Matlab Project
Due Thursday, April 13th

Develop a general purpose Matlab plotter, that would plot functions specified by strings or coded in .m files. This is basically an exercise in dealing with different sets of arguments.

Call this function “plotter”. The following ways of calling the function should all work.

To plot sin(x) from 0 to 1:
>> plotter(‘sin(x)’)

To plot sin(x) from 0 to 2pi
>> plotter(‘sin(x)’, [ 0 2*pi ])

To plot cos(x) from 0 to 2pi
>> plotter(@cos, [ 0 2*pi ])

Be able to take the standard options
>> plotter(@cos, [ 0 2*pi ], ‘ro-‘)

Be able to deal with vector functions
>> plotter([ cos(t) sin(t) ], [ 0 2*pi ], ‘ro-‘)

...including 3D
>> plotter([ cos(2*t) sin(2*t) t], [ 0 2*pi ], ‘ro-‘)

To plot cos(x)*sin(y) as a mesh from on a 2pi*2pi square
>> plotter(‘cos(x)*sin(y)’, [ 0 2*pi 0 2*pi ])

Be able to pass on additional parameters
>> plotter([ cos(2*t) sin(2*t) t], [ 0 2*pi ], ‘ro-‘, ‘LineWidth’, 2)
>> plotter([ cos(2*t) sin(2*t) t], [ 0 2*pi ], ‘LineWidth’, 2)

...and to take on the special “Resolution” parameter:
>> plotter([ cos(2*t) sin(2*t) t], [ 0 2*pi ], ‘ro-‘, ‘LineWidth’, 2, ‘Resolution’, 100)

Hints:
1. Approach the task step by step. Think things through before coding
2. You may want to write several sub-functions
3. Test the code thoroughly
4. Work in teams