

NAG Library Chapter Contents

d01 – Quadrature

d01 Chapter Introduction

| Function Name | Mark of Introduction | Purpose |
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| d01bdc | 23 | nag_quad_1d_fin_smooth One-dimensional quadrature, non-adaptive, finite interval |
| d01dac | 23 | nag_quad_2d_fin Two-dimensional quadrature, finite region |
| d01fbc | 23 | nag_quad_md_gauss Multidimensional Gaussian quadrature over hyper-rectangle |
| d01fcc | 2 | nag_multid_quad_adapt Multidimensional adaptive quadrature Note: this function is scheduled for withdrawal at Mark 25, see Advice on Replacement Calls for Withdrawn/Superseded Functions for further information. |
| d01fdc | 23 | nag_quad_md_sphere Multidimensional quadrature, Sag–Szekeres method, general product region or n -sphere |
| d01gac | 2 | nag_1d_quad_vals One-dimensional integration of a function defined by data values only |
| d01gbc | 2 | nag_multid_quad_monte_carlo Multidimensional quadrature, using Monte–Carlo method Note: this function is scheduled for withdrawal at Mark 25, see Advice on Replacement Calls for Withdrawn/Superseded Functions for further information. |
| d01gdc | 23 | nag_quad_md_numth_vec Multidimensional quadrature, general product region, number-theoretic method |
| d01gyc | 23 | nag_quad_md_numth_coeff_prime Korobov optimal coefficients for use in nag_quad_md_numth_vec (d01gdc), when number of points is prime |
| d01gzc | 23 | nag_quad_md_numth_coeff_2prime Korobov optimal coefficients for use in nag_quad_md_numth_vec (d01gdc), when number of points is product of two primes |
| d01pac | 23 | nag_quad_md_simplex Multidimensional quadrature over an n -simplex |
| d01rac | 24 | nag_quad_1d_gen_vec_multi_rcomm One-dimensional quadrature, adaptive, finite interval, multiple integrands, vectorized abscissae, reverse communication |
| d01rcc | 24 | nag_quad_1d_gen_vec_multi_dimreq Determine required array dimensions for nag_quad_1d_gen_vec_multi_rcomm (d01rac) |
| d01rgc | 24 | nag_quad_1d_fin_gonnet_vec One-dimensional quadrature, adaptive, finite interval, strategy due to Gonnet, allowing for badly behaved integrands |
| d01sjc | 5 | nag_1d_quad_gen_1 One-dimensional quadrature, adaptive, finite interval, strategy due to Piessens and de Doncker, allowing for badly behaved integrands |
| d01skc | 5 | nag_1d_quad_osc_1 One-dimensional quadrature, adaptive, finite interval, method suitable for oscillating functions |

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| d01slc | 5 | nag_1d_quad_brkpts_1 One-dimensional quadrature, adaptive, finite interval, allowing for singularities at user-specified break-points |
| d01smc | 5 | nag_1d_quad_inf_1 One-dimensional adaptive quadrature over infinite or semi-infinite interval |
| d01snc | 5 | nag_1d_quad_wt_trig_1 One-dimensional adaptive quadrature, finite interval, sine or cosine weight functions |
| d01spc | 5 | nag_1d_quad_wt_alglog_1 One-dimensional adaptive quadrature, weight function with end-point singularities of algebraic-logarithmic type |
| d01sqc | 5 | nag_1d_quad_wt_cauchy_1 One-dimensional adaptive quadrature, weight function $1/(x - c)$, Cauchy principal value |
| d01ssc | 5 | nag_1d_quad_inf_wt_trig_1 One-dimensional adaptive quadrature, semi-infinite interval, sine or cosine weight function |
| d01tac | 5 | nag_1d_quad_gauss_1 One-dimensional Gaussian quadrature, choice of weight functions |
| d01tbc | 23 | nag_quad_1d_gauss_wset Pre-computed weights and abscissae for Gaussian quadrature rules, restricted choice of rule |
| d01tcc | 23 | nag_quad_1d_gauss_wgen Calculation of weights and abscissae for Gaussian quadrature rules, general choice of rule |
| d01uac | 24 | nag_quad_1d_gauss_vec One-dimensional Gaussian quadrature, choice of weight functions (vectorized) |
| d01wcc | 5 | nag_multid_quad_adapt_1 Multidimensional adaptive quadrature |
| d01xbc | 5 | nag_multid_quad_monte_carlo_1 Multidimensional quadrature, using Monte-Carlo method |
| d01zkc | 24 | nag_quad_opt_set Option setting function |
| d01zlc | 24 | nag_quad_opt_get Option getting function |
