

## NAG Library Chapter Contents

### e01 – Interpolation

e01 Chapter Introduction – a description of the Chapter and an overview of the algorithms available

Function Name	Mark of Introduction	Purpose
e01aac	23	nag_1d_aitken_interp Interpolated values, Aitken's technique, unequally spaced data, one variable
e01abc	23	nag_1d_everett_interp Interpolated values, Everett's formula, equally spaced data, one variable
e01aec	7	nag_1d_cheb_interp Interpolating functions, polynomial interpolant, data may include derivative values, one variable
e01bac	2	nag_1d_spline_interpolant Interpolating function, cubic spline interpolant, one variable
e01bec	1	nag_monotonic_interpolant Interpolating function, monotonicity-preserving, piecewise cubic Hermite, one variable
e01bfc	1	nag_monotonic_evaluate Evaluation of interpolant computed by nag_monotonic_interpolant (e01bec), function only
e01bgc	2	nag_monotonic_deriv Evaluation of interpolant computed by nag_monotonic_interpolant (e01bec), function and first derivative
e01bhc	2	nag_monotonic_intg Evaluation of interpolant computed by nag_monotonic_interpolant (e01bec), definite integral
e01dac	2	nag_2d_spline_interpolant Interpolating function, bicubic spline interpolant, two variables
e01eac	25	nag_2d_triangulate Triangulation of two-dimensional scattered grid, method of Renka and Cline
e01ebc	25	nag_2d_triang_bary_eval Barycentric interpolation on function values provided on a two-dimensional scattered grid
e01rac	7	nag_1d_ratnl_interp Interpolating functions, rational interpolant, one variable
e01rbc	7	nag_1d_ratnl_eval Interpolated values, evaluate rational interpolant computed by nag_1d_ratnl_interp (e01rac), one variable
e01sgc	8	nag_2d_shep_interp Interpolating functions, modified Shepard's method, two variables
e01shc	8	nag_2d_shep_eval Interpolated values, evaluate interpolant computed by nag_2d_shep_interp (e01sgc), function and first derivatives, two variables
e01sjc	8	nag_2d_triang_interp A function to generate a two-dimensional surface interpolating a set of data points, using the method of Renka and Cline
e01skc	8	nag_2d_triang_eval A function to evaluate, at a set of points, the two-dimensional interpolant function generated by nag_2d_triang_interp (e01sjc)
e01tgc	7	nag_3d_shep_interp Interpolating functions, modified Shepard's method, three variables

e01thc	7	nag_3d_shep_eval Interpolated values, evaluate interpolant computed by nag_3d_shep_interp (e01tgc), function and first derivatives, three variables
e01tkc	23	nag_4d_shep_interp Interpolating functions, modified Shepard's method, four variables
e01tlc	23	nag_4d_shep_eval Interpolated values, evaluate interpolant computed by nag_4d_shep_interp (e01tkc), function and first derivatives, four variables
e01tmc	23	nag_5d_shep_interp Interpolating functions, modified Shepard's method, five variables
e01tnc	23	nag_5d_shep_eval Interpolated values, evaluate interpolant computed by nag_5d_shep_interp (e01tmc), function and first derivatives, five variables
e01zmc	24	nag_nd_shep_interp Interpolating function, modified Shepard's method, $d$ dimensions
e01znc	24	nag_nd_shep_eval Interpolated values, evaluate interpolant computed by nag_nd_shep_interp (e01zmc), function and first derivatives, $d$ dimensions

---