

Table 2
Program Size and Documentation

| Name | N of 400K disks shipped | Program size (K) | N of practice datasets | Total pages Documentation | Index | Tutorial |
|-------------------------|-------------------------|------------------|------------------------|---------------------------|-------|----------|
| Business Statistics | 2 | 402 | 4 | 230 | yes | no |
| Data Desk | 2 | 263 | 11 | 245 | yes | yes |
| Multivariate Statistics | 2 | 419 | 0 | 105 | no | no |
| StatView 512+ | 2 | 528 | 7 | 180 | yes | yes |
| StatWorks | 1 | 161 | 4 | 101 | yes | no |
| STAT80 | 5 | 1411 | 1 | 789 | yes | yes |
| SYSTAT | 512 | 1595 | 1 | 522 | yes | yes |
| TrueSTAT | 1 | 138 | 6 | 52 | no | no |
| WormStat | 1 | 72 | 1 | 8 | no | no |

Table 3
Basic Descriptive Statistics, Exploratory Data Analysis, Graphics, and Data Transformations

| | Business | Multivariate | WormStat | StatWorks | Statistics | Analysis |
|---------------------------------|----------|--------------|----------|-----------|------------|----------|
| Descriptive Statistics | | | | | | |
| mean | | | x | x | x | x |
| Winsorized mean | | | | | | |
| biweight mean | | | | | | |
| geometric mean | | | | | | |
| harmonic mean | | | | | | |
| median | | | x | x | | |
| standard deviation | | | x | x | x | x |
| coefficient of variation | | | | x | | |
| skewness | | | | x | | |
| kurtosis | | | | x | x | |
| standard error of the mean | | | | | | |
| variance | | | | x | x | |
| EDA plots & Other Graphics | | | | | | |
| box & whisker | | | x | x | | |
| stem & leaf | | | | | x | |
| scatterplot | | | x | 2 & 3D | | |
| line plot | | | | x | | |
| histogram | | | x | 2 & 3D | x | |
| bar chart | | | x | | | |
| probability plot | | | | | | |
| quantile plot | | | | | | |
| hand-drawn regression line | | | x | | | |
| suspended rootogram | | | | | x | |
| hierarchical cluster dendrogram | | | | | | x |

| | | | | |
|-------------------------|---|---|---|---|
| Data Transforms | | | | |
| additive constant | x | x | | |
| multiplicative constant | x | x | | |
| 2-column | x | x | | |
| Z score | x | x | | x |
| exponential | x | x | x | x |
| negative exponential | | | x | x |
| square root | x | | x | x |
| natural log | x | x | x | x |
| ex | | x | | |
| sin | | x | | |
| cosine | | | x | |
| arcsin | | x | | |

Table 3 (extended)
Basic Descriptive Statistics, Exploratory Data Analysis,
Graphics, and Data Transformations

| | Data Desk | StatView 512+ | STAT80 | SYSTAT |
|---------------------------------|-----------|------------------|--------|--------|
| Descriptive Statistics | | | | |
| mean | x | x | x | x |
| Winsorized mean | | | | x |
| biweight mean | x | | | |
| geometric mean | | x | | |
| harmonic mean | | x | | |
| median | x | x | x | x |
| standard deviation | x | x | x | x |
| coefficient of variation | | x | | |
| skewness | x | x | x | x |
| kurtosis | x | x | x | x |
| standard error of the mean | | x | x | x |
| variance | x | x | x | x |
| EDA Plots & Other Graphics | | | | |
| box & whisker | x | x | | x |
| stem & leaf | | | | x |
| scatterplot | 2 & 3D | x | x | x |
| line plot | | x | | |
| histogram | x | x | x | x |
| bar chart | x | x | | x |
| probability plot | x | | | x |
| quantile plot | | | | x |
| hand-drawn regression line | | | | |
| suspended rootogram | | | | |
| hierarchical cluster dendrogram | | | x | |
| Data Transforms | | | | |
| additive constant | x | x | x | x |
| multiplicative constant | x | x | x | x |
| 2-column | x | x | x | x |
| Z score | x | x | x | x |
| exponential | x | x | x | x |
| negative exponential | | | | x |
| square root | x | x | x | x |
| natural log | x | x | x | x |
| ex | x | x | x | x |
| sin | x | x | x | x |
| cosine | x | x | x | x |

Table 4: Inferential Statistics and Data Management

| | WormStat | StatWorks | Business Statistics | Multivariate Analysis |
|-----------------------------|----------|-----------|---------------------|-----------------------|
| 2-way tables | 10 x 10 | 10 x 10 | x | x |
| expected values | | | | |
| cell Chi-square | | | | |
| n-way tables | | | | |
| Pearson's Chi-square | x | x | x | x |
| likelihood-ratio Chi-square | | | | |
| Yate's corrected (2 x 2) | | | | |
| Fisher's exact | | | | |
| Phi (2 x 2) | | | | |
| Cramer's V | | | | x |
| contingency coeff. | | | | |
| assymetric lambda | | | | |
| Yule's Q and Y | | | | |
| log-linear models | | | | |
| sign test | | | x | |
| K-W 1-way ANOVA | | | | |
| Friedman 2-way ANOVA | | | | |
| Mann-Whitney U | x | x | x | |
| K-S 1-sample | | x | | |
| K-S 2-sample | | x | | |
| Wald-Wolfowitz runs | | | | x |
| Spearman's rho | | x | | x |
| Kendall's tau-b | | x | | |
| Guttman's mu2 | | | | |
| Goodman-Kruskall gamma | | | | |
| Data Management | | | | |
| SORT | x | x | x26 | |
| FIND | | | | |
| IF . . . THEN | | | | |
| append files | | | | |
| merge files | | | | |
| transpose matrix | | | | x |
| BY groups | | | | |
| LAG variables | | | x | |
| label values | | | | |
| label/describe variables | | | | |
| random samples from files | | | | |
| missing data conventions | | x | | |

Table 4 (ext.): Inferential Statistics and Data Management

| | Data Desk | StatView 512+ | STAT80 | SYSTAT |
|-----------------------------|-----------|------------------|--------|--------|
| 2-way tables | x | x | x | x |
| expected values | x | x | | x |
| cell Chi-square | x | | | x |
| n-way tables | | | x | x |
| Pearson's Chi-square | x | x | x | x |
| likelihood-ratio Chi-square | | | | x |
| Yate's corrected (2 x 2) | | x | x | x |
| Fisher's exact test | | | x | x |
| Phi coef. (2 x 2) | | x | x | x |

| | | | | |
|---------------------------|---|---|---|---|
| Cramer's V | | x | | x |
| Contingency coef. | | x | | x |
| assymmetric lambda | | | | x |
| Yule's Q and Y | | | | x |
| log-linear models | | | x | x |
| sign test | | | x | x |
| K-W 1-way ANOVA | | x | x | x |
| Friedman 2-way ANOVA | | x | x | x |
| Mann-Whitney U | | x | x | x |
| K-S 1-sample | | | | x |
| K-S 2-sample | | x | | x |
| Wald-Wolfowitz runs | | x | x | x |
| Spearman's rho | x | x | x | x |
| Kendall's tau-b | | x | | x |
| Guttman's mu2 | | | | x |
| Goodman-Kruskall gamma | | | | x |
| Data Management | | | | |
| SORT | x | x | x | x |
| FIND | x | | | x |
| IF . . . THEN | | | x | x |
| append files | x | | x | x |
| merge files | x | | x | x |
| transpose matrix | | | x | x |
| BY groups | | x | x | x |
| LAG variables | | x | x | x |
| label values | | | x | x |
| label/describe variables | x | | x | x |
| random samples from files | | | x | x |
| missing data conventions | x | x | x | x |

Table 5
Number Generation, Simple Parametric Inference,
and ANOVA

| | WormStat | StatWorks | Business Statistics | Multivariate Analysis |
|--|----------|-----------|---------------------|-----------------------|
| Number generation | | | | |
| uniform/random | x | x | | |
| sequences | x | | | |
| normal | x | | | |
| Bernoulli trials | | | | |
| binomial experiments | | | | |
| Poisson | | | | |
| Simple Inference | | | | |
| conf. interval for mean, t | | | | |
| conf. interval for mean, z | | | | |
| one-sided conf. interval | | | | |
| Bonferroni adjustment for multiple conf. intervals | | | | |
| z-test | | | | x |
| t-test | x | x | | x |
| one-sample | x | x | | x |
| pooled variance estimates | x | x | | ? |
| separate variance estimates | x | | | |
| paired samples | x | x | | |
| one-sided z- and t-tests | | | | x |
| Bonferroni adjustment for multiple hypoth. tests | | | | |
| Analysis of Variance | | | | |

| | | | | |
|---------------------------|---|---|---|---|
| 1-way ANOVA | x | x | x | |
| post hoc contrasts | | | | |
| 2-way ANOVA | | x | x | |
| post hoc contrasts | | | | |
| balanced | | | x | |
| unbalanced | | | x | |
| repeated measures designs | | | | |
| response surface analysis | | | x | |
| MANOVA | | | | x |
| ANCOVA | | | x | |

Table 5 (extended)
Number Generation, Simple Parametric Inference,
and ANOVA

| | Data Desk | StatView 512+ | STAT80 | SYSTAT |
|---|-----------|------------------|--------|--------|
| Number generation | | | | |
| uniform/random | x | x | x | x |
| sequences | x | x | x | x |
| normal | x | x | x | x |
| Bernoulli trials | x | | | |
| binomial experiments | x | | | |
| Poisson | x | | | |
| Simple Inference | | | | |
| conf. interval for mean, t | x | x | | |
| conf. interval for mean, z | x | x | x | |
| one-sided conf. interval | x | | x | |
| Bonferroni adjustment for multiple conf. intervals | x | | | |
| z-test | x | | | |
| t-test | x | x | x | x |
| pooled variance estimates | x | x | x | x |
| separate variance estimates | x | | x | x |
| paired samples | x | x | x | x |
| one-sided z- and t-tests | x | x | x | |
| Bonferroni adjustment for multiple hypoth. tests | x | | | |
| Analysis of Variance | | | | |
| 1-way ANOVA | x | x | x | x |
| post hoc contrasts | | x | x | x |
| 2-way ANOVA | x | x | x | x |
| balanced | x | x | x | x |
| unbalanced | | x | x | x |
| post hoc contrasts | | | x | x |
| repeated measures designs | | x | x | x |
| response surface analysis | | | | |
| MANOVA | | | | x |
| ANCOVA | | | | x |

Table 6
Correlation, Regression, and Parametric Multivariate Routines

| | WormStat | StatWorks | Business Multivariate Statistics | Analysis |
|------------------------------|----------|-----------|-------------------------------------|----------|
| Pearson product-moment corr. | x | x | x | x |
| simple linear regression | x | x | x | x |

| | | | | |
|---------------------------------|---|----|----|----|
| predicted values | | x | x | x |
| residuals | | x | x | x |
| stand. residuals | | x | | |
| without constant | | x | | |
| multiple linear regression | | x | x | x |
| predicted values | | x | x | x |
| residuals | | x | x | x |
| stand. residuals | x | | | |
| without constant | | | | x |
| leverage diagnostics | | | | |
| collinearity diagnostics | | | | |
| post hoc contrasts | | | | |
| timing, Longley, seconds | | 10 | 11 | 17 |
| adjusted R2 | | x | | |
| stepwise | | | | |
| weighted least-squares | | | x | |
| partial correlation | | | | x |
| simultaneous equations | | | | x |
| multivariate profile analysis | | | | |
| discriminant analysis | | | | x |
| principal components analysis | | | | x |
| common factor analysis | | | | x |
| canonical correlation | | | | x |
| multidimensional scaling | | | | |
| hierarchical cluster analysis | | | | x |
| k-means cluster analysis | | | | x |
| time-series analysis | | | x | |
| smoothing | | | x | |
| Fourier | | | | |
| ARIMA | | | | |
| Durbin-Watson statistic | | | x | |
| Nonlinear estimation/regression | | | | |
| Quasi-Newton | | | | |
| Simplex | | | | |
| maximum likelihood estimation | | | | |
| logistic models | | | | |
| probit models | | | x | x |

Table 6 (extended)
Correlation, Regression, and Parametric Multivariate Routine

| | Data Desk | StatView 512+ | STAT80 | SYSTAT |
|------------------------------|-----------|------------------|--------|--------|
| Pearson product-moment corr. | x | x | x | x |
| simple linear regression | x | x | x | x |
| predicted values | x | x | x | x |
| residuals | x | x | x | x |
| stand. residuals | x | x | x | x |
| without constant | x | | x | x |
| multiple linear regression | x | x | x | x |
| predicted values | x | x | x | x |
| residuals | x | x | x | x |
| stand. residuals | x | x | x | x |
| without constant | x | | x34 | x |
| leverage diagnostics | x | | | x |
| collinearity diagnostics | | | x | x |
| post hoc contrasts | | | x | x |
| timing, Longley, seconds | 10 | 9 | 5 | 5 |
| adjusted R2 | x | x | x | x |

| | | | |
|---------------------------------|---|---|---|
| stepwise | x | x | x |
| weighted least-squares | | x | x |
| partial correlation | | | x |
| simultaneous equations | | | |
| multivariate profile analysis | | | x |
| discriminant analysis | | | x |
| principal components analysis | x | x | x |
| common factor analysis | x | x | |
| canonical correlation | | x | x |
| multidimensional scaling | | | x |
| hierarchical cluster analysis | | x | x |
| k-means cluster analysis | | | x |
| time-series analysis | | | x |
| smoothing | | | x |
| Fourier | | | x |
| ARIMA | | | x |
| Durbin-Watson statistic | x | x | x |
| Nonlinear estimation/regression | | | x |
| Quasi-Newton | | | x |
| Simplex | | | x |
| maximum likelihood estimation | | | x |
| logistic models | | | x |
| probit models | | | x |