NAG Library Chapter Contents

E02 – Curve and Surface Fitting

E02 Chapter Introduction – a description of the Chapter and an overview of the algorithms available

Routine Name	Mark of Introduction	Purpose
E02ACF	1	nagf_fit_withdraw_1dmmax Minimax curve fit by polynomials **Note**: this routine is scheduled for withdrawal at Mark 27, see Advice on Replacement Calls for Withdrawn/Superseded Routines for further information.
E02ADF	5	nagf_fit_1dcheb_arb Least squares curve fit, by polynomials, arbitrary data points
E02AEF	5	nagf_fit_1dcheb_eval Evaluation of fitted polynomial in one variable from Chebyshev series form (simplified parameter list)
E02AFF	5	nagf_fit_1dcheb_glp Least squares polynomial fit, special data points (including interpolation)
E02AGF	8	nagf_fit_1dcheb_con Least squares polynomial fit, values and derivatives may be constrained, arbitrary data points
E02AHF	8	nagf_fit_1dcheb_deriv Derivative of fitted polynomial in Chebyshev series form
E02AJF	8	nagf_fit_1dcheb_integ Integral of fitted polynomial in Chebyshev series form
E02AKF	8	nagf_fit_1dcheb_eval2 Evaluation of fitted polynomial in one variable from Chebyshev series form
E02ALF	25	nagf_1d_minimax_polynomial Minimax curve fit by polynomials
E02BAF	5	nagf_fit_1dspline_knots Least squares curve cubic spline fit (including interpolation)
E02BBF	5	nagf_fit_1dspline_eval Evaluation of fitted cubic spline, function only
E02BCF	7	nagf_fit_1dspline_deriv Evaluation of fitted cubic spline, function and derivatives
E02BDF	7	nagf_fit_1dspline_integ Evaluation of fitted cubic spline, definite integral
E02BEF	13	nagf_fit_1dspline_auto Least squares cubic spline curve fit, automatic knot placement
E02BFF	24	nagf_fit_1dspline_deriv_vector Evaluation of fitted cubic spline, function and optionally derivatives at a vector of points
E02CAF	7	nagf_fit_2dcheb_lines Least squares surface fit by polynomials, data on lines parallel to one independent coordinate axis
E02CBF	7	nagf_fit_2dcheb_eval Evaluation of fitted polynomial in two variables
E02DAF	6	nagf_fit_2dspline_panel Least squares surface fit, bicubic splines
E02DCF	13	nagf_fit_2dspline_grid Least squares surface fit by bicubic splines with automatic knot placement, data on rectangular grid

E02DDF	13	nagf_fit_2dspline_sctr Least squares surface fit by bicubic splines with automatic knot placement, scattered data
E02DEF	14	nagf_fit_2dspline_evalv Evaluation of fitted bicubic spline at a vector of points
E02DFF	14	nagf_fit_2dspline_evalm Evaluation of fitted bicubic spline at a mesh of points
E02DHF	23	nagf_fit_2dspline_derivm Evaluation of spline surface at mesh of points with derivatives
E02GAF	7	nagf_fit_glin_l1sol L_1-approximation by general linear function
E02GBF	7	nagf_fit_glinc_l1sol L_1-approximation by general linear function subject to linear inequality constraints
E02GCF	8	nagf_fit_glin_linf L_∞-approximation by general linear function
E02JDF	24	nagf_fit_2dspline_ts_sctr Spline approximation to a set of scattered data using a two-stage approximation method
E02JEF	24	nagf_fit_2dspline_ts_evalv Evaluation at a vector of points of a spline computed by E02JDF
E02JFF	24	nagf_fit_2dspline_ts_evalm Evaluation at a mesh of points of a spline computed by E02JDF
E02RAF	7	nagf_fit_pade_app Padé approximants
E02RBF	7	nagf_fit_pade_eval Evaluation of fitted rational function as computed by E02RAF
E02ZAF	6	nagf_fit_2dspline_sort Sort two-dimensional data into panels for fitting bicubic splines
E02ZKF	24	nagf_fit_opt_set Option setting routine
E02ZLF	24	nagf_fit_opt_get Option getting routine