

HP 49G & 50G: GAUSS-LOBATTO-KRONROD ADAPTIVE INTEGRATION

Library Number: 711

Size: 1393 Bytes

Check Sum: E5C hexadecimal

Visible Command: GKINT

The programme integrates a function in one variable between real limits using Gauss-Lobatto 4 point formula with 7 and 13 point Kronrod extensions.

The function to integrate must be stored as a programme taking one real number stack argument and returning one real number in the variable 'func'.

Required degree of accuracy stored in 'TOL'.

Stack arguments 2 real numbers, the limits of integration.

e.g.

Store	<< INV SIN >>	in	func
	.00001	in	TOL

Stack diagram .00001

1. returns .504014747964 (actually .5040670619....)

In 144 sec on 49G and 68 sec on 50G.

The indicator on line three of the screen indicates the depth of recursion.

WARNING: The programme will behave erratically for functions returning anything other than one real number – possibility of errors or loss of memory.

Any comments welcome.

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