Stata 15 is your complete system for managing, graphing, and analyzing data. It is easy to learn through the extensive graphical interface yet completely programmable for the most demanding data management and statistical requirements.
Statistical breadth and depth

You want a statistical package that does everything you need. And one that also addresses the expanding range of statistical methods. Research professionals from all disciplines use Stata to manage and analyze their data—and so can you. Whether you are a student or a seasoned research professional, Stata gives you all the tools you need.

Easy to learn ...

With Stata's menus and dialogs, you get the best of both worlds. You can easily point and click or drag and drop your way to all of Stata's statistical, graphical, and data management features. Use Stata's intuitive command syntax to quickly execute commands. You can even access the dialog boxes for each command directly from the online help system, which is a great way to explore all of Stata's capabilities.

Fully programmable ...

Stata has complete command-line scripting and programming facilities, including a full matrix programming language. You can easily script your analysis or even create new Stata commands—commands that work just like those shipped with Stata. Stata's Do-file Editor allows you to create files of Stata commands so analyses can be reproduced with the click of a button. With Stata's version control, your scripts will continue to work seamlessly when you upgrade to a new version.

Whether you enter commands directly or use the menus and dialogs, you can create a log of all actions and their results to ensure the reproducibility and integrity of your analyses.

And extensible

Easily search, add, and use any of the thousands of user-written commands with just a few mouse clicks.
Tools at your fingertips

**Graphics**
- lines • bars • areas • ranges • contours • confidence intervals • interaction plots • survival plots • publication quality
- customize anything • Graph Editor • more

**Installation qualification**
- IQ report for regulatory agencies such as the FDA • more

**IRT (Item response theory)**
- binary response models: 1PL, 2PL, 3PL • graded response • partial credit • rating scale • nominal response • item characteristic curves • test characteristic curves • more

**Latent class analysis (LCA)**
- binary, ordinal, continuous, count, categorical, fractional, and survival items • model class membership using covariates • combine with SEM path models • expected class proportions • goodness of fit • predict class membership • more

**Linear models**
- regression • censored outcomes • endogenous regressors • bootstrap, jackknife, robust, and cluster–robust SEs • constraints • quantile regression • GLS • more

**Linearized DSGE models**
- specify models algebraically • solve models • estimate parameters • identification diagnostics • policy and transition matrices • IRFs • dynamic forecasts • more

**Matrix programming—Mata**
- interactive sessions • large-scale development projects • optimization • matrix inversions • decompositions • eigenvalues and eigenvectors • LAPACK engine • real and complex numbers • string matrices • interface to Stata datasets and matrices • numerical derivatives • object-oriented programming • more

**Multilevel mixed-effects models**
- continuous, binary, count, ordered, and survival outcomes • two-, three-, and higher-level models • generalized linear models • nonlinear models • random intercepts • random slopes • crossed random effects • BLUPs of effects and fitted values • residual error structures • support for survey data • more

**Multiple imputation**
- nine univariate imputation methods • multivariate normal imputation • chained equations • transform parameters • joint tests of parameter estimates • predictions • more

**Multivariate methods**
- factor analysis • principal components • discriminant analysis • rotation • multidimensional scaling • correspondence analysis • dendrograms • more

**Nonparametric methods**
- Wilcoxon–Mann–Whitney, Wilcoxon signed ranks, and Kruskal–Wallis tests • Spearman and Kendall correlations • Kolmogorov–Smirnov tests • exact binomial CIs • survival data • ROC analysis • smoothing • bootstrapping • more

**Nonparametric regression**
- multiple covariates • discrete and continuous covariates • 10 kernels, including Li–Racine • point estimates and CIs • automatic optimal bandwidth selection • slices of response surface with CIs and associated plots • more

**Panel/longitudinal data**
- random and fixed effects • robust standard errors • continuous, binary, count, ordered, censored, and survival outcomes • GEE • dynamic panel-data models • instrumental variables • panel unit-root and panel cointegration tests • more

**Power and sample size**
- power • sample size • effect size • minimum detectable effect • means • proportions • variances • correlations • ANOVA • regression • cluster randomized designs • case–control studies • cohort studies • contingency tables • survival analysis • balanced or unbalanced designs • results in tables or graphs • more

**Reproducible documents**
- Markdown • webpages • Excel • Word • PDF • more

**Resampling and simulation methods**
- bootstrap • jackknife • Monte Carlo simulation • permutation tests • more

**SEM (Structural equation modeling)**
- graphical path-diagram builder • standardized and unstandardized estimates • modification indices • direct and indirect effects • continuous, binary, count, ordinal, and survival outcomes • multilevel models • random slopes and intercepts • factor scores • groups and tests of invariance • goodness of fit • handles MAR data by FIML • survey data • more

**Spatial autoregressive models**
- spatial lags of dependent variable, independent variables, and autoregressive errors • fixed and random effects in panel data • endogenous covariates • analyze spillover effects • more

**Survey methods**
- multistage designs • bootstrap, jackknife, linearized, and SDR SEs • poststratification • DEFF • predictive margins • means, proportions, ratios, and totals • virtually all estimators supported • more

**Survival analysis**
- Kaplan–Meier and Nelson–Aalen graphs • Cox regression (frailty) • parametric models (frailty, random effects) • competing risks • hazards • time-varying covariates • left-, right-, and interval-censoring • multilevel models • more

**Tests, predictions, and effects**
- Wald tests • LR tests • linear and nonlinear combinations • predictions and generalized predictions • marginal means • least-squares means • adjusted means • marginal and partial effects • forecast models • Hausman tests • more

**Time series**
- ARIMA • ARFIMA • ARCH/GARCH • VAR • VECM • multivariate GARCH • unobserved components model • dynamic factors • state-space models • Markov-switching model • tests for structural breaks • threshold regression • forecasts • impulse–response functions • unit-root tests • filters and smoothers • more

**Treatment effects/Causal Inference**
- inverse-probability weight (IPW) • doubly robust methods • propensity-score matching • regression adjustment • covariate matching • multilevel treatments • endogenous treatments • average treatment effects (ATEs) • ATEs on the treated • potential-outcome means (POMs) • continuous, binary, count, fractional, and survival outcomes • more

**User-written maximum likelihood**
- write likelihood using simple expressions, script programs, or Mata matrix programs • numeric or analytic derivatives • automatic support for survey data • perform linear and nonlinear tests, or even marginal analyses • automatic MLE, robust, bootstrap, and jackknife SEs • more

**Other statistical methods**
- kappa measure of interrater agreement • Cronbach’s alpha • stepwise regression • tests of normality • more
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