized linear mixed models
356.5	35.0	59	420	add a SELECTION=option to allow model selection methods as in PROC REG
398.5	40.0	47	417	make the procedure interactive with the ability to add and drop variables

**PROC GLM/PROC ANOVA**

Overall Rank	Part Rank	Number of Votes	Item Number	
182.0	18.0	144	424	provide options for missing value replacement
203.5	20.0	126	423	allow the ALPHA=option for confidence intervals to take on any value
215.0	22.0	121	426	provide an option to output the N for the calculation of LSMEANS
223.0	23.5	117	425	provide model selection methods
243.5	27.0	107	432	provide valid tests for CONTRAST statements for mixed models based on the RANDOM/TEST option
286.5	33.0	86	431	provide valid standard errors for ESTIMATE and LSMEANS by implementing the same principles applied now using the RANDOM/TEST option
383.5	36.5	52	427	provide a graphical display for the ANOVA summary table generated from the REPEATED statement
383.5	36.5	52	429	provide an option for the LSMEANS and MEANS statements to give Hsu's MCB (multiple comparison with the best) test
394.5	38.5	48	433	allow the Satterthwaite degrees of freedom used in the RANDOM/TEST option to be applied to the LSMEANS, CONTRASTS, and ESTIMATE statements
402.0	41.5	46	421	provide multiple comparisons using the SLICE option
425.0	45.5	41	430	provide an option to compute standardized beta coefficients
488.5	47.0	30	434	allow a DF=option for the MODEL, CONTRAST ESTIMATE, LSMEANS and MEANS statements

## 1998 SASware Ballot Results

Overall Rank	Part Rank	Number of Votes	Item Number	
526.0	48.0	21	422	provide tests that include inequality constraints on parameters
567.0	49.0	11	428	provide a testing option based on a summing to zero constraint in mixed model for balanced data

**PROC LOGISTIC**

Overall Rank	Part Rank	Number of Votes	Item Number	
83.5	12.0	278	440	add a CLASS statement
173.0	16.0	149	436	allow random effects in the model
177.0	17.0	147	441	allow fitting of generalized logit models (for nominal, categorical responses)
199.5	19.0	128	442	add observations to the OUTEST=data set for standard errors, p-values, odds ratios and confidence limits
231.0	25.0	114	435	provide a RESTRICT statement and allow multiple MODEL statements
274.5	30.0	89	438	add options to print score and/or likelihood ratio statistics for the estimated parameters and for use in model selection
281.5	31.5	87	439	add an option to provide a likelihood ratio test for each parameter estimate
402.0	41.5	46	437	provide an estimate of marginal effect on the predicted probability in binary response models

**PROC PHREG**

Overall Rank	Part Rank	Number of Votes	Item Number	
425.0	45.5	41	443	add the C statistic

**PROC PROBIT**

Overall Rank	Part Rank	Number of Votes	Item Number	
414.5	44.0	43	444	provide a likelihood ratio test of the hypothesis that all model parameters are zero
68.0	7.0		295	446 provide robust regression techniques
77.5	10.0	282	447	compute a test for lack-of-fit
131.0	13.0	199	448	add an option to impute values when they are missing, rather than deleting the observation from the analysis
140.0	14.0	189	445	add an option to allow only the summary table to be printed when SELECTION=FORWARD, SELECTION=BACKWARD or SELECTION=STEPWISE
247.5	28.0	104	449	implement an all possible regression selection method based on PRESS statistics

**PROC TTEST**

Overall Rank	Part Rank	Number of Votes	Item Number	
77.5	10.0	282	450	add WEIGHT and FREQ statements PART XIV SAS/ETS Software

**PART XIV SAS/ETS Software****Functions**

Overall Rank	Part Rank	Number of Votes	Item Number	
281.5	1.0	87	451	implement a function to return the number of days between two supplied dates, based on a 360-day calendar year

**New Procedures**

Overall Rank	Part Rank	Number of Votes	Item Number	
302.0	3.0	79	452	support simultaneous discrete-choice econometric models, such as multinomial logit models
314.5	5.0	74	455	support a procedure which estimates a system of linear or nonlinear equations on pooled time series cross-sectional data
347.5	6.0	62	454	provide a procedure to analyze panel data when the response variable is categorical
462.0	9.0	35	453	support Heckman's two-stage procedure

**PROC AUTOREG**

Overall Rank	Part Rank	Number of Votes	Item Number	
537.5	12.0	18	456	support double threshold or DTARCH models

**PROC FORECAST**

Overall Rank	Part Rank	Number of Votes	Item Number	
289.0	2.0	85	457	provide the ability to simultaneously model and forecast the total and the components of that total

**PROC MODEL**

Overall Rank	Part Rank	Number of Votes	Item Number	
304.5	4.0	78	458	support iteratively reweighted least squares
425.0	7.0	41	459	provide an option to correct the standard errors of the parameter estimates for heteroscedasticity
543.5	13.5	17	460	provide an output data set which contains the jacobian matrix of partial derivatives evaluated at the final parameter estimates

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**PROC PDLREG**

Overall Rank	Part Rank	Number of Votes	Item Number	
572.5	15.0	10	461	support Shiller distributed lag models

**PROC SYSLIN**

Overall Rank	Part Rank	Number of Votes	Item Number	
446.0	8.0	38	462	provide the ability to correct for an autoregressive error structure
488.5	10.0	30	463	treat missing values on an equation by equation basis rather than system wide so that a different number of observations may be used for each equation
515.0	11.0	24	464	compute and print the standard errors and t-ratios for the reduced form coefficients
578.5	16.0	8	465	support the LM test for contemporaneous correlation as proposed by Breusch and Pagan (1980)

**PROC TSCSREG**

Overall Rank	Part Rank	Number of Votes	Item Number	
543.5	13.5	7	466	support maximum likelihood estimation
585.5	17.0	4	467	support the J or Ja test for non-nested models

**PART XV SAS/OR Software****New Procedures**

Overall Rank	Part Rank	Number of Votes	Item Number	
325.5	1.0	68	468	provide an interactive model-building interface to the mathematical programming procedures

**PART XVI SAS/QC Software****New Procedures**

Overall Rank	Part Rank	Number of Votes	Item Number	
409.0	4.0	44	469	provide a procedure for analysis of means

**ADX Menu System**

Overall Rank	Part Rank	Number of Votes	Item Number	
537.5	8.0	8	470	allow side-by-side (with common response axis scaling) or overlaid and jittered main effects plots and interaction plot matrix

**PROC CAPABILITY**

Overall Rank	Part Rank	Number of Votes	Item Number	
398.5	3.0	47	471	provide standard errors and confidence intervals for capability indices

Overall Rank	Part Rank	Number of Votes	Item Number	
523.0	6.0	22	472	support SAS time formats on the analysis variable

**PROC RELIABILITY**

Overall Rank	Part Rank	Number of Votes	Item Number	
529.5	7.0	20	474	support parametric models for repairable systems analysis
554.0	9.0	14	473	model the scale parameter in life distributions with the linear model

**PROC SHEWHART**

Overall Rank	Part Rank	Number of Votes	Item Number	
353.5	1.0	60	475	implement an interactive drill-down feature for plotted points
364.0	2.0	57	478	support SAS time formats on the process variable
457.0	5.0	36	476	support subgroup tick mark labels up to 32 characters
559.5	10.0	13	477	provide support for warning limits in the form of multiple k-sigma limits

**PART XVII SAS/IML Software**

Overall Rank	Part Rank	Number of Votes	Item Number	
195.0	1.0	130	479	provide a function to calculate the probability for the multivariate normal distribution

**PART XVIII SAS/INSIGHT Software**

Overall Rank	Part Rank	Number of Votes	Item Number	
155.5	1.0	169	480	provide the ability to record and replay all user actions
220.0	2.0	119	483	provide the ability to control the number of graphs that print and their placement on the page
250.5	3.0	102	481	provide more general modeling capabilities, such as nonlinear least squares
274.5	4.0	89	484	provide the ability to join two data sets
344.0	5.5	63	486	provide a way to highlight observations when more than one condition is true (such as when X=1 AND Y=0)
344.0	5.5	63	487	add step-wise regression capability
351.0	7.0	61	482	support OLE
425.0	8.0	41	485	provide more variable transformations for existing variables

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**PART XIX SAS/LAB Software**

Overall Rank	Part Rank	Number of Votes	Item Number	Description
311.0	1.0	75	488	add nonparametric statistics
431.5	2.0	40	489	offer guidance for loglinear and categorical analyses as carried out by PROC CATMOD and PROC LOGISTIC

**PART XX Data File Management**

Overall Rank	Part Rank	Number of Votes	Item Number	Description
2.0	1.07	10	490	provide the ability to establish a secondary SASWORK area to allow the program to continue processing when the current WORK location runs out of space
22.0	2.0	441	500	provide an option to prompt the user before replacing an existing data set
24.0	3.0	435	495	provide the ability to automatically delete empty data sets that are created when a PROC or DATA step fails
25.0	4.0	430	491	provide the ability to save text output in PostScript, PDF, and SGML formats
40.0	5.0	375	496	provide a Table of Contents in the SAS LOG that lists the range of page numbers written by each procedure
96.5	6.0	248	498	store the time an entry in a catalog was last modified in addition to the userid and date of the modification
125.5	8.0	207	503	provide an SPSS access method on the FILENAME statement to allow outputting of an SPSS file
132.0	9.0	198	492	provide a system option to allow an error to be generated when a procedure attempts to access an empty data set
215.0	10.0	121	499	provide the ability to set the ALTLOG= option within the SAS session in order to direct portions of the LOG to another location in addition to the LOG window
245.5	12.0	105	494	allow an index name to be different from the variable name for a simple index
332.5	14.0	66	493	enhance the RSASUSER option so the first invocation of a SAS session using RSASUSER allows write access and all subsequent invocations allow only read access
356.5	16.0	59	497	add a variable to SASHELP.VTABLE that contains the compression percentage
387.0	17.0	50	501	provide a JMP engine to read and write JMP data tables
419.0	18.0	42	504	enhance the PIPE access method on the FILENAME statement so the PIPE can be treated as a TAPE

Overall Rank	Part Rank	Number of Votes	Item Number	Description
438.0	19.5	39	502	allow the XPORT engine to support the same binary transfer capability that is provided by the BINARY option of PROC DOWNLOAD

**Import/Export Wizard**

Overall Rank	Part Rank	Number of Votes	Item Number	Description
103.0	7.0	237	505	provide the ability to create one data set from multiple comma delimited files with the import wizard
341.0	15.0	64	506	provide the ability to access OEM data

**SQL Query Window**

Overall Rank	Part Rank	Number of Votes	Item Number	Description
227.5	11.0	115	508	include SAS functions in the interface
325.5	13.0	68	513	add a menu option to print the generated query
438.0	19.5	39	516	move <LOOKUP distinct values to the top of Available Columns
462.0	21.0	35	515	move <CONSTANT enter value from Available Columns to a button
466.5	22.0	34	507	provide line mode and SCL methods for creating and updating a Query Window profile in batch
484.0	23.0	31	512	add a menu option to print the contents of a profile
511.0	24.0	25	510	allow default definitions for columns, such as display and statistics, to be changed when you invoke PROC REPORT from the SQL Query Window
554.0	25.0	14	514	add the ability to change the table names of an included query, even if the table is allocated
567.0	26.0	11	509	include TITLE statements in a catalog member containing a saved query
576.5	27.0	9	511	implement a window to prompt for the setting of the MISSING option when you invoke PROC REPORT from the Query Window

**PART XXI Communication Access Methods**

Overall Rank	Part Rank	Number of Votes	Item Number	Description
171.0	1.01	50	521	enhance the server-form LIBNAME syntax for TCP/IP usage in specifying: SERVER=<rmt host name<tcpip port#
332.5	2.0	66	517	allow multiple remote SAS/CONNECT sessions or a remote SAS/CONNECT session and a SAS/SHARE server to run on the same OS/2 machine using the APPC access method



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Overall Rank	Part Rank	Number of Votes	Item Number	
347.5	3.0	62	520	add an option to APPCSEC on MVS to use the system userid and password
473.0	4.0	33	519	provide server-side functionality of the APPC communication access method under IBM's AIX operating system
484.0	5.0	31	518	provide a delayed handshake with VTAM if the initial handshake attempt from a SHARE server fails

## PART XXII Remote Library Services

Overall Rank	Part Rank	Number of Votes	Item Number	
93.5	1.02	53	522	allow the LIBNAME statement to support DISP=SHR

## PART XXIII SAS/CONNECT Software

Overall Rank	Part Rank	Number of Votes	Item Number	
144.5	1.0	185	523	provide the ability to pass a LAN userid and password to the remote system
167.5	2.0	157	525	provide the ability for the local session (client) to stop a remote-submitted program with a reliable method
191.5	3.0	135	524	provide the ability for the local session (client) to automatically sign off when the remote session is terminated
231.0	4.0	114	526	provide the ability to choose to replace a data set during a download if the data set already exists
457.0	5.5 3	6	527	include an option in PROC UPLOAD to automatically convert all VIEW members to data sets during a library transfer
457.0	5.5	36	528	add an option to the UPLOAD and DOWNLOAD procedures to limit the amount of time the procedure will run

## PART XXIV SAS/SHARE Software

Overall Rank	Part Rank	Number of Votes	Item Number	
302..0	2.0	79	529	provide the ability to send administrator-type messages to client sessions that are seen as being connected to the server

## PROC SERVER

Overall Rank	Part Rank	Number of Votes	Item Number	
281.5	1.0	87	530	add the ability to disconnect a user from a SAS server after a specified period of inactivity

Overall Rank	Part Rank	Number of Votes	Item Number	
387.0	3.0	50	531	provide network addresses of connecting clients along with the present client name in the server's LOG

## PART XXV SAS/ACCESS Software

### All Interfaces

Overall Rank	Part Rank	Number of Votes	Item Number	
149.5	1.0	177	537	provide the ability to display the table names and databases with PROC CONTENTS
161.5	2.0	163	534	provide the capability to distinguish between NULL and BLANK character values returned from a DBMS
179.0	3.0	146	535	provide the ability to assign labels to database variables when creating access and view descriptors to external data files
242.0	4.0	109	536	support "commit and roll back" transaction level processing verbs within DATA step MODIFY processing when used against relational databases such as Oracle or Sybase
307.5	6.0	76	532	provide the ability to mark variables of a view as protected
371.5	7.0	55	533	allow the ability to control the internal mapping of formats used by SAS when exporting data

### Interface to DB2

Overall Rank	Part Rank	Number of Votes	Item Number	
264.0	5.0	94	538	make the default format assigned to date columns/-variables be DATE9 (with the year 2000 approaching) to coincide with the default DATETIME30 which already does this for timestamp columns

### Interface to Sybase

Overall Rank	Part Rank	Number of Votes	Item Number	
572.5	8.0	10	539	provide the capability to simulate the -A option used with SYBASE ISQL to increase the default packet size

## PART XXVI SAS/Warehouse Administrator

Overall Rank	Part Rank	Number of Votes	Item Number	
311.0	1.0	75	544	support the storage of different versions of metadata in the warehouse
378.5	2.0	54	543	implement warehouse impact analysis

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Overall Rank	Part Rank	Number of Votes	Item Number	
383.5	3.0	52	551	provide a lookup table mechanism of performing data cleaning/scrubbing
390.5	4.0	49	547	provide a component to report on warehouse performance statistics for query management
398.5	5.0	47	545	provide the ability for the administrator to define object types in the warehouse
438.0	6.0	39	550	provide a user interface that describes how columns in a warehouse table are populated
446.0	7.0	38	540	provide the ability to sort the variable names in the Columns tab of the Detail Table Properties by selecting the heading for NAME, TYPE, LENGTH, DESCRIPTION, FORMAT and INFORMAT
473.0	8.0	33	548	provide tools to archive metadata and data to tape or offline storage
479.5	9.0	32	546	provide more report logging and error handling support for the generated batch jobs
523.0	10.0	22	542	provide the ability to alpha sort the Tree diagram on the left
533.5	11.0	19	549	support multiple parentage in the Process Editor
578.5	12.0	8	541	provide an option to position the cursor at the top or bottom of the variable list when a new variable is added

PART XXVII Professional Services

Overall Rank	Part Rank	Number of Votes	Item Number	
87.0	1.0	268	554	provide a library of SAS training courses that could be accessed via the Internet (World Wide Web) or via an Intranet
533.5	2.0	19	552	provide training on

(write in a subject)

TOP 4 SUBJECTS REQUESTED:

STAT MODELLING/REGRESSION	5	
MARKETING TECHNIQUES	2	
SAS/INTRNET SOFTWARE	2	
SYSTEM PERFORMANCE	2	
0	553	provide consulting services on

(write in a subject)

PART XXVIII Documentation

Books

Overall Rank	Part Rank	Number of Votes	Item Number	
121.5	1.0	210	555	publish a general manual containing examples for both the DATA step and procedures
144.5	2.0	185	556	publish a comprehensive book on the design and implementation of AF/FAME and EIS systems with complete examples that tie together

Online Information

Overall Rank	Part Rank	Number of Votes	Item Number	
148.0	3.0	178	557	make online documentation available by subscription through the Internet (World Wide Web)

PART XXIX Future Directions

New SAS Products

Overall Rank	Part Rank	Number of Votes	Item Number	
158.5	1.0	167	558	provide a menu-based "Table Production System," similar to SAS/ASSIST, but specific to tabular reporting applications
203.5	2.0	126	559	provide the capability of metering individual SAS products on a network so the SAS System maintains and enforces proper license compliance
419.0	3.0	42	561	provide a product of specialized procedures for use in environmental science
529.5	4.0	20	560	provide a range of service level agreement facilities to support quality improvement and service management functions, such as prime time calculations, vendor service and joint venture monitoring

PART XXX SAS System for Mainframes

General

Overall Rank	Part Rank	Number of Votes	Item Number	
254.0	2.0	99	565	enhance the INFILE statement FILEVAR=option to allow the user to specify a single tape device (UNIT=AFF)
325.5	3.0	68	564	store the remote system's TCP/IP IP address into a variable when using the SOCKET access method
353.5	4.0	60	563	provide a method of writing warning/error messages concerning the expiration of the SAS license to the MVS console
502.0	5.0	27	562	provide additional information in the SAS LOG when accessing VSAM data sets via the SHOWCB macro

SAS System under MVS

Overall Rank	Part Rank	Number of Votes	Item Number	
100.0	1.0	244	566	add the ability to use wildcards when reading PDS members with the INFILE statement

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**PART XXXI SAS/CPE Software**

Overall Rank	Part Rank	Number of Votes	Item Number	
438.0	1.0	39	568	provide the ability to create a dynamic graph from a WEB browser and drill down into the raw data that produced the graph
567.0	2.0	11	567	provide the ability to select a different BY order than the BY/CLASS order defined in the table definition

**PART XXXII SAS System under Macintosh****General**

Overall Rank	Part Rank	Number of Votes	Item Number	
466.5	1.0	34	569	provide the ability to change the orientation of the toolbar

**PART XXXIII SAS System under OpenVMS****General**

Overall Rank	Part Rank	Number of Votes	Item Number	
519.5	1.0	23	570	provide transparent access of catalogs and catalog entries between OpenVMS for VAX and AXP host systems
567.0	2.0	11	571	allow the use of user-defined logical name tables
588.0	3.0	1	572	allow the RAH and WBH dataset options to be specified as system options, on LIBNAME statements and in DATA step views

**PART XXXIV SAS System for UNIX Workstations****General**

Overall Rank	Part Rank	Number of Votes	Item Number	
298.5	1.0	80	574	provide an informat to convert UNIX datetime values into SAS datetime values
322.5	2.0	69	573	provide support to fully utilize SMP boxes
332.5	3.0	66	575	support the 'X' command from within a SAS X11 session
360.5	4.0	58	578	provide the ability to define a SASPATH environment variable with a list of directories that the SAS system would search in batch mode for the *.sas file
438.0	5.0	39	579	provide an Xresource to allow a blinking cursor in the PROGRAM EDITOR
466.5	6.0	34	576	implement PROC SOURCE
507.0	7.0	26	577	provide the ability to read and write to dlt tape drives

**PART XXXV SAS System for Personal Computers****General**

Overall Rank	Part Rank	Number of Votes	Item Number	
5.0	1.0	627	589	implement a menu option for exporting the contents of a SAS data set or OUTPUT window to a Microsoft Word document file type
70.0	2.0	291	587	provide the ability to view the .log and .lst files while SAS is still writing to them in batch mode
114.5	3.0	222	586	provide more file extension options when choosing FILE-SAVE AS in order to save the contents of a window
191.5	4.0	135	588	provide a way to send SAS titles to external database packages like Excel or HTML using the DBLOAD procedure
245.5	5.0	105	582	provide an option to allow the page size of an Excel file created by SAS to be changed
262.0	6.0	96	585	support the acknowledgement of a receipt when a mail message is sent
332.5	7.0	66	584	provide support for outer join processing with the SAS ODBC driver
338.0	8.0	65	580	provide unicode support under Windows NT
409.0	9.0	44	581	provide the ability to stop a SAS session from running after PROC ODBCSEVER runs
488.5	10.0	30	583	add the ability to define a path along with the DLL name in the MODULE or ROUTINE attribute in the SASCBTBL table

**Distribution of Respondent Job Functions:**

21%	Manager/Staff End User Department
15%	SAS Software Representative
45%	Applications Programmer
18%	SAS Software Consultant
19%	Systems Analyst
7%	SAS Software Training Coordinator
8%	Systems Manager
42%	Statistician
10%	Manager/Staff Information Center