Simpsons_Rule_Timing (Calls: 1, Time: 28500.997 s)

Parents (calling functions)

No parent

Lines that take the most time

Line Number	Code	Calls	Total Time (s)	% Time	Time Plot	
18	`version1Total = [version1Total timei…`	1000	25432.191	89.2%	▬▬▬	
21	`version2Total = [version2Total timei…`	1000	3064.891	10.8%	▪	
24	`hold on`	1	1.073	0.0%		
7	`syms f(x)`	1	0.841	0.0%		
25	`scatter(x, version1Total, 'b', 'fill…`	1	0.673	0.0%		
All other lines			1.328	0.0%		
Totals			28500.997	100%		

Children (called functions)

Function Name	Function Type	Calls	Total Time (s)	% Time	Time Plot
timeit	Function	2000	28497.022	100%	▬▬▬
hold	Function	1	1.016	0.0%	
syms	Function	1	0.824	0.0%	
scatter	Function	2	0.666	0.0%	
legend	Function	1	0.627	0.0%	
clf	Function	1	0.150	0.0%	
polyfit	Function	2	0.082	0.0%	
close	Function	1	0.056	0.0%	
xlabel	Function	1	0.041	0.0%	
sym.sym>sym.subsasgn	Class method	1	0.024	0.0%	
ylabel	Function	1	0.004	0.0%	
newplotwrapper	Function	2	0.003	0.0%	
polyval	Function	2	0.003	0.0%	
sym.sym>sym.mpower	Class method	1	0.002	0.0%	
sym.plus	Function	1	0.002	0.0%	

linspace	Function	1	0.001	0.0%	
sym.sym>sym.delete	Class method	4	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	1	0.000	0.0%	
Self time (built-ins, overhead, etc.)			0.472	0.0%	
Totals			28500.997	100%	

Code Analyzer results

Coverage results

Show coverage for parent folder

Total lines in function	44	
Non-code lines (comments, blank lines)	10	
Code lines (lines that can run)	34	
Code lines that did run	34	
Code lines that did not run	0	
Coverage (did run/can run)	100.00 %	

Function listing

```
  Time      Calls    Line
 < 0.001        1      1    clear
   0.002        1      2    clc
   0.162        1      3    clf
   0.068        1      4    close all
   0.003        1      5    format long
                       6
   0.841        1      7    syms f(x)
   0.034        1      8    f(x) = sqrt(1 + cos(x)^2);
 < 0.001        1      9    a = 0;
 < 0.001        1     10    b = pi / 4;
 < 0.001        1     11    n = 1000;
                      12
 < 0.001        1     13    x = 1:1:n;
 < 0.001        1     14    version1Total = [];
 < 0.001        1     15    version2Total = [];
 < 0.001        1     16    for i = 1:n
   0.068     1000     17        version1Function = @() version1(f, a, b, i);
25432.191     1000     18        version1Total = [version1Total timeit(version1Function)];
                      19
   0.081     1000     20        version2Function = @() version2(f, a, b, i);
```

```matlab
3064.891   1000   21      version2Total = [version2Total timeit(version2Function)];
   0.009   1000   22   end
                   23
   1.073      1   24   hold on
   0.673      1   25   scatter(x, version1Total, 'b', 'filled')
   0.034      1   26   scatter(x, version2Total, 'r', 'filled')
   0.055      1   27   xlabel('Value of n')
   0.015      1   28   ylabel('Time (s)')
                   29
   0.001      1   30   xFit = linspace(min(x), max(x), 1000);
   0.091      1   31   coefficients1 = polyfit(x, version1Total, 1);
   0.012      1   32   yFit1 = polyval(coefficients1 , xFit);
                   33
 < 0.001      1   34   coefficients2 = polyfit(x, version2Total, 1);
 < 0.001      1   35   yFit2 = polyval(coefficients2 , xFit);
                   36
   0.029      1   37   plot(xFit, yFit1, 'b');
   0.002      1   38   plot(xFit, yFit2, 'r');
                   39
   0.001      1   40   version1Legend = coefficients1(1) + "x +" + coefficients1(2);
 < 0.001      1   41   version2Legend = coefficients2(1) + "x +" + coefficients2(2);
                   42
   0.660      1   43   legend("Version 1", "Version 2", version1Legend, version2Legend)
                   44
```

Local functions in this file are not included in this listing.