Computer Software Reviews

Publish or Perish. Version 4.0. Park Row Inc.: 4640 Jewell St., Suite 232, San Diego, CA 92109. List Price $74.95.

Publish or Perish is a bibliographic database program for a Macintosh 512KE, Plus, SE or II. (It will not run on a Mac 512K.) To use the program, each reference is entered on a "card" containing standard fields for author, title, volume, publication, pages, and year. There is room for keywords as well as for notes of unlimited length in which the abstract can be included. The names for these fields may be customized.

Reference sets can contain up to 500 cards. Each card occupies one screen, and the stack can be perused with use of a scroll bar. The cards may be automatically organized by alphabetic order for a selected field or arranged in an order of the user's choosing. However, the process of moving a card within the set is awkward. The ideal way to accomplish this would be to use a cut and paste process as in most Macintosh applications. Instead, the currently viewed card is moved by using a MOVE command in which the current order in the set is indicated and the user provides the number of the desired position.

Moving a single card between sets is also inconvenient. Selected cards from one set may be appended to a set that is being viewed. Cards can be selected according to the presence of a word in any of the fields such as a particular author or by manually indicating each card. To copy one card between sets, the entire set must be deselected (which can be accomplished with one command), the one card selected, and the set saved because only one set may be open at a time. After the other set is opened, the previous set is appended. The single selected card is then copied into the current set. Copying via the Clipboard would be more convenient.

Maintaining a searchable database of references is useful in itself. Yet, the great advantage for chemists of this program over a set of index cards is that a bibliography can be printed out with any desired format. Two standard format styles are included, but the user can customize according to the style of any journal. The format can include bold and italics, but only if the bibliography is directly printed out. If a text file is created for incorporation into a word processor document, the proper format will be maintained minus bold, italics, and specific fonts. Also, there is no way to differentiate between journals that require both the beginning and ending page numbers versus those that want only the first page number. If both numbers are saved in the page field and only the initial number is required, then the extra number must be manually removed with a text editor. The user could instead customize the fields on the cards to allow separate page numbers and change the format accordingly for each journal.

The program is very easy to learn by using the concise manual as well as the online help. The manual contains step-by-step instructions as well as an alphabetized reference section. The necessary steps to accomplish all tasks are provided in detail so a new user should require no more than an hour to learn all the features.

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Stata. Version 2.05. Computing Resource Center: 108101 National Boulevard, Los Angeles, California 90064. List price $590.00; educational discounted price $125.00; optional BiTurbo extension $50.00; optional Stat/Transfer extension $90.00. A volume discount and leasing are available.

Stata is a software package that is designed to manage, analyze, and display data. The feature of Stata that provides the most utility to chemists is the ability to receive a rapid summary, analysis, and display of the data. With a minimal expenditure of time the results of an ongoing experiment can be easily monitored.

Stata is available for IBM and IBM-compatible PCs, ATs, PS2s. DOS machines (PC- or MS-DOS version 2.X or above) must have at least 256K RAM, two floppy drives, or a hard disk. Stata is also available for the following Unix based machines at extra cost ($395.00): Sun-3s and Sun 386i's that use SunOS (Unix); PS2s and other 80386-based machines running 386/ix (Unix); and VAX computers running BSD 4.3 (Unix). Stata DOS and Unix versions are 100% compatible for transferring files. Many laser, dot matrix, and pen plotter printers can be used with Stata (HP, IBM, Epson, NEC, etc.). On 80 × 86 machines Stata supports, but does not require, 8087, 80287, and 80387 coprocessors. Stata will use 68881 support on 68000-based machines. Stata is not copy protected.

Stata provides many of the statistical analyses required by both analytical and industrial chemists. Some of the major analyses that Stata produces are regression analyses (least squares, 2-stage least squares, and instrumental variables models), N-way ANOVAs, ANCOVAs, Bonferroni, Scheffe' and Sidak tests, correlation matrices, Chi-square, Spearman-rank order coefficients, maximum-likelihood estimates, Logit, Probit, DF-Betas, Kaplan-Meier survival curves, Wilcoxon-Mann-Whitney U, and the Student's *t*-test. Predictions with error and probability components can also be obtained. Stata is primarily a statistical package. The ease and breadth of the statistical component of the package are good. Statistical analyses have the capability of being run in either a direct command or a menu mode. On-line help is available in both types of operation. The reference manual either contains or references the formulas used for each analysis.

Stata also offers data management. Data files can be sorted, edited, placed into table formats, and arithmetically transformed into means, sums, or medians. Data files can also be converted with a user supplied formula and by these means the user can control the types of programs that Stata can run. Stata can read from or write to ASCII files. If the STAT/TRANSFER option is purchased, Stata is compatible with Lotus, dBase, SPSS, Symphony, Gauss, and SYSTAT. Purchase of the Bi-Turbo extension will increase speed by a factor of 4–10.

Simple graphic capabilities that are easily obtained are scatter plots (with or without line symmetry), scatter plot matrices, histograms (without error bars), pie charts, and star plots. The quality of the graphics is good, but not of a quality that is suitable for publication. More complex graphics require the input of a large number of direct commands (in the Stata language). A long command string is typically needed to override the defaults in the symbols, fonts, labels, scales, tick marks (no minor ticks available), borders, and line widths and to include special effects such as regression lines, normal curves, and combining graphs on one page (the ability to provide an insert of one graph within another is not provided). Some of the above deficiencies would be greatly improved by the use of pull-down menus and mouse input. The amount and the placement of labels is limited. The user also has no control over the area in which a graph is placed on a page. Graphs are placed on the top half of a portrait page (a landscape placement is available).

The first-time user can learn Stata from the manual and the tutorials. The tutorials, however, can only be run from a hard disk. Floppy drive users must rely on a manual that is not geared toward the first-time user. The novice will have to search for examples on "how to input data" and "how to save data". The manual also consistently uses examples that are based on data files the user does not have access to. However, once the rudiments of Stata have been learned, the user will find that the manual is filled with invaluable information that is presented in a well-written format.

Stata is a statistical and data management program with graphic capabilities. It is not a graphics program that includes statistics. The user with economic interests in obtaining a high-quality statistical package with high-quality graphics is directed toward software packages that are specifically designed to do either statistics or professional graphics. Stata is a nice statistical program that has the added benefit of graphics.

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