NAG Library Chapter Contents

e02 – Curve and Surface Fitting

e02 Chapter Introduction – a description of the Chapter and an overview of the algorithms available

Function Name	Mark of Introduction	Purpose
e02adc	5	nag_1d_cheb_fit Computes the coefficients of a Chebyshev series polynomial for arbitrary data
e02aec	5	nag_1d_cheb_eval Evaluates the coefficients of a Chebyshev series polynomial
e02afc	5	nag_1d_cheb_interp_fit Computes the coefficients of a Chebyshev series polynomial for interpolated data
e02agc	7	nag_1d_cheb_fit_constr Least squares polynomial fit, values and derivatives may be constrained, arbitrary data points
e02ahc	7	nag_1d_cheb_deriv Derivative of fitted polynomial in Chebyshev series form
e02ajc	7	nag_1d_cheb_intg Integral of fitted polynomial in Chebyshev series form
e02akc	7	nag_1d_cheb_eval2 Evaluation of fitted polynomial in one variable from Chebyshev series form
e02alc	24	nag_1d_minimax_polynomial Minimax curve fit by polynomials
e02bac	2	nag_1d_spline_fit_knots Least squares curve cubic spline fit (including interpolation), one variable
e02bbc	2	nag_1d_spline_evaluate Evaluation of fitted cubic spline, function only
e02bcc	2	nag_1d_spline_deriv Evaluation of fitted cubic spline, function and derivatives
e02bdc	2	nag_1d_spline_intg Evaluation of fitted cubic spline, definite integral
e02bec	2	nag_1d_spline_fit Least squares cubic spline curve fit, automatic knot placement, one variable
e02bfc	24	nag_fit_1dspline_deriv_vector Evaluation of fitted cubic spline, function and optionally derivatives at a vector of points
e02cac	7	nag_2d_cheb_fit_lines Least squares surface fit by polynomials, data on lines parallel to one independent coordinate axis
e02cbc	7	nag_2d_cheb_eval Evaluation of fitted polynomial in two variables
e02dac	8	nag_2d_spline_fit_panel Least squares surface fit, bicubic splines
e02dcc	2	nag_2d_spline_fit_grid Least squares bicubic spline fit with automatic knot placement, two variables (rectangular grid)
e02ddc	2	nag_2d_spline_fit_scat Least squares bicubic spline fit with automatic knot placement, two variables (scattered data)
e02dec	2	nag_2d_spline_eval Evaluation of bicubic spline, at a set of points

e02dfc	2	nag_2d_spline_eval_rect Evaluation of bicubic spline, at a mesh of points
e02dhc	23	nag_2d_spline_deriv_rect Evaluation of spline surface at mesh of points with derivatives
e02gac	7	nag_lone_fit L_1-approximation by general linear function
e02gcc	7	nag_linf_fit L_∞-approximation by general linear function
e02jdc	24	nag_2d_spline_fit_ts_scat Spline approximation to a set of scattered data using a two-stage approximation method
e02jec	24	nag_2d_spline_ts_eval Evaluation at a vector of points of a spline computed by nag_2d_spline_fit_ts_scat (e02jdc)
e02jfc	24	nag_2d_spline_ts_eval_rect Evaluation at a mesh of points of a spline computed by nag_2d_spline_fit_ts_scat (e02jdc)
e02rac	7	nag_1d_pade Padé approximants
e02rbc	7	nag_1d_pade_eval Evaluation of fitted rational function as computed by nag_1d_pade (e02rac)
e02zac	8	nag_2d_panel_sort Sort two-dimensional data into panels for fitting bicubic splines
e02zkc	24	nag_fit_opt_set Option setting routine
e02zlc	24	nag_fit_opt_get Option getting routine