Simpsons_rule_Version_2 (Calls: 1, Time: 55.341 s)

Generated 16-Jul-2023 12:59:25 using performance time.
Script in file G:\My Drive\Papers\Summer 2023\MATH 141\Matlab\Simpsons_rule_Version_2.m
Copy to new window for comparing multiple runs

Parents (calling functions)

No parent

Lines that take the most time

Line Number	Code	Calls	Total Time (s)	% Time	Time Plot
24	`odd = 4 .* y(1:2:end);`	1	22.135	40.0%	
25	`even = 2 .* y(2:2:end);`	1	21.673	39.2%	
17	`y = vpa(f(linspace(a + deltaX, b - d…`	1	10.806	19.5%	
30	`total = total + sum(odd) + sum(even);`	1	0.429	0.8%	
8	`syms f(x)`	1	0.113	0.2%	
All other lines			0.186	0.3%	
Totals			55.341	100%	

Children (called functions)

Function Name	Function Type	Calls	Total Time (s)	% Time	Time Plot
sym.sym>sym.subsref	Class method	2	43.309	78.3%	
symfun.symfun>symfun.subsref	Class method	3	7.494	13.5%	
sym.vpa	Function	2	3.320	6.0%	
sym.sym>sym.times	Class method	2	0.491	0.9%	
sym.sum	Function	2	0.427	0.8%	
syms	Function	1	0.112	0.2%	
clf	Function	1	0.049	0.1%	
close	Function	1	0.047	0.1%	
sym.disp	Function	2	0.042	0.1%	
integral	Function	1	0.009	0.0%	
sym.sym>sym.subsasgn	Class method	1	0.009	0.0%	
sym.sym>sym.end	Class method	2	0.005	0.0%	
sym.plus	Function	4	0.004	0.0%	
sym.sym>sym.mpower	Class method	1	0.003	0.0%	
sym.sym>sym.mtimes	Class method	1	0.002	0.0%	

sym.sym>sym.delete	Class method	11	0.002	0.0%	
linspace	Function	1	0.002	0.0%	
vpa	Function	1	0.001	0.0%	
sym.sqrt	Function	1	0.001	0.0%	
sym.cos	Function	1	0.001	0.0%	
symfun.symfun>symfun.delete	Class method	2	0.000	0.0%	
Self time (built-ins, overhead, etc.)			0.014	0.0%	
Totals			55.341	100%	

Code Analyzer results

Coverage results

Show coverage for parent folder

Total lines in function	37	
Non-code lines (comments, blank lines)	6	
Code lines (lines that can run)	31	
Code lines that did run	31	
Code lines that did not run	0	
Coverage (did run/can run)	100.00 %	

Function listing

Time	Calls	Line	
< 0.001	1	1	tic
0.003	1	2	clear
< 0.001	1	3	clc
0.050	1	4	clf
0.048	1	5	close all
< 0.001	1	6	format long
		7	
0.113	1	8	syms f(x)
0.015	1	9	f(x) = sqrt(1 + cos(x)^2);
< 0.001	1	10	func = @(x) sqrt(1 + cos(x).^2);
< 0.001	1	11	a = 0;
< 0.001	1	12	b = pi / 4;
< 0.001	1	13	n = 100000;
< 0.001	1	14	deltaX = (b - a) / n;
		15	
< 0.001	1	16	tic
10.806	1	17	y = vpa(f(linspace(a + deltaX, b - deltaX, n - 1)));
< 0.001	1	18	disp("Got y")

< 0.001	1	19	toc
		20	
0.012	1	21	total = f(a) + f(b);
		22	
< 0.001	1	23	tic
22.135	1	24	odd = 4 .* y(1:2:end);
21.673	1	25	even = 2 .* y(2:2:end);
< 0.001	1	26	disp("Got odds and evens")
0.001	1	27	toc
		28	
< 0.001	1	29	tic
0.429	1	30	total = total + sum(odd) + sum(even);
< 0.001	1	31	disp("Got Total")
< 0.001	1	32	toc
		33	
0.044	1	34	disp(vpa((deltaX / 3) * total));
0.012	1	35	disp(vpa(integral(func, a, b)))
< 0.001	1	36	disp("Done")
< 0.001	1	37	toc