Spreadsheet implementation of Euler's Method

Here is a sample implementation of Euler's method for solving the ordinary differential equation $y' = 1 - t + 4$ using a (Lotus 123 type) spreadsheet. The user enters the desired starting time t_0 in cell C2, the desired initial value y_0 in cell C3 and the desired step size h in cell C4. The spreadsheet then outputs $y_1 \approx y(t_0 + h)$ in cell F7, $y_2 \approx y(t_0 + 2h)$ in cell F8 and so on. The numerical output for the spreadsheet below is given on the next page.

Spreadsheet for solving $y' = 1 - t + 4y,\ y(0) = 1$ by Euler's method

	A	B	C	D	E	F
1						
2		"t_0=	0			
3		"y_0=	1			
4		"h=	0.1			
5						
6		"n	"t_n	"y_n	"f(t_n,y_n)	"y_(n+1)
7		0	+C2	+C3	+1-C7+4*D7	+D7+$C$4*E7
8		1	+C7+$C$4	+F7	+1-C8+4*D8	+D8+$C$4*E8
9		2	+C8+$C$4	+F8	+1-C9+4*D9	+D9+$C$4*E9
10		3	+C9+$C$4	+F9	+1-C10+4*D10	+D10+$C$4*E10
11		4	+C10+$C$4	+F10	+1-C11+4*D11	+D11+$C$4*E11
12		5	+C11+$C$4	+F11	+1-C12+4*D12	+D12+$C$4*E12
13		6	+C12+$C$4	+F12	+1-C13+4*D13	+D13+$C$4*E13
14		7	+C13+$C$4	+F13	+1-C14+4*D14	+D14+$C$4*E14
15		8	+C14+$C$4	+F14	+1-C15+4*D15	+D15+$C$4*E15
16		9	+C15+$C$4	+F15	+1-C16+4*D16	+D16+$C$4*E16
17		10	+C16+$C$4	+F16		

Numbers resulting from the above spreadsheet

	A	B	C	D	E	F
1						
2		t_0=	0			
3		y_0=	1			
4		h=	0.1			
5						
6		n	t_n	y_n	f(t_n,y_n)	y_(n+1)
7		0	0	1.000	5.000	1.500
8		1	0.1	1.500	6.900	2.190
9		2	0.2	2.190	9.560	3.146
10		3	0.3	3.146	13.284	4.474
11		4	0.4	4.474	18.498	6.324
12		5	0.5	6.324	25.797	8.904
13		6	0.6	8.904	36.015	12.505
14		7	0.7	12.505	50.321	17.537
15		8	0.8	17.537	17.350	24.572
16		9	0.9	24.572	98.390	34.411
17		10	1.0	34.411		